Primary Care Practitioners' Views of the Impact of the Healthy Michigan Plan

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EXECUTIVE SUMMARY

The University of Michigan Institute for Healthcare Policy and Innovation (IHPI) is conducting the evaluation required by the Centers for Medicare and Medicaid Services (CMS) of the Healthy Michigan Plan (HMP) under contract with the Michigan Department of Health and Human Services (MDHHS). The fourth aim of Domain IV of the evaluation is to describe primary care practitioners' experiences with Healthy Michigan Plan beneficiaries, practice approaches and innovation adopted or planned in response to the Healthy Michigan Plan, and future plans regarding care of Healthy Michigan Plan patients.

Methods

We conducted 19 semi-structured telephone interviews with primary care practitioners caring for Healthy Michigan Plan patients in five Michigan regions selected to include racial/ethnic diversity and a mix of urban and rural communities. Interviews informed survey items and measures and enhanced the interpretation of survey findings.

We then surveyed all primary care practitioners in Michigan with at least 12 assigned Healthy Michigan Plan patients about practice changes and innovations since April 2014 and their experiences caring for patients with the Healthy Michigan Plan.

Results

The final response rate was 56% resulting in 2,104 respondents.

Knowledge of Patient Insurance

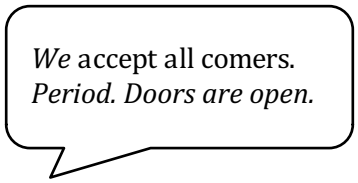
- 53% report knowing a patient's insurance at the beginning of an appointment
- 91% report that it is easy to find out a patient's insurance status
- 35% report intentionally ignoring a patient's insurance status

Familiarity with HMP

- 71% very or somewhat familiar with how to complete a Health Risk Assessment
- 25% very/somewhat familiar with beneficiary cost-sharing
- 36% very/somewhat familiar with healthy behavior incentives for patients
- PCPs working in small, non-academic, non-hospital-based and FQHC practices and those with predominantly Medicaid or uninsured patients reported more familiarity with HMP

Acceptance of Medicaid and HMP

- 78% report accepting <u>new</u> Medicaid/HMP patients – more likely if:
    - Female, racial minorities or non-physician PCPs
    - Internal medicine specialty
    - Salary payment
    - Medicaid predominant payer mix
    - Previously provided care to underserved
    - Stronger commitment to caring for underserved
- 73% felt a responsibility to care for patients regardless of their ability to pay
- 72% agreed all providers should care for Medicaid/HMP patients



Changes in Practice

- 52% report an increase in new patients to a great or to some extent
- 56% report an increase in the number of new patients who hadn't seen a PCP in many years
- 51% report established patients who had been uninsured gained insurance
- Most practices hired clinicians (53%) and/or staff (58%) in the past year
- 56% report consulting with care coordinators, case managers and/or community health workers

- 41% said that almost all established patients who request a same or next day appointment can get one; 34% said the proportion getting those appointments had increased over the past year
- FQHCs, those with predominantly uninsured, Medicaid and mixed payer mixes and suburban practices were more likely to report an increase in new patients. FQHCs, and those with predominantly Medicaid payer mix, were more likely to report existing patients who had been uninsured gained insurance, and an increase in the number of patients who hadn't seen a PCP in many years.
- Large and FQHC practices were more likely to have hired new clinicians in the past year. Small, non-FQHC, academic and suburban practices and were less likely to report hiring additional staff.

Your working poor people who just were in between the cracks, didn't have anything, and now they've got something, which is great.

- Large and FQHC practices and those with predominantly private or uninsured payer mixes were all more likely to report consulting with care coordinators, case managers and/or community health workers in the past year.
- MiPCT practices were more likely to have newly co-located mental health in the past year.

Experiences Caring for HMP Beneficiaries - Health Risk Assessments

- 79% completed at least one HRA with a patient; most of those completed >10
- 65% don't know if they or their practice has received a bonus for completing HRAs
- PCPs reported completing more HRAs if they
  - Were located in Northern regions
  - Were paid by capitation or salary compared to fee-for-service
  - Reported receiving a financial incentive for completing HRAs
  - Were in a smaller practice (5 or fewer) size
- 58% reported that financial incentives for patients and 55% reported financial incentives for practices had at least a little influence on completing HRAs
- 52% said patients' interest in addressing health risks had at least some influence on HRA completion
- Most PCPs found HRAs useful for identifying and discussing health risks, persuading patients to address their most important health risks, and documenting behavior change goals

What I've heard people say is "I just want to stay healthy or find out if I'm healthy."

ER Use and Decision Making

- 30% felt that they could influence non-urgent ER use by their patients a great deal (and 44% some)
- 88% accepted major or some responsibility as a PCP to decrease non-urgent ER use
- Many reported offering services to avoid non-urgent ER use, such as walk-in appointments, 24-hour telephone triage, weekend and evening appointments, and care coordinators or social work assistance for patients with complex problems
- PCPs identified care without an appointment, being the place patients are used to getting care and access to pain medicine as major influences for non-urgent ER use
- PCPs recommended PCP practice changes, ER practice changes, patient educational initiatives, and patient penalties/incentives when asked about strategies to reduce non-urgent ER use

People who work day shift…It's easier for them to go to the ER or something for a minor thing because they don't have to take time off work. That's a big deal.

Access

- PCPs with HMP patients who were previously uninsured reported some or great impact on health, health behavior, health care and function for those patients. The greatest impact was for control of chronic conditions, early detection of serious illness, and improved medication adherence

I learned a long time ago if the patient doesn't take the medicine, they don't get better…if they don't have insurance to cover it and they don't ever pick it up, then they're not going to take it.

- PCPs reported that HMP enrollees, compared to those with private insurance, more often had difficulty accessing specialists, medications, mental health care, dental care, treatment for substance use and counseling for behavior change

It can still take up to six months to see a psychiatrist unless you get admitted to the hospital.

Discussing Costs with Patients

- 22% of PCPs reported discussing out-of-pocket costs with an HMP patient. The patient was the most likely one to bring up the topic
- 56% of the time, such a discussion resulted in a change of management plans
- PCPs who were white, Hispanic/Latino, non-physician practitioners and with Medicaid or uninsured predominant payer mixes were more likely to have cost conversations with patients
- PCPs who were younger and in rural practices were more likely to report a change in management due to cost conversations with patients

Impact and Suggestions to Improve the Healthy Michigan Plan

We provided PCPs open-ended opportunities in the survey to provide additional information. We asked about the impact of HMP:

- PCPs noted HMP has allowed patients to get much needed care, improved financial stability, provided a sense of dignity, improved mental health, increased accessibility to care and compliance (especially medications), helped people engage in healthy behaviors like quitting smoking and saved lives

And also about suggestions to improve HMP:

- Educating patients about health insurance, health behaviors, when and where to get care, medication adherence and greater patient responsibility
- Improving accessibility to other providers, especially mental health and other specialists, and improving reimbursement
- Educating providers and providing up-to-date information about coverage, formularies, administrative processes and costs faced by patients
- Better coverage for some services (e.g., physical therapy)
- Formularies should be less limited, more transparent and streamlined across plans
- Decrease patient churn on/off insurance

Conclusions

Our survey results, and the more detailed accounts from interviews, indicate that HMP has improved access to care and, especially for previously uninsured patients, led to new detection of serious conditions, adherence to medications, management of chronic conditions, and improved health behaviors.

PCPs in Michigan, as in other states, reported improved detection and management of chronic conditions such as diabetes and hypertension in patients who gained coverage due to Medicaid expansion, and better adherence to medical regimens. Most PCPs also reported that the Healthy Michigan Plan had a positive impact on improved health behaviors, better ability to work or attend school, improved emotional wellbeing and improved ability to live independently. In interviews, PCPs described previously uninsured patients for whom they had identified serious illness early; survey results confirmed these are frequent experiences reported by PCPs.

PCPs reported an increase in new patients, including some who had not sought primary care in many years. They reported hiring clinicians and staff; changing workflow for new patients; co-locating

mental health care in primary care; and consulting with care coordinators, case managers, and community health workers. Perhaps due to those changes, few reported that established patients' access to same- or next-day appointments worsened.

We found that PCP demographics, salary structure, history of caring for the underserved and perceived practice capacity were all associated with continued acceptance of new Medicaid patients. These results confirm several of the same factors considered important to PCPs in prior studies – practice capacity, specialist availability, medical and psychosocial needs of Medicaid patients. In addition, PCPs in our survey placed less emphasis on reimbursement, perhaps because many served in salaried positions, or because they instead emphasized professional commitment to caring for the poor and underserved.

Access to some services (e.g., specialty care, mental health care) remains challenging. Disparities in access have been noted for Medicaid patients before and after the ACA in other states. As one of our interviewed physicians said, "It's kind of a mess. But I don't blame Medicaid expansion for that. It was a mess before then."

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METHODS

IN-DEPTH INTERVIEWS WITH PRIMARY CARE PRACTITIONERS

Sample: To develop PCP survey items and measures, and to enhance the interpretation of survey findings, we conducted 19 semi-structured interviews with primary care practitioners caring for Medicaid/Healthy Michigan Plan patients between December 2014 and April 2015. These interviews were conducted in five Michigan regions: Detroit, Kent County, Midland/Bay/Saginaw Counties, Alcona/Alpena/Oscoda Counties, and Marquette/Baraga/Iron Counties. These regions were purposefully selected to include racial/ethnic diversity and a mix of urban and rural communities. Interviewees were both physicians and non-physician practitioners who worked at small private practices, Federally Qualified Health Centers (FQHCs), free/low-cost clinics, hospital-based practices, or rural practices.

Interview Topics: Topics included: provider knowledge/awareness of patient insurance and experiences caring for HMP patients, including facilitators and challenges of accessing needed care; changes in practice, due to or to meet the needs of HMP patients; how decisions were made about whether to accept Medicaid/HMP patients and what might change PCPs' acceptance of new Medicaid/HMP patients in the future; provider and patient decision-making about ER use; experience with Health Risk Assessments (HRAs), and any knowledge or conversation with patients about out of pocket costs.

Analysis: Interviews were audio recorded, transcribed and coded iteratively using grounded theory and standard qualitative analysis techniques.[1,2] Quotations that illustrate key findings included in this report were drawn from these interviews.

SURVEY OF PRIMARY CARE PRACTITIONERS

To evaluate the impact of the Healthy Michigan Plan, we surveyed primary care practitioners about their experiences caring for Healthy Michigan Plan beneficiaries, new practice approaches and innovations, and future plans.

Sample: The sample was drawn from the 7,360 National Provider Identifier (NPI) numbers assigned in the MDHHS Data Warehouse as the primary care provider for at least one Healthy Michigan Plan managed care member as of April 2015. Eligible for the survey were those with at least 12 assigned members (an average of one per month); 2,813 practitioners were excluded based on <12 assigned members. Of the remaining 4,547 NPIs, 25 were excluded because the NPI entity code did not reflect an individual physician (20 were organizational NPIs, 4 were deactivated, and 1 was invalid). Also excluded were 161 physicians with only pediatric specialty; 4 University of Michigan physicians involved in the Healthy Michigan Plan evaluation; and 35 physicians with out-of-state addresses >30 miles from the Michigan border. After exclusions, 4,322 primary care practitioners (3,686 physicians and 636 nurse practitioners/physician assistants) remained as the survey sampling frame.

Survey Design: The survey included measures of primary care practitioner and practice characteristics, and measures related to the Healthy Michigan Plan on a variety of topics, including:

- Plans to accept new Medicaid patients
- Perceptions of difficulty accessing care for Healthy Michigan Plan beneficiaries with parallel questions about difficulty accessing care for privately insured patients
- Experiences with Healthy Michigan Plan beneficiaries regarding decision making about emergency department use
- Perceptions of influences on non-urgent ER use by Healthy Michigan Plan beneficiaries
- Practice approaches in place to prevent non-urgent ER use
- Experiences of caring for newly insured Medicaid patients, including ability to access non-primary care (specialty care, equipment, medication, dental care, mental health care)
- New practice approaches adopted within the previous year
- Future plans regarding care of Medicaid patients

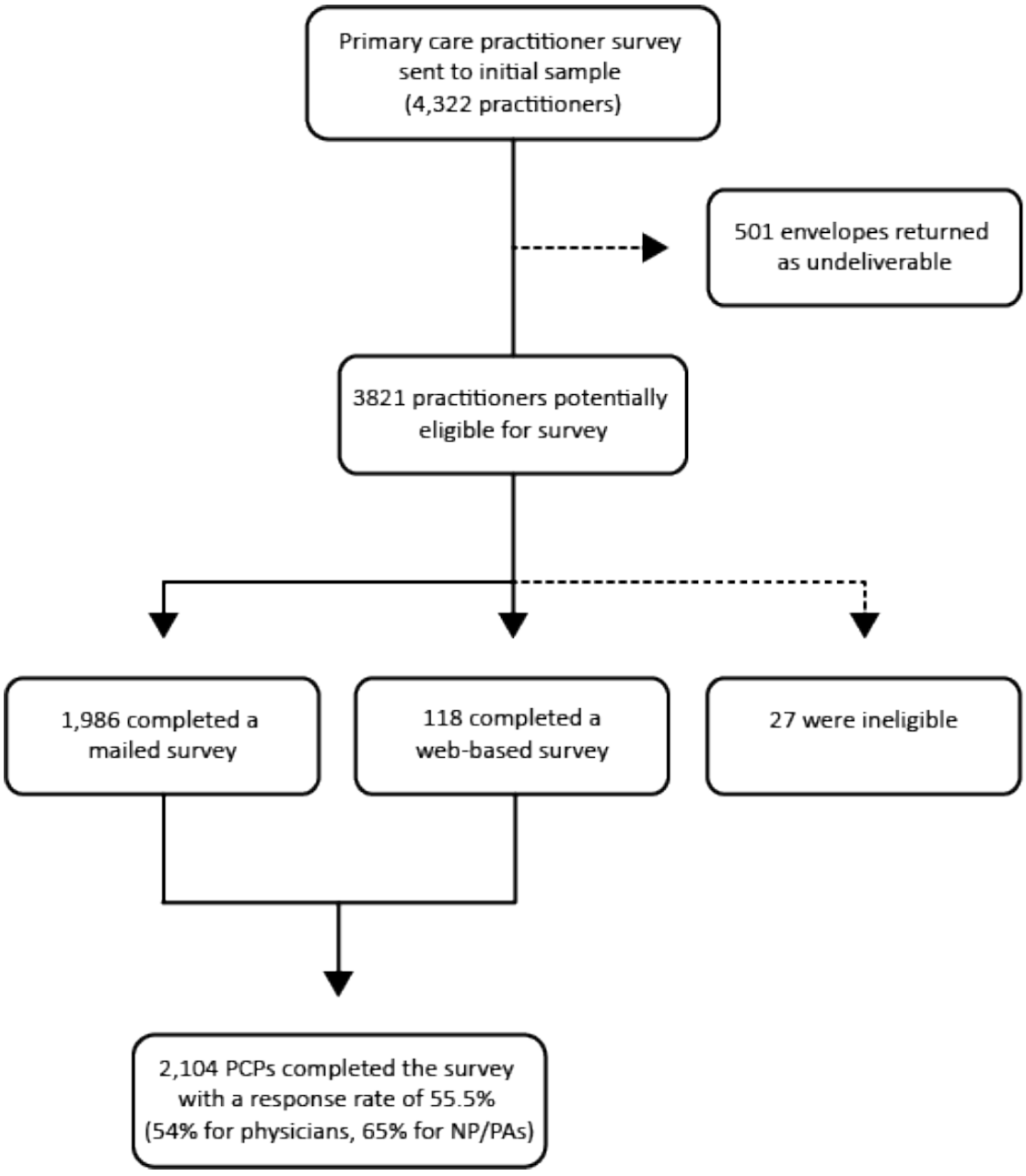
Drs. Goold, Campbell and Tipirneni developed the survey questions in collaboration with other members of the research team. The development process began by identifying the key survey domains through an iterative process with the members of the evaluation team. Then, literature searches identified survey items and scales measuring the domains of interest.[3-8] For domains without existing valid measures, items were developed from data collected from the 19 semi-structured individual interviews with PCPs. New items were cognitively pretested with two primary care practitioners who serve Healthy Michigan Plan patients, one MD from a low-cost clinic and one PA from a private practice. Both practitioners were asked about their understanding of each original survey item, their capacity to answer these questions, and how they would answer said items. The final survey itself was pretested with one PCP for timing and flow.

Survey Administration: Primary care provider addresses were identified from the MDHHS data warehouse Network Provider Location table, the MDHHS Provider Enrollment Location Address table, and the National Plan & Provider Enumeration System (NPPES) registry detail table linked to NPI. Research assistants reviewed situations where primary care practitioners had multiple addresses, and selected (a) the address with more detail (e.g., street address + suite number, rather than street alone), (b) the address that occurred in multiple databases, or (c) the address that matched an internet search for that physician.

The initial survey mailing occurred in June 2015 and included a personalized cover letter describing the project, a Fact Sheet about the Healthy Michigan Plan, a hard copy of the survey, a $20 bill, and a postage-paid return envelope. The cover letter gave information on how to complete the survey via Qualtrics, rather than hard copy. Two additional mailings were sent to nonrespondents in August and September 2015. Data from mail surveys returned by November 1, 2015, were entered in an excel spreadsheet, reviewed for accuracy, and subsequently merged with data from Qualtrics surveys.

Survey Response Characteristics: Of the original sample of 4,322 primary care practitioners in the initial sample, 501 envelopes were returned as undeliverable. Of the 2,131 primary care practitioners who responded, 1,986 completed a mailed survey, 118 completed a Qualtrics survey, and 27 were ineligible (e.g., retired, moved out of state). The final response rate was 56% (54% for physicians, 65% for nurse practitioners/physician assistants) (Figure 1).

Figure 1. Flowchart of PCP Survey Response Rates



Comparison of the 2,104 eligible respondents and the 1,690 nonrespondents revealed no differences in gender, birth year, number of affiliated Medicaid managed care plans, and FQHC designation. More nonrespondents had internal medicine specialty and practiced in urban areas (Table 1).

Table 1. Comparison of Respondents to Nonrespondents

	Respondents (N=2,104)	Nonrespondents (N=1,690)	p
Gender			
Female	44.6	43.7	NS
Male	55.4	56.3	
Birth Year			
1970 or earlier	71.0	69.5	NS
1971 or later	29.0	30.5	
Medicaid Managed Care Plans			
1 plan	20.5	20.1	NS
2 plans	27.2	25.7	
3 or more plans	52.3	54.2	
Practice setting			
FQHC	14.9	14.7	NS
Not FQHC	85.1	85.3	
Specialty			
Family/general practice	54.5	51.0	
Internal medicine	27.3	36.3	<.0001
Nurse practitioner/physician assistant	17.0	11.3	
Ob-gyn/other	1.2	1.4	
Urbanicity			
Urban	75.8	83.1	<0.001
Suburban	8.8	7.3	<0.001
Rural	15.4	9.6	
Region			
Upper Peninsula/Northwest/Northeast	14.5	8.3	
West/East Central/East	32.9	31.6	<0.001
South Central/Southwest/Southeast	21.3	23.9	
Detroit Metro	31.3	36.3	

Analysis: We calculated descriptive statistics such as proportion of primary care practitioners reporting difficulty accessing specialty care for Healthy Michigan Plan beneficiaries or experiences related to emergency department decision making. No survey weighting was necessary, as the sample included the full census of PCPs with ≥12 HMP patients. Bivariate and multivariate logistic regression analysis was used to assess the association of independent variables (personal, professional and practice characteristics) with dependent variables - practice changes reported since Medicaid expansion. Multivariate models were run with and without interaction variables (Ownership*Practice size and FQHC*predominant payer type), and chi-square goodness-of-fit tests calculated. All analyses were performed using STATA version 14 (Stata Corp, College Station, TX. Quotes from practitioner interviews have been used to expound upon some key findings from our analysis of survey data. To address practice-level clustering where more than one PCP from a practice completed the survey, sensitivity analyses were performed for each regression model, adding practice ID as a random intercept in the model. Results from these analyses did not represent any changes in significance or direction of associations, and full output from these analyses can be found in the appendix.

RESULTS FROM SURVEY OF PRIMARY CARE PRACTITIONERS

Survey results are presented in the following format:

Topic

Key findings

Illustrative quote(s) from PCP interviews

Tables of Results

Numeric endnotes in tables refer to citations for survey measures

NS indicates p≥.05

Results of analysis of relationships (e.g., chi-square, multivariate logistic regression) with reference to tables in Appendix A.

Respondents' Personal, Professional and Practice Characteristics

Just over half of respondents were men. About 80% self-identified as white. Eleven percent identified as Asian/Pacific Islander, with small numbers in other racial and ethnic groups. More than 80% of respondents were physicians, although nearly three-quarters had non-physician providers in their practice. About half identified their specialty as family medicine and a quarter as internal medicine. More than half were in practices with 5 or fewer providers; 15% practiced in FQHCs. Three-quarters of PCP respondents practiced in urban settings, 31% in Detroit. Their self-reported payer mix varied; about one-third had Medicaid/HMP as the predominant payer (Table 2).

Table 2. Personal, Professional and Practice Characteristics of PCP Respondents (N=2,104)

Personal characteristics		
Gender	**N**	**%**
Male	1,165	55.4
Female	939	44.6
Race		
White	1,583	79.3
Black/African-American	93	4.7
Asian/Pacific Islander	224	11.2
American Indian/Alaska Native	10	0.5
Other	86	4.3
Ethnicity		
Hispanic/Latino	46	2.3
Non-Hispanic/Latino	1,978	97.7
Professional characteristics		
Provider type	**N**	**%**
Physician	1,750	83.2
Non-Physician (NP/PA)	357	16.8
Specialty		
Family medicine	1,123	53.4
Internal medicine	507	24.1
Medicine-Pediatrics	67	3.2
General practice (GP)	24	1.1
Obstetrics/Gynecology (OB/Gyn)	12	0.6
Nurse practitioner (NP)	192	9.1
Physician's Assistant (PA)	165	7.8
Other	14	0.7

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Board/Specialty certification		
Yes	1,695	81.6
No	383	18.4
Years in practice		
<10 years	520	25.9
10-20 years	676	33.7
>20 years	810	40.4
Provider ownership of practice		
Full-owner	446	22.0
Partner/part-owner	232	11.4
Employee	1,352	66.6
Practice characteristics		
Practice size (mean, median, SD)	7.5, 5, 16.5	
Small (≤5 practitioners)[a]	1,157	57.5
Large (≥6 practitioners)	855	42.5
Presence of non-physician practitioners in practice[b]	1,275	71.7
Federally qualified health center (FQHC)	311	14.9
University/teaching hospital practice	276	13.1
Hospital-based practice (non-teaching)	643	30.7
Payer mix (current % of patients with insurance type)	**Mean %**	**SD**
Private	32.8%	19.8
Medicaid	23.3%	18.3
Healthy Michigan Plan	10.9%	11.8
Medicare	30.2%	16.7
Uninsured	5.8%	7.1
Predominant payer mix[c]	**N**	**%**
Private	522	27.4
Medicaid/Healthy Michigan Plan	686	36.0
Medicare	645	33.9
Uninsured	15	0.8
Mixed	37	1.9
Payment arrangement		
Fee-for-service	784	37.5
Salary	946	45.3
Capitation	44	2.1
Mixed	275	13.2
Other	40	1.9
Participation in MiPCT	511	24.3
Urbanicity[d]		
Urban	1,584	75.3
Suburban	193	9.2
Rural	327	15.5
Region		
Upper Peninsula/NW/NE	301	14.6
West/East Central/East	675	32.8
South Central/SW/SE	438	21.3
Detroit Metro	642	31.2

[a] Dichotomized at sample median

[b] >5% missing

[c] Composite variable of all current payers: payer is considered predominant for the practice if >30% of physician's patients have this payer type and <30% of patients have any other payer type. "Mixed" includes practices with more than one payer representing >30% of patients, or practices with <30% of patients for each payer type.
[d] Zip codes and county codes were linked to the U.S. Department of Agriculture Economic Research Service 2013 Urban Influence Codes to classify regions into urban (codes 1-2), suburban (codes 3-7) and rural (codes 8-12) designations.

Knowledge of Patient Insurance

Because we relied on PCPs to report their experiences caring for patients with Healthy Michigan Plan coverage we asked them questions about their knowledge of patients' insurance status.

About half report knowing what kind of insurance a patient has at the beginning of an encounter. Nearly all report that it is easy to find out a patient's insurance status. About a third report intentionally ignoring a patient's insurance status (Table 3).

Table 3. Knowledge of Patients' Insurance Status

	Strongly agree	Agree	Neither	Disagree	Strongly disagree
If I need to know a patient's insurance status it is easy to find out (n=2,081)	43.4%	47.2%	6.3%	2.7%	0.3%
I know what kind of insurance a patient has at the beginning of an encounter (n=2,081)	21.2%	32.2%	16.4%	20.5%	9.6%
I ignore a patient's insurance status on purpose so it doesn't affect my recommendations (n=2,078)	14.1%	20.8%	26.4%	27.8%	10.8%
I only find out about a patient's insurance coverage if they have trouble getting something I recommend (n=2,071)	13.6%	26.6%	19.0%	31.3%	9.5%

Familiarity with Healthy Michigan Plan

PCPs report familiarity with how to complete and submit a Health Risk Assessment. They report less familiarity with beneficiary cost-sharing and rewards, and the availability of specialists and mental health services (Table 4).

We hypothesized that PCPs in different practice settings would differ in their familiarity with Healthy Michigan Plan.

PCPs working in small, non-academic, non-hospital-based and FQHC practices, as well as practices with predominantly Medicaid or uninsured payer mixes, reported greater familiarity with Healthy Michigan Plan (Appendix A, Table 1).

> *But I mean it's not reported to me. I don't know anything about their health accounts or MI Health account kind of thing.*
>
> - Rural physician; Small, private practice

Table 4. Familiarity with Healthy Michigan Plan

	Very familiar	Somewhat familiar	A little familiar	Not at all familiar
In general, how familiar are you with the Healthy Michigan Plan? (n=2,031)	15.1%	38.2%	27.4%	19.3%
How familiar are you with the following:				
How to complete a Health Risk Assessment (n=2,028)	47.6%	23.3%	13.6%	15.5%
How to submit a Health Risk Assessment (n=2,025)	34.6%	23.2%	17.5%	24.7%
Healthy behavior incentives that Healthy Michigan Plan Patients can receive (n=2,032)	12.6%	23.7%	27.0%	36.7%
Specialists available for Healthy Michigan Plan patients (n=2,027)	9.3%	27.3%	26.3%	37.1%
Mental health services available for Healthy Michigan Plan patients (n=2,032)	7.7%	18.2%	27.8%	46.4%
Out-of-pocket expenses Healthy Michigan Plan Patients have to pay (n=2,031)	6.7%	18.6%	28.4%	46.3%
Dental coverage in the Healthy Michigan Plan (2,032)	4.4%	13.5%	20.4%	61.7%

Acceptance of Medicaid and Healthy Michigan Plan

About 4 in 5 survey respondents reported accepting <u>new</u> Medicaid/Healthy Michigan Plan patients (Table 5). Most PCPs reported having at least some influence on that decision. Capacity to accept any new patients was rated as a very important factor in decisions to accept Medicaid/ Healthy Michigan Plan patients (Table 6). Of PCPs' <u>established patients</u>, an average of 11% had Healthy Michigan Plan and 23% had Medicaid as their primary source of coverage (Table 2).

> *We accept all comers. Period. Doors are open. Come on in. But I have to add a comment to that or a clarification…a qualification to that. My nurse manager…The site manager just came to me on Monday of this week and said, "You know, [name], if a person wants a new appointment with you, we're scheduling…It's like the end of April. There are so many patients now that are in the system that even for routine follow-up stuff, we can't get them in."*
>
> – Urban physician, FQHC

Most PCPs reported providing care in a setting that serves poor and underserved patients with no anticipation of being paid in the past three years, and nearly three-quarters felt a responsibility to care for patients regardless of their ability to pay. Nearly three-quarters agreed all practitioners should care for Medicaid/Healthy Michigan Plan patients (Table 7).

We hypothesized that acceptance of new Medicaid/Healthy Michigan Plan patients would vary by PCPs' personal, professional and practice characteristics.

In multivariate analyses, PCPs were more likely to accept new Medicaid/Healthy Michigan Plan patients if the PCP was female, a racial minority, a non-physician provider, specializing in internal

medicine, paid by salary vs. fee-for service, with prior history of care to the underserved, or working in practices with Medicaid predominant payer mixes. PCPs were less likely to accept new Medicaid/Healthy Michigan Plan patients if they considered their practice's overall capacity to accept new patients important (Table 8).

> *[A]s long as the rural health center plans still pay me adequately, I don't foresee making any changes. If they were to all of a sudden say, "Okay, we're only going to reimburse 40% or 50% of what we used to," that would be enough to put me out of business. So I would think twice about seeing those patients then, but as long as they continue the way they have been for the last six years that I've owned the clinic, I don't see making any changes. It works just fine.*
>
> – Rural nurse practitioner, Rural health center

We asked PCPs whether they were currently accepting new patients with Healthy Michigan Plan and other types of insurance:

Table 5. Acceptance of New Patients by Insurance Type[5]

Accepting *new* patients, by type of insurance	%
Private (n=1,774)	87.0%
Medicaid* (n=1,517)	75.0%
Healthy Michigan Plan* (n=1,464)	72.8%
Medicare (n=1,717)	84.4%
No insurance (i.e., self-pay) (n=1,541)	76.4%

*Combined, 1,575 (78%) of PCP respondents reported accepting new patients with either Healthy Michigan Plan or Medicaid.

How much influence do you have in making the decision to accept or not accept Medicaid or Healthy Michigan Plan patients in your practice?[1]

The decision is entirely mine (n=459)	I have a lot of influence (n=275)	I have some influence (n=425)	I have no influence (n=866)
22.7%	13.6%	21.0%	42.8%

Table 6. Importance for Accepting New Medicaid or Healthy Michigan Plan Patients

Please indicate the importance of each of the following for your practice's decision to accept new Medicaid or Healthy Michigan Plan patients:	Very important	Moderately important	Not very important	Not at all important	Don't know
Capacity to accept new patients with any type of insurance (n=2,049)	37.8%	31.1%	9.1%	8.6%	13.3%
Reimbursement amount (n=2,056)	25.9%	29.8%	13.3%	15.1%	15.9%
Availability of specialists who see Medicaid or Healthy Michigan Plan patients (n=2,052)	25.7%	30.1%	15.1%	13.8%	15.3%
Psychosocial needs of Medicaid or Healthy Michigan Plan patients (n=2,051)	19.7%	30.4%	18.3%	16.8%	14.8%
Illness burden of Medicaid or Healthy Michigan Plan patients (n=2,052)	18.0%	28.0%	21.5%	18.0%	14.4%

Table 7. Attitudes About Caring for Poor or Underserved Patients

	Strongly agree	Agree	Neither	Disagree	Strongly disagree
All practitioners should care for some Medicaid/Healthy Michigan Plan patients (n=2,073)	45.4%	26.8%	16.7%	7.2%	3.9%
It is my responsibility to provide care for patients regardless of their ability to pay (n=2,066)	42.3%	31.1%	13.6%	9.2%	3.8%
Caring for Medicaid/Healthy Michigan Plan patients enriches my clinical practice (n=2,067)	20.2%	28.5%	36.1%	11.9%	3.2%
Caring for Medicaid/Healthy Michigan Plan patients increases my professional satisfaction (n=2,064)	18.4%	26.3%	38.5%	12.6%	4.3%

In the past three years, have you provided care in a setting that serves poor and underserved patients with no anticipation of being paid?

Yes (n=1,153)	No (n=871)
57.0%	43.0%

Table 8. Multivariate Analysis of Association of PCP and Practice Characteristics with Medicaid Acceptance

	Unadjusted Odds of Medicaid Acceptance OR [95% CI]	Adjusted[a] Odds of Medicaid Acceptance aOR [95% CI]
Personal and professional characteristics		
Female	1.59 [1.28, 1.98]**	1.32 [1.01, 1.72]*
Race		
White	[ref]	[ref]
Black/African American	3.93 [1.80, 8.57]*	3.46 [1.45, 8.25]*
Asian/Pacific Islander	1.76 [1.20, 2.58]*	1.84 [1.21, 2.80]*
Other	1.94 [1.04, 3.62]*	1.79 [0.84, 3.80]
Ethnicity, Hispanic	1.88 [0.79, 4.48]	1.54 [0.56, 4.22]
Years in practice		
<10 years	[ref]	[ref]
10-20 years	0.69 [0.51, 0.93]*	0.87 [0.62, 1.22]
>20 years	0.51 [0.38, 0.68]**	0.82 [0.58, 1.15]
Non-physician provider (vs. physician provider)	4.78 [3.09, 7.40]**	2.21 [1.32, 3.71]*
Specialty		
Family medicine	[ref]	[ref]
Internal medicine	1.43 [1.12, 1.83]*	1.47 [1.09, 1.97]*
Nurse practitioner (NP)	7.81 [3.95, 15.45]**	3.53 [1.64, 7.61]*
Physician Assistant (PA)	4.07 [2.32, 7.16]**	1.83 [0.94, 3.56]
Other	2.86 [1.21, 6.79]*	2.02 [0.75, 5.45]
Board Certified	0.57 [0.42, 0.77]**	0.92 [0.64, 1.32]

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Personal and professional characteristics		
Payment arrangement		
Fee-for-service	[ref]	[ref]
Salary predominant	3.02 [2.36, 3.85]**	2.09 [1.58, 2.77]**
Mixed payment	1.34 [0.98, 1.84]	1.43 [0.99, 2.07]
Other payment arrangements	2.44 [1.01, 5.93]*	1.33 [0.51, 3.49]
PCP attitudes		
Capacity very/moderately important	0.53 [0.41, 0.68]**	0.59 [0.44, 0.79]**
Reimbursement very/moderately important	0.64 [0.51, 0.79]**	0.86 [0.67, 1.10]
Specialist availability very/moderately important	0.95 [0.76, 1.17]	1.11 [0.86, 1.42]
Illness burden of patients very/moderately important	1.02 [0.83, 1.27]	1.03 [0.81, 1.32]
Psychosocial needs of patients very/moderately important	1.10 [0.89, 1.37]	1.14 [0.89, 1.45]
Provided care to the underserved in past 3 years	1.64 [1.33, 2.03]**	1.35 [1.05, 1.73]*
Expressed commitment to caring for underserved	1.16 [1.13, 1.19]**	1.14 [1.11, 1.18]**
Practice characteristics		
Small practice with ≤5 providers (vs. large practice)	1.18 [0.95, 1.47]	1.27 [0.99, 1.63]
Urban (vs. rural/suburban)	0.69 [0.53, 0.89]*	0.97 [0.72, 1.31]
Federally qualified health center (FQHC)	2.40 [1.66, 3.47]**	1.08 [0.70, 1.65]
Mental health co-location	1.99 [1.42, 2.79]**	1.16 [0.79, 1.71]
Predominant payer mix		
Private insurance	[ref]	[ref]
Medicaid/HMP	9.04 [6.33, 12.91]**	7.31 [5.05, 10.57]**
Medicare	1.66 [1.30, 2.13]**	2.04 [1.52, 2.73]**
Mixed	6.88 [2.09, 22.72]*	3.76 [2.24, 6.30]**

[a] Logistic regression model with odds ratios, adjusted for covariates of gender, years in training, physician vs. non-physician provider, and all listed covariates.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Changes in Practice

Most PCPs reported an increase in new patients and in the number of new patients who hadn't seen a PCP in many years (Table 9).

> *Really the only thing I know about the expansion is in early 2014 we started getting a way lot more requests for a new patient visit than we've ever had before. I was just like, "what is going on? We don't get 25 requests for new patients/month." So when it started really climbing, that's when I figured out, "Okay. It's probably due to the Obamacare Medicaid expansion."*
>
> – Urban physician; Small, private practice

Most reported established patients who had been uninsured gained insurance. Fewer reported patients changing from other insurance to Healthy Michigan Plan (Table 9).

> *Your working poor people who just were in between the cracks, didn't have anything, and now they've got something, which is great.*
>
> – Urban physician, FQHC

Most practices hired clinicians and/or staff in the past year. Most reported consulting with care coordinators, case managers and/or community health workers in the past year. A substantial

minority had newly co-located mental health within primary care within the past year (Table 10).

About a third of PCPs reported that the portion of established patients able to obtain a same- or next-day appointment had increased over the previous year (Table 11).

Large and FQHC practices were more likely to have hired new clinicians in the past year. Small, non-FQHC, academic and suburban practices and were less likely to report hiring additional staff (Table 12).

Large, MiPCT, and FQHC practices and those with predominantly private or uninsured payer mixes were all more likely to report consulting with care coordinators, case managers and/or community health workers in the past year (Table 12).

In multivariate analyses, FQHCs, those with predominantly uninsured, Medicaid and mixed payer mixes and suburban practices were more likely to report an increase in new patients. FQHCs, and those with predominantly Medicaid payer mix, were more likely to report existing patients who had been uninsured gained insurance, and an increase in the number of patients who hadn't seen a PCP in many years (Table 13 below, and Appendix A, Tables 15).

Large, FQHC, MiPCT, and rural practices, and those with predominantly Medicaid or uninsured patients, were more likely to have co-located mental health within the past year (Table 12).

Table 9. Experiences of Practices Since April 2014

To what extent has your practice experienced the following since Healthy Michigan Plan began in April 2014?	To a great extent	To some extent	To a little extent	Not at all	Don't know
Increase in the number of new patients who haven't seen a primary care practitioner in many years (n=2,020)	24.6%	31.6%	20.1%	6.4%	17.3%
Increase in number of new patients (n=2,021)	17.4%	34.9%	19.2%	9.6%	18.8%
Existing patients who had been uninsured or self-pay gained insurance (n=2,019)	15.9%	34.7%	24.9%	5.3%	19.2%
Existing patients changed from other insurance to Healthy Michigan Plan (n=2,019)	5.4%	26.2%	28.5%	8.7%	31.1%

Table 10. Changes Made to PCP Practices Within the Past Year

Has your practice made any of the following changes in the past year? (check all that apply)	Checked	Not Checked‡
Hired additional clinicians (n=2,104)	53.2%	46.8%
Hired additional office staff (n=2,104)	57.5%	42.5%
Consulted with care coordinators, case managers, community health workers (n=2,104)	55.8%	44.2%
Changed workflow processes for new patients (n=2,104)	41.7%	58.3%
Co-located mental health within primary care (n=2,104)	15.4%	84.6%

‡288 (13.7%) participants did not check any boxes indicating that their practice had made changes in the previous year. This data was factored into the "Not Checked" category for each potential response.

Table 11. Availability of Urgent Appointments

What proportion of your established patients who request a same- or next-day appointment at your primary practice can get one? (n=2,033)[7]

Almost all >80% (n=826)	Most 60-80% (n=527)	About half ~50% (n=237)	Some 20-40% (n=287)	Few <20% (n=122)	Don't know (n=34)
40.6%	25.9%	11.7%	14.1%	6.0%	1.7%

Over the past year, this proportion has:

Increased (n=682)	Decreased (n=316)	Stayed the same (n=883)	Don't know (n=123)
34.0%	15.8%	44.1%	6.1%

Table 12. Multivariate Analysis of Association of Practice Characteristics with Changes Made in PCP Practices Within the Past Year

Has your practice made the following changes in the past year?	Hired additional clinicians	Hired additional office staff	Consulted with care coordinator, case manager, or community health worker	Changed workflow processes for new patients	Co-located mental health within primary care
Practice size					
Large (ref)	71.8%	67.8%	68.2%	49.0%	18.3%
Small	40.0%***	52.6%***	51.9%***	38.5%***	12.2%**
Practice type					
FQHC (ref)	62.4%	70.0%	72.6%	44.2%	29.9%***
Non-FQHC	52.1%**	57.1%**	56.1%***	42.8%	11.8%
Academic (ref)	49.2%	51.6%	52.1%	39.6%	13.9%
Non-academic	54.3%	60.1%	59.3%	43.5%	15.6%
Hospital-based (ref)	51.6%	59.3%	55.1%	42.8%	11.2%**
Not hospital-based	54.6%	58.8%	59.9%	43.1%	17.8%
Predominant payer mix					
Private (ref)	54.8%	60.0%	62.3%	40.7%	11.0%
Medicare	50.9%	58.8%	55.8%*	48.5%*	13.1%
Medicaid	53.2%	60.1%	55.5%*	44.0%	19.7%***
Uninsured	40.9%	34.5%	68.3%	40.5%	29.1%*
Mixed	57.6%	51.6%	59.9%	35.1%	15.3%
MiPCT					
Yes	52.8%	60.0%	78.0%***	44.4%	22.0%
No	53.8%	58.6%	52.3%	42.5%	13.1%
Urbanicity					
Urban (ref)	53.6%	60.0%	58.1%	41.5%	13.6%
Suburban	52.6%	50.5%*	53.3%	45.5%	14.8%
Rural	53.9%	58.9%	62.2%	48.3%	23.6%***

*Proportions are the predictive margins from logistic regression models adjusted for each practice characteristic in the table, as well as PCP gender, specialty, ownership of practice, and years in practice. All p-values are based on logistic regression analysis

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 13. Multivariate Analysis of Association of Practice Characteristics with Experiences of Practices Since April 2014

To what extent has your practice experienced the following since the Healthy Michigan Plan began in April 2014?[1]	Increase number of new patients	Existing patients who had been uninsured or self-pay gained insurance	Existing patients changed from other insurance to Healthy Michigan Plan	Increase in the number of new patients who have not seen a primary care practitioner in many years
All	52.3%	50.6%	31.6%	56.2%
Practice size				
Large (ref)	51.4%	50.0%	28.9%	54.0%
Small	51.7%	51.2%	31.9%	57.8%
Practice type				
FQHC (ref)	58.8%	64.9%	32.6%	63.7%
Non-FQHC	50.5%*	48.5%***	30.3%	55.1%*
Academic (ref)	52.9%	53.5%	29.9%	59.2%
Non-academic	51.3%	50.2%	30.8%	55.7%
Hospital-based (ref)	51.5%	49.5%	28.3%	56.9%
Not hospital-based	51.6%	51.3%	31.7%	55.8%
Predominant payer mix				
Private (ref)	39.4%	41.5%	22.4%	46.2%
Medicare	43.8%	44.8%	25.0%	50.5%
Medicaid	69.7%***	64.7%***	43.0%***	72.4%***
Uninsured	79.4%*	59.1%	14.4%	61.5%
Mixed	49.9%*	50.4%	29.2%	49.7%
Urbanicity				
Urban (ref)	51.0%	49.5%	28.6%	56.7%
Suburban	59.8%*	55.6%	33.1%	60.3%
Rural	49.1%	53.7%	38.8%**	51.3%

Proportions are the predictive margins from logistic regression models adjusted for each practice characteristic in the table, as well as PCP gender, specialty, ownership of practice, and years in practice.
[1]Analyses based on sum of those who responded "to a great extent" or "to some extent" for the items below.
All p-values are based on logistic regression analysis
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Experiences Caring for Healthy Michigan Plan Beneficiaries

Health Risk Assessment

About four-fifths of PCPs who responded to the survey have completed at least one HRA with a patient; over half of those have completed more than 10 (Table 14).

Most PCPs reported their practice has a process in place for submitting HRAs, but not for identifying patients who needed HRAs completed. Some PCPs reported having been contacted by a health plan about a patient who needed to complete an HRA. Most don't know whether they or their practice has received a financial incentive for completing HRAs (Table 15, Figure 2).

Most PCPs reported that financial incentives for patients and practices had at least a little influence

on completing HRAs. According to PCPs, patients' interest in addressing health risks had at least as much influence (Table 16, Figure 3).

> *We finally get the chance to do prevention because if someone doesn't have insurance and doesn't see a doctor, then there's no way we can do any kind of prevention. We're just kind of dealing with the end-stage results of whatever's been going on and hasn't been treated. So I mean what I've heard people say is "I just want to stay healthy or find out if I'm healthy," and to me that says a lot. We can at least find out where they stand in terms of chronic illness or if they have any or if they are healthy, how can we make sure that they stay that way?*
>
> – Urban physician; Large, hospital-based practice

Most PCPs found HRAs very or somewhat useful for identifying and discussing health risks, persuading patients to address their most important health risks, and documenting behavior change goals. About half found them very or somewhat useful for getting patients to change behavior (Table 17, Figure 4).

> *I recently… In the last month, I've signed up two people [for Weight Watchers] …two or three people to that, and one of them is really sticking to it. She's already lost 10 pounds.*
>
> – Urban physician; Small, private practice

PCPs reported completing more HRAs if they were located in Northern regions, reported a Medicaid or uninsured predominant payer mix, payment by capitation or salary, compared to fee-for-service, receiving a financial incentive for completing HRAs, smaller practice size, and co-location of mental health in primary care (Appendix A, Table 22).

Table 14. Health Risk Assessment Completion

Approximately how many Health Risk Assessments have you completed with Healthy Michigan Plan patients? (n=2,032)

None (n=420)	1-2 (n=235)	3-10 (n=503)	More than 10 (n=874)
20.7%	11. 6%	24.8%	43.0%

How often do your Healthy Michigan Plan patients bring in their Health Risk Assessment to complete at their initial office visit? (n=1,923)

Almost always (n=215)	Often (n=416)	Sometimes (n=720)	Rarely/never (n=572)
11.2%	21.6%	37.4%	29.7%

Table 15. Experience with Health Risk Assessments

Please report your experience with the following:	Yes	No	Don't know
My practice has a process to submit completed HRAs to the patient's Medicaid Health Plan. (n=2,041)	61.2%	8.6%	30.1%
My practice has a process to identify Healthy Michigan Plan patients who need to complete an HRA. (n=2,042)	34.1%	25.2%	40.7%
I/my practice have been contacted by a Medicaid Health Plan about a patient who needs to complete an HRA. (n=2,040)	33.2%	21.5%	45.3%
I/my practice have received a financial bonus from a Medicaid Health Plan for helping patients complete HRAs. (n=2,033)	18.1%	16.7%	65.3%

Figure 2. Experience with Health Risk Assessments

Please report your experience with the following:

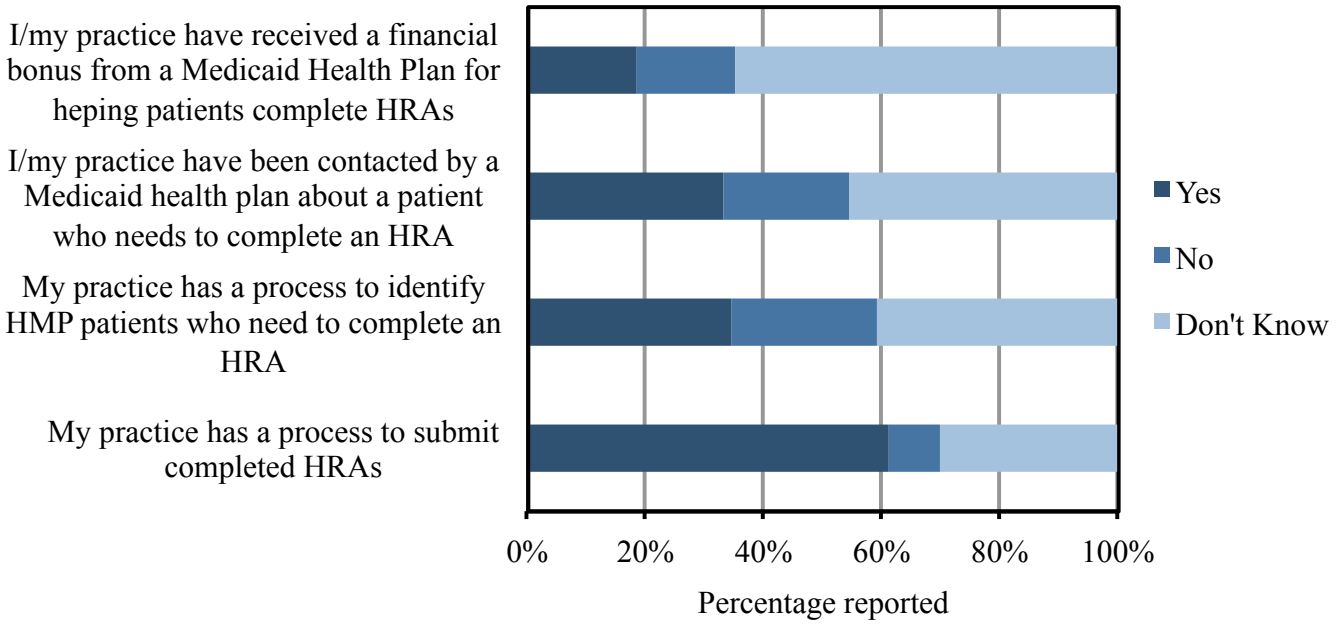


Table 16. Influence on Completing HRA

How much influence do the following have on completion and submission of the Health Risk Assessment?	A great deal	Some	A little	No	Don't know
Financial incentives for patients (n=2,046)	26.8%	23.8%	7.6%	14.4%	27.5%
Patients' interest in addressing health risks (n=2,046)	21.4%	30.2%	18.3%	8.8%	21.3%
Financial incentives for practices (n=2,044)	18.3%	24.6%	12.6%	17.3%	27.3%

Figure 3. Influence on Completing HRA

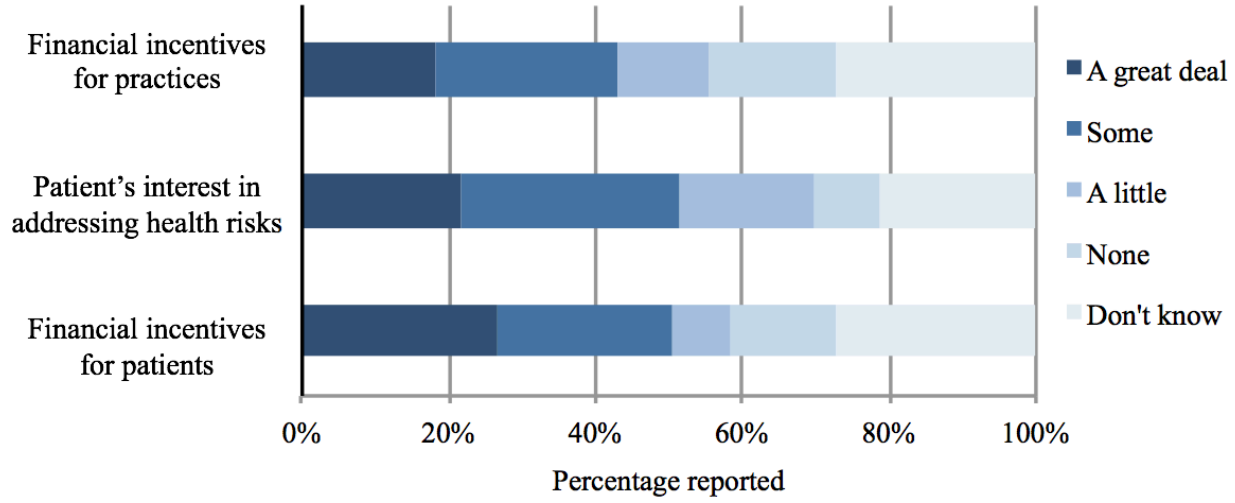
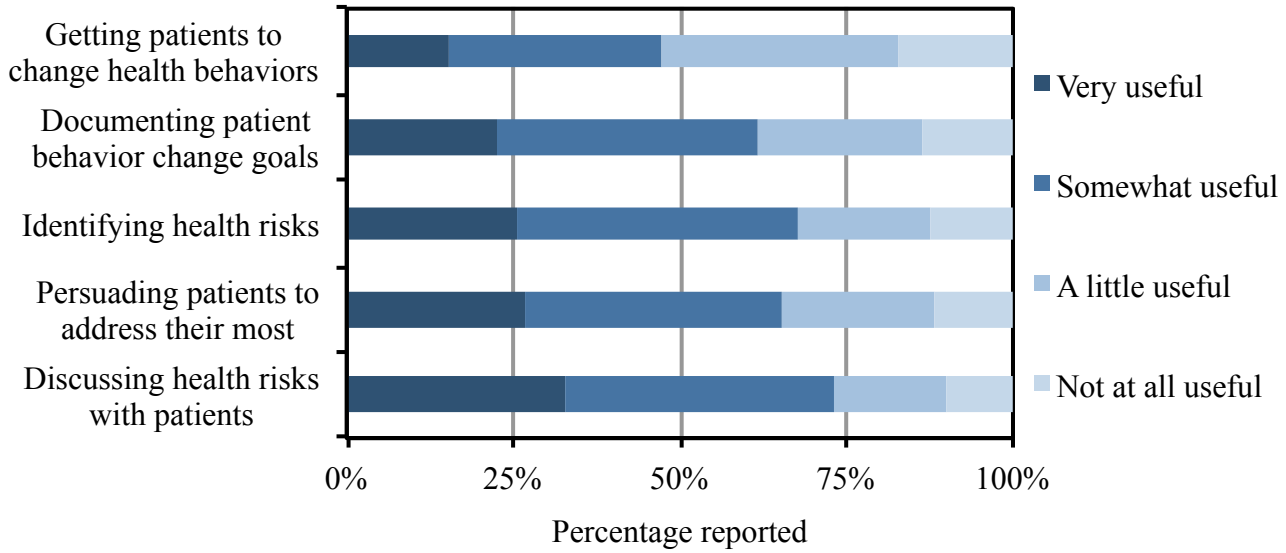


Table 17. Perceived Usefulness of HRA

For Healthy Michigan Plan patients who have completed their HRA, how useful has this been for each of the following?	Very useful	Somewhat useful	A little useful	Not at all useful
Discussing health risks with patients (n=1,828)	32.9%	40.1%	17.0%	10.0%
Persuading patients to address their most important health risks (n=1,828)	26.5%	38.9%	22.7%	11.9%
Identifying health risks (n=1,833)	25.7%	42.0%	20.1%	12.2%
Documenting patient behavior change goals (n=1,826)	22.4%	39.2%	24.6%	13.8%
Getting patients to change health behaviors (n=1,821)	15.2%	32.0%	35.8%	17.0%

Figure 4. Perceived Usefulness of HRA



PCPs were more likely to report a process to identify patients who needed to complete an HRA if they reported (Appendix A, Table 2):

- Co-location of mental health within primary care
- Medicaid or uninsured predominant payer mix
- They or their practice had received an incentive for completing an HRA
- Their practice was located in Northern, Mid-state, or Detroit regions, compared with the Southern region

PCPs reported completing more HRAs if they reported (Appendix A, Table 22):

- Smaller practice size
- Co-location of mental health within primary care in the past year
- Medicaid or uninsured predominant payer mix
- Payment by capitation or salary, compared with fee-for-service
- They or their practice had received an incentive for completing an HRA
- Their practice was located in Northern regions of the state compared with other regions

We hypothesized that PCPs who identify a process in place at their practice for identifying patients who need to complete an HRA would report completing more HRAs and that was confirmed (Appendix A, Table 22). PCPs reporting greater familiarity with healthy behavior incentives and out of pocket expenses faced by patients also reported completing more HRAs.

Estimates of HRA completion rates by PCPs

It is not possible to link PCP surveys directly to HRA records, since the HRAs are linked to patients, and the PCP listed on the HRA does not have to be the assigned PCP (it could be any PCP within the plan). As a proxy, in July 2016 we retrieved the count of all HMP enrollees for whom the PCP respondent was the PCP of record, and the number of those enrollees who had a complete HRA on record (which may or may not have been completed by the PCP respondent) from the data warehouse,. Since these data reflected the number of enrollees per PCP and the number of HRAs completed about one year after the survey, we cannot draw firm conclusions based on the relationship between survey responses and this data.

HRA completion rates by PCP are not quite normally distributed (Appendix A, Figure 1).

	Mean (SE)	Median	Interquartile range (IQR)
HMP member count	94 (2.6)	53	27-111
HRA completions	18 (0.62)	9	4-20
Rate of HRA completions (HRA completions/HMP members)	19.6% (0.003)	15.8%	9.5-25.9%

We examined the relationship between HRA completion, as documented (attested) in the Data Warehouse, and provider characteristics, practice characteristics and PCP views of the HRA**.**

PCP familiarity with the HRA was the only consistent predictor of HRA completion, particularly after sensitivity analyses adjusting for practice ID (Appendix A, Tables 20, 21).

ER Use and Decision Making

The majority of PCPs surveyed reported that they could influence ER utilization trends for their Medicaid patient population and nearly all accepted responsibility for playing a role in reducing non-urgent ER use. Many reported offering services to avoid non-urgent ER use, such as walk-in appointments, 24-hour telephone triage, weekend and evening appointments, and care coordinators or social work assistance for patients with complex problems, but were less likely to offer transportation services (Table 18).

PCPs who reported a greater sense of influence on ER use (Appendix Table 4):

- **Reported fewer years in practice**
- **Reported larger practice size**
- **Reported hiring new staff or clinicians in the past year**
- **Reported offering care coordination or social work assistance for patients with complex problems**

PCPs who reported a greater sense of responsibility for decreasing ER use (Appendix Table 4):

- **Reported fewer years in practice**
- **Were more likely to be non-physicians**
- **Reported larger practice size**
- **Reported practice changes in the past year including hiring new clinicians, consulting with care coordinators, case managers, or community health workers, changes in workflow, and newly co-locating mental health.**

- **Were more likely to report the availability of urgent appointments had increased**
- **Were more likely to report the availability of walk-in appointments and weekend and evening appointments at their practice**
- **Were more likely to report offering transportation assistance and care coordination or social work assistance**

PCPs reported that accessibility to pain medication and evaluations without appointments are major drivers of ER use, along with patients' comfort with accessing ER services (Table 19).

> *People who work day shift… It's easier for them to go to the ER or something for a minor thing because they don't have to take time off work. That's a big deal.*
>
> – Rural physician; Small, private practice

> *I think that a lot of it is cultural. I don't mean ethnic culture. I mean just culture… There are some people who that is just what they understand, and that is how they operate. They've seen people do it for years, and they've done it and they just feel comfortable with that.*
>
> – Urban physician assistant, FQHC

PCP views about other factors that affect ER use also influenced their sense of influence and responsibility (Appendix Table 4).

In multivariate analyses (Appendix Table 5), years in practice, Asian/Pacific Islander race and suburban location were associated with PCPs' sense of influence over ER use.

In multivariate analyses (Appendix Table 5), years in practice, non-physician status, practice size and changes in workflow in the past year and suburban location were associated with PCPs' sense of responsibility for ER use.

When asked how to reduce non-urgent ER use (open-ended, write-in question), many respondent suggestions addressed **PCP availability** (e.g., increases in the workforce) and changes in **PCP practice** (e.g., extended hours, same-day appointments, improved follow-up). They also recommended gatekeeper strategies, non-primary care options (e.g., urgent care clinics) and greater use of care coordinators and case managers.

Some PCPs suggested **modifications to ER practice**, such as diversion to PCPs, nearby urgent care sites or reducing payment to hospitals/ER practitioners. Others recommended **limiting pain medication** prescriptions in the ER. A few PCPs suggested that the Emergency Medical Treatment and Labor Act (EMTALA) be changed to allow ER practitioners to more readily divert patients to other settings, along with altering the "litigation culture."

Patient educational initiatives were also recommended, for example to clarify "when to seek care," awareness of available alternative services, enhancing patient "coping" and self-management skills, as well as increased transparency on the costs associated with ER care.

Most commonly, PCPs recommended **patient penalties**. Financial penalties were overwhelmingly co-pays, or point-of care payment for ER visits, particularly for visits that do not result in a hospital admission or for patients deemed "high utilizers." Non-financial penalties included having the patient dismissed from the practice panel, or by the insurer.

Others suggested instituting **financial incentives to encourage patients to contact their PCP** prior to seeking ER care, or suggested both increasing out of pocket costs for ER visits while lowering or eliminating costs for visits to primary or urgent care.

How much can PCPs influence non-urgent ER use by their patients?

A great deal (n=608)	Some (n=886)	A little (n=460)	Not at all (n=80)
29.9%	43.6%	22.6%	3.9%

To what extent do you think it is your responsibility as a PCP to decrease non-urgent ER use?

Major Responsibility (n=740)	Some Responsibility (n=1,035)	Minimal responsibility (n=212)	No responsibility (n=43)
36.5%	51.0%	10.4%	2.1%

Table 18. PCP Practice Offerings to Avoid Non-Urgent ER Use

Does your practice offer any of the following to help Healthy Michigan Plan patients avoid non-urgent ER use?	Yes	No	Don't know
Walk-in appointments (n=2,010)	66.5%	30.2%	3.3%
Assistance with arranging transportation to appointments (n=2,008)	30.6%	57.0%	12.4%
24-hour telephone triage (n=2,015)	74.0%	21.7%	4.2%
Appointments during evenings and weekends (n=2,012)	55.8%	40.7%	3.5%
Care coordination/social work assistance for patients with complex problems (n=2,008)	56.5%	33.5%	10.1%

Table 19. Influence on Non-Urgent ER Use

In your opinion, to what extent do the following factors influence non-urgent ER use?	Major influence	Minor influence	Little or no influence
The ER will provide care without an appointment (n=2,030)	82.7%	13.4%	3.8%
Patients believe the ER provides better quality of care (2,026)	16.8%	39.4%	43.8%
The ER offers quicker access to specialists (n=2,028)	30.3%	35.7%	34.1%
Hospitals encourage use of the ER (n=2,012)	18.7%	28.7%	52.6%
The ER offers access to medications for patients with chronic pain (n=2,031)	50.7%	31.8%	17.5%
The ER is where patients are used to getting care (n=2,023)	59.5%	31.3%	9.2%

Access

PCPs with Healthy Michigan Plan patients who were previously uninsured reported some or great impact on health, health behavior, health care and function for those patients. The greatest impact was reported for control of chronic conditions, early detection of serious illness, and improved medication adherence (Table 20).

> *One patient…a 64-year-old gentleman who has lived in Michigan or at least lived in the United States for 40 years and had never pursued primary care. Upon receiving health insurance and upon his daughter's recommendation, he pursued care and that was his first…according to him, his first physical evaluation of any sort in 40 years, and he has just.... It wasn't a full health maintenance exam. It was a new patient evaluation, and in the time in that initial evaluation he was found to be hypertensive. Upon subsequent labs, you know, ordered on that visit, he was found to be diabetic and*

upon routine referral at that initial visit for an eye exam, given his hypertension, he was found to have had…hemianopia, which later was determined to be caused by a prior stroke.

– Urban physician assistant, FQHC

Well, I learned a long time ago if the patient doesn't take the medicine, they don't get better. There are a lot of different reasons they don't take it, but the easy one is that if they don't have insurance to cover it and they don't ever pick it up, then they're not going to take it….if they have financial barriers to getting that done, they're not going to get it done. So I'd say it has a humungous effect.

– Rural physician, FQHC

PCPs reported that Healthy Michigan Plan patients, compared to those with private insurance, more often had difficulty accessing specialists, medications, mental health care, dental care, treatment for substance use and counseling for behavior change (Table 21).

It can still take up to six months to see a psychiatrist unless you get admitted to the hospital… the ones that work for the hospital that don't take Medicaid or Medicare. And then at discharge, you really aren't going to see the other psychiatrist any quicker. It's kind of a mess. But I don't blame Medicaid expansion for that. It was a mess before then.

– Urban physician; Small, private practice

He has a job that I think he gets paid $9/hour to work, and he's like a super hard-working guy….I think his son has like…is 14 years old with…mental disabilities,….So now we're talking about a man that needs to get a super expensive medication….Although I feel like I'm a great primary care doc, sometimes, you know, those medications and the follow-up need to probably…There needs to be a team….some teamwork between the rheumatologist and the primary care doctor, and we couldn't get him back in.

– Urban physician, FQHC

Table 20. Impact of Healthy Michigan Plan on Previously Uninsured Patients

Please think about what has changed for your patients <u>who were previously uninsured</u> and are now covered by the Healthy Michigan Plan. Rate the extent to which you think HMP has had an impact on each of the following for these patients:

	Great impact	Some impact	Little impact	No impact	Don't know
Better control of chronic conditions (n=2,005)	35.0%	39.4%	6.9%	1.5%	17.3%
Early detection of serious illness (n=2,002)	33.7%	37.4%	7.6%	2.0%	19.3%
Improved medication adherence (n=2,004)	28.3%	40.8%	10.7%	2.7%	17.5%
Improved health behaviors (n=2,005)	16.1%	40.4%	18.9%	5.3%	19.3%
Better ability to work or attend school (n=2,003)	13.1%	33.0%	19.9%	5.7%	28.3%
Improved emotional wellbeing (n=2,004)	16.4%	40.6%	17.4%	3.8%	21.9%
Improved ability to live independently (n=2,002)	11.9%	29.6%	21.9%	7.0%	29.5%

Table 21. Reported Frequency of Access Difficulty – Healthy Michigan Plan Patients

	Often	Sometimes	Rarely	Never	Don't know
How often do Healthy Michigan Plan patients have difficulty accessing the following?[7]					
Specialists **+ (n=2,059)	31.3%	35.4%	6.7%	0.9%	25.7%
Medications **+ (n=2,058)	15.6%	43.1%	16.0%	1.8%	23.5%
Mental Health Care **+ (n=2,059)	34.5%	25.4%	9.4%	1.7%	29.0%
Dental/Oral Health Care **+ (n=2,061)	30.2%	17.5%	6.4%	1.1%	44.8%
Treatment for substance use disorder **+ (n=2,058)	28.9%	21.7%	7.3%	1.5%	40.6%
Counseling and support for health behavior change **+ (n=2,060)	26.0%	26.4%	10.6%	2.7%	34.4%
How often do your privately insured patients have difficulty accessing the following?[7]					
Specialists **+ (n=2,074)	3.4%	31.3%	48.6%	13.2%	3.4%
Medications **+ (n=2,074)	6.6%	50.8%	34.7%	4.7%	3.3%
Mental Health Care **+ (n=2,072)	17.7%	43.1%	26.6%	6.0%	6.6%
Dental/Oral Health Care **+ (n=2,072)	7.5%	30.5%	30.1%	6.4%	25.5%
Treatment for substance use disorder **+ (n=2,071)	14.7%	38.6%	25.4%	4.7%	16.6%
Counseling and support for health behavior change **+ (n=2,072)	12.4%	38.7%	31.3%	6.9%	10.7%

**p<.001 paired t-test comparing don't know responses for HMP and privately insured patients
+p<.001 Wilcoxon signed-rank test comparing responses for HMP and privately insured patients

Discussing Costs with Patients

Given the cost-sharing features of Healthy Michigan Plan, we asked PCPs about conversations they may have had with patients about out-of-pocket costs.

About one-fifth of PCPs reported discussing out-of-pocket costs with a Healthy Michigan Plan patient. The patient was more likely than the PCP to bring up the topic. About half the time the discussion resulted in a change of management plans.

> *They don't have that stigma any longer of not being insured and there's not that barrier between us about them worrying about the money, even though we really never made a big deal of it, but they could feel that. I don't know. I think they feel more worth.*
>
> – Rural physician; Small, private practice

We hypothesized that PCPs' likelihood of having cost conversations would vary by their PCPs' personal, professional and practice characteristics.

In multivariate analyses, we found that PCPs who were white, Hispanic/Latino, non-physician practitioners and with Medicaid or uninsured predominant payer mixes were more likely to have cost conversations with patients. PCPs with fewer years in practice and in rural practices were

more likely to report a change in management due to cost conversations with patients (Tables 22, 23).

Have you ever discussed out-of-pocket medical costs with a Healthy Michigan Plan patient? (n=1,988)

Yes (n=445)	No (n=1,543)
22.4%	77.6%

Thinking of the most recent time you discussed out-of-pocket medical expenses with a Healthy Michigan Plan patient, who brought up the topic? (n=440)

The patient (n=247)	Me (n=171)	Somebody else in the practice (n=16)	Other (n=6)
56.1%	38.9%	3.6%	1.4%

Thinking of the most recent time you discussed out-of-pocket medical expenses with a Healthy Michigan Plan patient, did the conversation result in a change in the management plan for the patient? (n=440)

Yes (n=248)	No (n=131)	Don't remember (n=61)
56.4%	29.8%	13.9%

Table 22. Unadjusted Association of PCP Personal, Professional and Practice Characteristics with Frequency of Cost Conversations and Change in Clinical Management due to Cost Conversations

	%	
	Cost Conversations†	Change in Management due to Cost Conversation‡
Personal characteristics		
Gender		
Male (n=345)	20.5%*	52.7%
Female (n=348)	24.7%	60.2%
Race		
White (n=571)	24.3%**	56.0%
Black/African American (n=22)	15.4%	57.1%
Asian/Pacific Islander (n=39)	12.3%	60.9%
Other/More than one (n=28)	17.5%	55.6%
Ethnicity		
Hispanic/Latino (n=23)	33.3%	53.3%
Not Hispanic/Latino (n=650)	22.0%	56.9%
Professional characteristics		
Provider type		
Physician (n=517)	20.4%**	54.1%
Non-physician (NP or PA) (n=176)	32.2%	63.6%
Specialty		
Family medicine (n=349)	21.6%**	52.2%*
Internal medicine (n=154)	17.8%	61.7%
Other physician specialty (n=14)	21.6%	27.3%
Non-physician (NP or PA) (n=176)	32.2%	63.6%
Years in practice		
<10 years (n=213)	25.1%	69.6%*
10-20 years (n=206)	20.8%	54.1%
>20 years (n=256)	22.8%	49.7%

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Prior care for underserved patients		
Yes (n=445)	25.8%**	57.1%
No (n=233)	18.1%	55.4%
Practice characteristics		
Practice size		
Small (≤5 providers) (n=393)	23.2%	56.4%
Large (>5 providers) (n=284)	22.1%	57.9%
FQHC practice		
Yes (n=152)	31.4%**	61.7%
No (n=535)	20.8%	54.8%
University/teaching hospital practice		
Yes (n=75)	18.3%	57.5%
No (n=605)	23.0%	56.5%
Hospital-based practice (non-teaching)		
Yes (n=216)	22.0%	62.1%
No (n=464)	22.5%	54.2%
Payer mix		
Medicaid/Uninsured predominant (n=281)	26.4%*	58.8%
Private/Medicare/Other predominant (n=360)	20.0%	55.7%
Practice characteristics		
Urbanicity		
Urban (n=480)	20.9%*	54.4%*
Suburban (n=62)	22.7%	47.6%
Rural (n=151)	29.3%	67.4%
Total	22.4%	56.4%

†Percent among total respondents

‡Percent among those respondents who had a cost conversation

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 23. Multivariate Association of PCP Personal, Professional and Practice Characteristics with Likelihood of Cost Conversations, and Likelihood of Change in Clinical Management due to Cost Conversations

	Adjusted Odds Ratio† [95% CI]	
	Odds of Cost Conversation	Odds of Change in Management due to Cost Conversation
Personal characteristics		
Male	0.82 [0.63, 1.05]	0.91 [0.58, 1.41]
Race		
White	[ref]	[ref]
Black/African American	0.52 [0.28, 0.96]*	0.92 [0.29, 2.93]
Asian/Pacific Islander	0.43 [0.27, 0.70]*	1.37 [0.54, 3.46]
Other/More than one	0.65 [0.36, 1.17]	1.60 [0.52, 4.94]
Ethnicity, Hispanic/Latino	2.11 [1.08, 4.12]*	0.93 [0.31, 2.77]

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Professional characteristics		
Provider type, physician (ref=non-physician)	0.71 [0.51, 0.99]*	0.96 [0.54, 1.73]
Years in practice		
<10 years	[ref]	[ref]
10-20 years	0.81 [0.60, 1.09]	0.52 [0.30, 0.89]*
>20 years	1.04 [0.77, 1.42]	0.47 [0.27, 0.82]*
Practice characteristics		
Payer mix		
Medicaid/Uninsured predominant	1.31 [1.02, 1.69]*	0.95 [0.60, 1.51]
Private/Medicare/Other predominant	[ref]	[ref]
Urbanicity		
Urban	0.82 [0.60, 1.11]	0.62 [0.35, 1.11]
Suburban	0.70 [0.45, 1.11]	0.41 [0.18, 0.95]*
Rural	[ref]	[ref]

Logistic regression models with adjusted odds ratios. Models are adjusted for all listed variables.
†Each column represents a different multivariate model
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Suggestions for Improvement and Impact of the Healthy Michigan Plan

We provided PCPs open-ended opportunities in the survey to provide additional information, including asking them for suggestions to improve and impact of the Healthy Michigan Plan.

Suggestions from PCPs included the following:

- Ways to increase patient responsibility
- Need for increased patient education about health insurance, health behaviors, primary care, appropriate ER use, and medication adherence
- Improve accessibility to and availability of other practitioners (especially specialists including mental health and addiction providers)
- Increase reimbursement to encourage practitioners to participate
- Need for increased provider education and up-to-date information about what is/is not covered, program features, administrative processes, billing for HRA completion, and costs faced by patients
- Need for better coverage for some specific services (e.g., behavioral health, physical therapy)
- Formularies are too limited, lack transparency, and require too much paperwork to obtain authorization for necessary prescription drugs
- Suggested streamlining formularies between Medicaid plans, keeping an updated list of preferred medications and more transparency around medication rejections
- Reduce the complexity of paperwork
- HRA had mixed responses; some saw it as more paperwork or redundant with existing primary care practice, others saw it as worthwhile
- Patient churn on and off and between types of coverage is challenging, especially because patients are often unaware of the change

Impact of the Healthy Michigan Plan:

- Many respondents reported that Healthy Michigan Plan had a positive impact by allowing patients to get much needed care, improving financial stability, providing a sense of dignity, improving mental health, increasing accessibility to care and compliance (especially with medications), helping people to engage in healthy behaviors like quitting smoking, and saving lives

- Some reported a negative impact, saying that it has “opened a flood gate” and there are not enough practitioners, that too many new patients are seeking [pain] medications, and that it even influenced their decision to change careers or retire

RESULTS FROM IN-DEPTH INTERVIEWS WITH PRIMARY CARE PRACTITIONERS

The results section begins with a brief description and summary table of the characteristics of 19 primary care providers who care for Medicaid/HMP patients, and who participated in in-depth semi-structured telephone interviews between December 2014 and April 2015. The next section provides key findings from those interviews. The main topics appear in boxes, followed by key findings in bold font, a brief summary explanation in regular font, if indicated, and illustrative quotations, in italics. Additional excerpts can be found in Appendix B.

Characteristics of Primary Care Practitioners Interviewed

Between December 2014 and April 2015, we conducted 19 semi-structured telephone interviews with sixteen physicians (84%) and three non-physician (16%) primary care practitioners. Of the sixteen physicians interviewed, fourteen specialized in family medicine (88%) and two in internal medicine (12%). Five of these providers practiced in the City of Detroit (26%); four practiced in Marquette, Baraga, or Iron County (21%); four practiced in Kent County (21%); three in Midland, Bay, or Saginaw County (16%); and three in Alcona, Alpena, or Oscoda County (16%). PCPs interviewed came from both urban and rural settings, had a range of years in practice, included private practices, hospital-based practices, Federally Qualified Health Centers, rural clinics and free/low-cost clinics.

Table 24. Personal, Professional and Practice Characteristics of PCP Interviewees (N=19)

Personal characteristics		
Gender	N	%
Male	12	63
Female	7	37
Professional characteristics		
Provider type		
Physician	16	84
Non-Physician (NP/PA)	3	16
Specialty		
Family medicine	14	74
Internal medicine	2	11
Nurse practitioner (NP)	1	5
Physician's Assistant (PA)	2	11
Years in practice		
<10 years	5	26
10-20 years	6	32
>20 years	8	42
Practice characteristics		
Presence of non-physician providers in practice		
Yes	16	84
No	3	16
Practice type		
Federally qualified health center (FQHC)	5	26
Large/hospital-based practice	3	16
Free/low-cost clinic	2	11
Practice type		
Small, private practice	7	37
Rural health clinic	2	11

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Practice characteristics	N	%
Urbanicity		
Urban	12	63
Rural	7	37

Interview results are presented in the following format:
Key Findings
Representative quote(s)

PCP Understanding of Healthy Michigan Plan and its Features

There was significant variation among the PCPs in their understanding of the Healthy Michigan Plan and its features, and therefore their ability to navigate or help patients obtain services.

> *I had a ton of exposure during the development and the implementation of Healthy Michigan because we were trying to get all of our thousands of enrollees [on the county health plan] onto Healthy Michigan. So that would be back when I first heard about it.*
>
> – Urban physician, FQHC

> *Really the only thing I know about the expansion is in early 2014 we started getting a way lot more requests for a new patient visit than we've ever had before. I was just like, "what is going on? We don't get 25 requests for new patients/month." So when it started really climbing, that's when I figured out, "Okay. It's probably due to the Obamacare Medicaid expansion."*
>
> – Urban physician; Small, private practice

> *I'm not aware of a change in how patients can get access to care with regards to transportation since Healthy Michigan has begun. Is there…I don't know…Is there some additional payment available for patients to get to doctors and dentists with Healthy Michigan?*
>
> – Rural physician; Large, hospital-based practice

Many PCPs perceived that the Healthy Michigan Plan cost-sharing requirements may create some misunderstandings among patients but were supportive of patients making financial contributions to their care.

> *The only significant difficulty that I foresee is with the copay issue. I have a concern that patients see this as free for the first six months, and now all of a sudden are confronted with a bill that they don't understand how they got.*
>
> – Urban physician, Free/low-cost clinic

> *We've got it posted in the front where people exit, and I looked at the amounts and thought, "Well, it's pretty fair actually." You know, it's not break the bank copays, but it gets people to think, "Well, yeah, you know, that's less than the cost of a pack of cigarettes."*
>
> – Rural physician, Rural health clinic

> *For the most part, the patients have it all filled out ahead of time … And then the nurse puts in their vitals, their last cholesterol and things like that on that sheet. We look that over and answer a couple of questions on the back.*
>
> – Rural physician, FQHC

The health risk assessments. So, part of my selling point is, "Okay, you're going to get half off on your copays. We've done it. You're set," you know, kind of thing. While that doesn't totally engage them in the process (LAUGHTER), you know, we continue to work on that.

– Urban physician, FQHC

Some of the plans, and I think these might be the Medicare/Medicaid plans, have offered patients like a gift card or something, and that has prompted a lot of patients to really make sure that we fill those forms out, but I don't recall patients really telling me, "Well, I have to pay a low copay because you fill out this form for me."

– Urban physician; Large, hospital-based practice

PCPs found the Healthy Michigan Plan's <u>Health Risk Assessment</u> useful for identifying health risks, disease detection, discussing risks with patients, and setting health goals.

…In the last month, I've signed up two people [for Weight Watchers] …two or three people to that, and one of them is really sticking to it. She's already lost 10 pounds. She really likes it. She's hoping that she can get an extension on it. The other two I haven't really heard back from yet. They just started it, but I personally think that's a great benefit because a lot of people need education on how to properly eat and what a good diet actually is instead of just Popeye's chicken.

– Urban physician; Small, private practice

There were some people that came in with the Healthy Michigan plan and their health risk assessment, although I don't remember anybody that said, "Hey, you have no issues." It was at least, "You need to stop smoking," or "work on your diet or exercise," and "get a flu shot," if not needing management for diabetes or asthma or other things like that.

– Rural physician, FQHC

PCP Decision Making on Acceptance of Medicaid/Healthy Michigan Plan Patients

PCPs described influences on the Medicaid acceptance decision at the provider level (illness burden and psychosocial needs of Medicaid patients), practice level (capacity to see both new and established patients), health system level (availability of specialists and administrative structures), and the policy environment level (reimbursement).

There are days when we'll look at each other and it's like, "I think we've got enough people like that." It's like the person who takes the energy of dealing with six ordinary people.

– Rural physician assistant, Rural health clinic

It has to do with what our capacity is. So looking at schedules, looking at next appointments, are we able to adequately care for the patients that we're currently responsible for.

– Urban physician, Free/low-cost clinic

I think the actual decision as to whether to accept Healthy Michigan patients … is made ... at a higher level... It's at the health system level... I wouldn't really be involved in making that decision, nor would most of my clinic leadership.

– Urban physician; Large, hospital-based practice

I've been hearing about [the Medicaid/Medicare primary care rate bump], but I don't feel like I've paid attention to details.

–Urban physician; Large, hospital-based practice

For our clinic, [reimbursement amount] plays no role in whether we accept more Medicaid patients … we're gonna serve that population and take care of them ... We'll do whatever reasonably we can do to get paid for that, but that doesn't make or break the decision whether we're going to do that.

– Urban physician, Free/low-cost clinic

[A]s long as the rural health center plans still pay me adequately, I don't foresee making any changes. If they were to all of a sudden say, "Okay, we're only going to reimburse 40% or 50% of what we used to," that would be enough to put me out of business. So I would think twice about seeing those patients then, but as long as they continue the way they have been for the last six years that I've owned the clinic, I don't see making any changes. It works just fine.

– Rural nurse practitioner, Rural health clinic

Overall Impact of Healthy Michigan Plan on Beneficiaries

Many of the PCPs interviewed had favorable views of the Healthy Michigan Plan and its overall benefits for patients and health systems.

I think…I hate to tell you, but so far everything has been easier. I don't know that I've had anything that's worse. There might be something with drugs as far as ordering stuff, but across the board that's not just Healthy Michigan. I mean they want us to use generics. We're happy to do that. Once in a while, a generic is not going to do it, but I don't think I've had…I can't think of anything that is really negative about it. It's like…People just…I think they're just…They're thankful for it. People aren't overly demanding. They're not coming in acting like, "I deserve this. I want an MRI of my entire body. Nobody's like that, you know? They just…It's like, you know…It's really…It's kind of a nice working together partnership. It's like I usually tell people, "Let's get you caught up." It has become my motto for that. It's like, "We're gonna get you caught up."

– Rural physician assistant, Free/low-cost clinic

Yes. [E]very single day this law has changed my patients' lives…So I get to be in this special niche where I feel like I have a front row seat to the good things that happen as a result of Healthy Michigan…. So for example, half the patients I would see pre-Healthy Michigan had essentially nothing in terms of health insurance, right?... I could almost do no labs. I could do very limited health maintenance. I certainly could do no referrals and had a really difficult time getting any type of imaging or substantive workup apart from a physical exam and some in-house kind of labs because people were petrified of the bills that would accumulate.

– Urban physician, FQHC

You know, the Healthy Michigan part has made a big difference…The idea of more people having insurance is good for everyone. Now we'll see long-term in terms of the cost and everything. I know that's a big challenge, but there's no doubt…Like the reimbursement of specifically the hospitals in the city, they're doing much better knowing that a lot of the patients that never had insurance before, do have insurance and that they can get some reimbursement instead of having to, you know, worry about some of the challenges of, you know, unnecessary care.

– Urban physician, FQHC

This program is helping people. It's helping working people, not the totally indigent people who are on disability who are already getting things. These are people…like a parent, a relative of yours that's been working and can't afford the insurance which is ridiculous.

– Urban physician; Small, private practice

Many of these people are working and so they're going to be able to continue working and paying taxes and contributing to society, where if you ignore your diabetes and you ignore your blood

pressure, eventually you might end up losing limbs, losing your kidneys. Now you're on disability and, oh look, now you qualify for Medicaid.

– Urban physician; Small, private practice

PCPs noted that their patients were relieved of the stigma and worry associated with not being able to pay for needed care, and able to get needed services they could not previously afford.

They don't have that stigma any longer of not being insured and there's not that barrier between us about them worrying about the money, even though we really never made a big deal of it, but they could feel that. I don't know. I think they feel more worth.

– Rural physician; Small, private practice

People are definitely more receptive to the idea of talking about healthcare maintenance items now as opposed to just wanting to deal with the acute issue. It may be because they feel less stressed about the ability to actually be able to get the test done because they understand that it's a…It's a benefit covered under the insurance.

– Urban physician, FQHC

The positive impact of the Healthy Michigan Plan has had a ripple effect in encouraging people to get covered and seek needed care.

Not only are they maybe talking to other people who are then applying and have applied and have gotten the insurance coverage…It just seems like more people are coming, both uninsured and insured because they maybe heard good things about the ease with which they've been able to get care or they've seen how maybe other peoples' circumstances have seemingly changed. I just feel like there's been kind of…a positive ripple effect of people just pursuing care, whether insured or not.

– Urban physician, FQHC

I know a lot of people that didn't have access to healthcare before are getting it now. The ones who were able to get Medicaid that weren't otherwise qualified for it before are starting to get help now, and we're able to find the conditions that they have never been able to get tested for before and treat them for it.

– Urban physician; Small, private practice

Healthy Michigan Plan is Meeting Many Unmet Health Needs

PCPs reported many examples of patients with unmet health care needs, whose health and well-being greatly improved after enrolling in Healthy Michigan Plan. This was particularly true for patients who were previously uninsured and for those with chronic illness (e.g., diabetes, asthma, hypertension) that were often diagnosed after enrolling in Healthy Michigan Plan.

Upon receiving health insurance and upon his daughter's recommendation, he [patient in his early 60s] pursued care and that was his first …according to him, his first physical evaluation of any sort in 40 years, and he has just…It wasn't a full health maintenance exam. It was a new patient evaluation, and in the time in that initial evaluation he was found to be hypertensive. Upon subsequent labs, you know, ordered on that visit, he was found to be diabetic and upon routine referral at that initial visit for an eye exam, given his hypertension, he was found to have had…hemianopia, which later was determined to be caused by a prior stroke.

– Urban physician, FQHC

A lot of neglected… A lot of chronic diseases that have been neglected. Because before, what would suddenly make that person decide to come in and see the doctor and pay out of pocket if they hadn't

been doing that for three years? There's nothing to make them come in and take care of it. They wanted to, but they couldn't afford it. They weren't even seeing anybody. Now suddenly, there's this opportunity to get health insurance or to get Medicaid, and so now they are coming to the doctor because they know that they need to get their diabetes under control.

– Urban physician; Small, private practice

*She's only 33 and I had five diagnoses at the end….. it's even double that if you're 70. They waited all this time. They haven't had a doctor; you have to, at least, touch on everything the first time you see them… you have to know what's wrong with them***.**

-Urban physician; Small, private practice

So yesterday I had a patient… The guy's got totally uncontrolled diabetes…. He's like 53. He hadn't been to a doctor, he thinks, since his twenties. The only reason he came in . . .because he got this new insurance. He had his little health risk assessment. He's like, "Alright. I'm going in."

-Urban physician, FQHC

PCPs reported an increased ability to provide preventive services and tests that had previously been an unmet need.

I know a lot of people that didn't have access to healthcare before are getting it now. The ones who were able to get Medicaid that weren't otherwise qualified for it before are starting to get help now, and we're able to find the conditions that they have never been able to get tested for before and treat them for it.

- Urban physician; Small, private practice

I think on one level, it's a sense of relief that they don't have to go to the ER for urgent things, that they can come to us first if it's something that we can handle, and then just having a chance to confirm that either they're healthy or that there are issues that they need to work on. I guess from my perspective is that we finally get the chance to do prevention because if someone doesn't have insurance and doesn't see a doctor, then there's no way we can do any kind of prevention. We're just kind of dealing with the end-stage results of whatever's been going on and hasn't been treated. So I mean what I've heard people say is "I just want to stay healthy or find out if I'm healthy," and to me that says a lot.

– Urban physician; Large, hospital-based practice

We're taking care of the comorbidities before they happen. In the long run, the program is going to pay for itself. We're identifying diabetics. Hypertension is rampant.

-Urban physician; Small, private practice

Coverage for dental services, prescription drugs, and mental health services were specifically noted as unmet needs being addressed by the Healthy Michigan Plan. Access to these services were described "as a lifesaver." PCPs reported increased ability to connect people to needed services, though challenges remain, especially in the area of mental health.

I refer a lot for mental health services and counseling, and a lot of these people just don't know about the services out there. So being able to connect people with the appropriate care that they need or could use in the future, I think, has been really valuable.

– Urban physician; Large, hospital-based practice

For thirteen years, getting dental has been like pulling teeth… It's been very difficult for our patient population. Dental is a huge issue. I would say well over half of our folks have significant dental problems that haven't been cared for in years.

– Urban physician; Free/low-cost clinic

[W]*hile it doesn't allow them to access say whatever specialist they want, by all means, they have access to things that I think are appropriate for them, i.e. this particular study, that particular lab, this particular workup…In addition to that, they also now have access to a pharmaceutical formulary which is, you know, light years better than what they had when they were looking at, "Okay, what's the $4 Wal-Mart offer me?"*

– Urban physician; FQHC

PCPs reported challenges finding local specialists for referrals. In some cases, this was because of a general shortage of specialists in the area, but often it was noted that there are too few practitioners willing to accept patients with Healthy Michigan Plan/Medicaid coverage. Some PCPs also reported that their patients had difficulty accessing counseling services for healthy behavior change.

Dermatology is a huge issue…Yeah, in this county…In this county we have a huge problem because we have no place to send our Medicaid patients. And obviously they can't afford to do it out of pocket.

– Rural nurse practitioner; Rural health center

The specialty offices that don't accept Medicaid, don't accept Healthy Michigan plan Medicaid either…So, I mean, I don't think that's changed with the Healthy Michigan plan.

– Urban physician; Free/low-cost clinic

[I]in terms of referral and specialty care, it is still tricky. So while our ability to care for them has dramatically expanded, our ability to tap into our disjointed healthcare system in terms of specialty care, I think, maybe hasn't changed a whole lot. I think if I lived closer to [medical center] or closer to some other big training centers, that would probably be different. But like private specialists don't really care if they're uninsured or if they have Healthy Michigan.

– Urban physician; FQHC

We have a Medicaid dental clinic here, but it's a long wait to get in. …up here no one accepts Medicaid … They kind of just pull people's teeth out and not do the usual restorative work.

-Rural physician; Small, private-practice

We do have. . . a smoking cessation program in our health system, but they don't take Medicaid patients. ... we do have a weight management program, but they don't take Medicaid.

-Urban physician; Large, hospital-based practice

PCPs noted that connecting patients to mental health services remains particularly challenging.

[W]e've got community mental health services available but they don't have enough money and they're too busy, and the patients suffer because of that. And Medicaid helps that to a modest degree, but there's still not enough providers and still not enough, I guess, reimbursement from Medicaid.

– Urban physician; Free/low-cost clinic

In our area, due to the limited resources, I think it is difficult that there's not enough psychiatrists and counselors around....and there doesn't seem to be any stability with respect to who is a practicing psychiatrist within the community, meaning individuals might have a psychiatrist for a couple of months, and then somebody else new comes on board. So I do think it's an area that is not being handled well.

– Rural physician; Small, private practice

PCPs noted that barriers to care, such as transportation, are reduced but remain.

You've solved the insurance problem, but then there are certain other parts of their life that makes it hard for them to deal with the healthcare system, and that is they may not follow up with appointments, they may not go to appointments, they may not be so good at communicating their history, they may not follow through with getting medications even if they have insurance. It's kind of like a whole host of behavioral parts to it. So, solving the insurance issue is a really important part, but then really many of these people almost like need a case manager to help make sure all the other little pieces come together because just leaving them on their own, they won't necessarily get the care.

– Urban physician; Small, private practice

Transportation has always been an issue with our patients. We've provided transportation for our uninsured patients, and we know that about one-third of our patients wouldn't have been able to get here or to their specialty appointments without that. Now fortunately [Healthy Michigan Plan health plan] does provide transportation. There's two barriers to their transportation. One is the amount of time patients have to call ahead to get it, which is understandable. But for our patients, sometimes difficult. And the fact that it tends to run late. In some circumstances, it's not a real predictable timeframe. So that's been a challenge. I know I've had one patient who's been so frustrated. We referred her to counseling. She made two counselling appointments, and transportation didn't pick her up for either.

– Urban physician; Free/low-cost clinic

That's a great question. That's a great question. Transportation is huge. That's a huge, huge issue that sort of is under the radar for most people. That's a huge issue for my patients. People just don't have cars, and they don't have family or friends with cars. If you don't have insurance, you are stuck. I just had a guy…I had two guys yesterday who I hadn't seen in, I don't know, maybe six months. Both of them. "I just can't get in to see you, doc." "I can't get in to see you." I said to them yesterday, "Well how did you get in to see me today?" "Oh, I just called my insurance." Fantastic!

– Rural physician; FQHC

ER Use

PCPs discussed a number of factors influencing high rates of ER use including culture or habit, sense of urgency for care and need for afterhours care. Some PCPs noted that some Healthy Michigan Plan beneficiaries use the ER because it's convenient. Even for those practices with extended hours, their office may not be open at convenient time for patients, and their schedules may not coincide with when health issues arise.

I mean those people who use the ER…sometimes it's just the culture. That's just how they've been …they…I don't want to say "conditioned," but maybe long-term circumstances or habit or what have you…They just tend to utilize the ER as a means of…almost like a secondary or a primary care clinic.

– Urban physician assistant, FQHC

You know, to some degree, it is convenience. You know, we have a few days where we're open to 6:00 or 7:00, but not every day, and we're not open on Saturdays or Sundays…People who work day shift… It's easier for them to go to the ER or something for a minor thing because they don't have to take time off work. That's a big deal.

– Rural physician; Small, private practice

Yeah, I know what you mean. The question is it somehow more convenient or timely or something to go to the ER or come to the office? And I think sometimes people have that perception, but they always wait for 3 hours in the ER. They're never in and out in 20 minutes, you know.

– Urban physician, FQHC

The families up here that I know have always done that do it because…Like the one lady, for example, might be sitting and watching television at 6:00, and she gets a little twinge in her abdomen. Because she has an anxiety condition, she talks herself into the fact that she's got colon cancer, and she goes to the ER in about a 20-minute time frame.

– Rural nurse practitioner, Rural health clinic

PCPs also discussed ways to reduce ER use such as educating patients on appropriate use, providing other sources of afterhours care (e.g., urgent care), and imposing a financial penalization or higher cost sharing for inappropriate ER use.

You know, I mean I think it still comes to education and availability…continuing to try to educate patients on, you know, why it is important to kind of…appropriately pursue care. So, you know, kind of having a conversation with patients about…why it's in their best interest to come to their primary care office, though it may take a little longer to do so than to go to the ER, and also making sure that we have available appointments so a patient doesn't feel, you know, as if they have no other alternative. So, you know, having office hours that…evening office hours…having a fair amount of those and getting appropriate…appropriately trained triage staff to be able to adequately address patients' acute care needs and questions when they call in.

– Urban Physician Assistant, FQHC

If you go to the ER and you're not admitted to the hospital, you're charged a significant amount…That tends to deter people, and I think that's the only way things are going to change and whether the ER's have a triage person that can determine this is an ER-appropriate problem and send people elsewhere, but I think it…There has to be some financial consequences …Even if it's a small amount. I know you're dealing with economically disadvantaged people, but even a small amount of money tends to sometimes affect behaviors.

– Rural physician; Small, private practice

I think certainly accessibility because I'm sure part of it has to do with accessibility. So possibly providing extended hours, weekend hours…Clearly the health system does have access, extended hours, weekend hours…They're not really well-located for MY patients in the sense that my patients live in downtown [city], are in the [city] area specifically, and they don't necessarily have access to some of these facilities which tend to be near [city], but not necessarily in [city]. So I think that maybe setting up that kind of an urgent care close to the hospital, right here. If it means co-locating it next to the ER so we can send the urgent care-type patients there; that would be certainly something that we can do.

– Urban physician; Large, hospital-based practice

PCPs noted that the hospitals play a role in rates of ER use.

The hospital is not incentivized to send those people away because they're paying customers. They want to support having a busy ER. There are some places that actively deter people from going to the emergency room where they'll do a medical screen and exam and say, "No. Your problem is not acute. You don't need to be seen in the emergency room today. Go back and make an appointment with your primary care doctor."

– Rural physician, FQHC

Actually, I think it's 29 [minutes] right now, and then in mid and Northern Michigan, there are… billboards that tell you exactly what your wait time is right now in their ER. So it will say 8 minutes or 10 minutes or whatever their wait time is.

– Urban physician, Free/low-cost clinic

Impact of Healthy Michigan Plan on PCP Practice

PCPs reported utilizing a variety of practice innovations including co-locating mental health care, case management, community health workers, same-day appointments, extended hours and use of midlevel practitioners.

At our office, we have two behavioral health specialists. I think they're both MSWs. So they do counseling and group therapy and so our clinic is kind of special. We're able to route a lot of people to them.

– Rural physician, FQHC

I think our office has become much more accommodating with phone calls for same-day appointments. So we've done a better job at looking at schedules, at planning for this… for these kinds of patients that fall into the acute care category. So we're able to do that a lot more readily. We're a large clinic than we used to be. We've got more providers, and that certainly makes a difference also. So there's multiple reasons for it.

– Rural physician; Large, hospital-based practice

Yeah. We have a number of people working as caseworkers now. That's been a big change in the last year. I should probably mention that…We're part of MiPCT, and I guess with the start of MiPCT, we got financial support for a number of caseworkers, and then we sort of steal their time for basically any insurance that needs some management. We're having a lot of…We're getting a lot of help with case managers for people coming out of hospitals to coordinate care there.

– Rural physician, FQHC

So, one of the pieces that we are developing now is using our navigator to reach out to those patients. As we see new people assigned to us and we don't see an appointment on the schedule, reaching out to them, helping them get into care.

– Urban physician, Free/low-cost clinic

That [co-location] has been very helpful especially to our Medicaid patients …we can get those people in quickly and get treatment, which was otherwise very difficult. …now it's less of a barrier for them to get behavioral health services.

-Rural physician; Small, private practice

PCPs noted an increase in administrative burden as a result of the Healthy Michigan Plan because of increased paperwork and need for more communication. PCPs reported that pre-authorizations, multiple formularies, patient churn in and out of insurance and (sometimes) HRAs presented challenges for their practice.

Yes. Much more work for the staff. Not much more, but, of course, it's [HRA] more work for the staff because of the long requirements and things have to be dated the same day as this thing or that thing. Yeah, it's much more of a pain in the neck for them. And I understand that we get some $25…some malarkey for doing it, and the patient gets some discount on something.

– Urban physician, Free/low-cost clinic

But this insurance wouldn't let us order a stress test. They felt that we needed to do a separate stress ECG and then order a separate 2D echo. So that was one scenario where, you know, I actually had to do a physician-to-physician contact because I didn't think it made sense, but that was the only way they would cover it. So I had to order two separate tests where one could have probably given me the answer I was seeking.

– Urban physician; Large, hospital-based practice

For me, the bigger issue, I think, for us is that, you know, there are certain insurances that we do accept even in the Healthy Michigan plan, and some we do and some we don't. So what will end up happening is maybe they had an appointment to see me, and they come in and then, of course, we don't accept that one. So then they…I would say for the most part they're not too happy about that. Then they'll get sent to talk with one of the insurance people, and they'll find a way to fix it if it is fixable.

– Urban physician, FQHC

So we've also had an influx of or an increase in the number of medical prior authorizations that have created basically a headache for us because there's no standardization amongst the Medicaid plans…Yeah, and they're flip-flopping fairly regularly with respect to…This drug might be covered for a period of time, and then a short while later, they don't cover that drug. So we've got to go through the process for another medication. That requires more staff time. It doesn't necessarily benefit patient care.

– Rural physician; Small, private practice

PCPs noted their practices were considerably busier since implementation of the Healthy Michigan Plan.

So our plan is to continue accepting more…We're open to those three Medicaids right now… straight Medicaid, Meridian and Priority. So we see new patients every day with those, and that's…That's what our game plan is at least for the time being. We're not…We're not overwhelmed enough with the patients that we can't do that.

– Urban physician, Free/low-cost clinic

Some PCPs hired new staff to increase their capacity to handle the increase in demand.

So we had to hire…create a position for somebody to basically find out who takes Medicaid and arrange for those referrals, as well as process those prior authorizations for various tests. So it did require us to hire somebody or create a position for somebody to handle that…So, nonetheless that's an increase cost to us.

– Rural physician; Small, private practice

We're going to be able to hire a full-time social worker…. if we didn't have Medicaid expansion, there's no way we'd have the dollars to do that.

- Urban physician, FQHC

For some PCPs, wait times also increased.

We accept all comers. Period. Doors are open. Come on in. But I have to add a comment to that or a clarification…a qualification to that…There are so many patients now that are in the system that even for routine follow-up stuff, we can't get them in." So what's happened is…The results of this great expansion and people now trying to come get primary care…She [site manager] *said to me this week, "We'll probably have to close your panel, although I don't think we're allowed to close your panel per FQHC guidelines."*

– Urban physician, FQHC

Some PCPs noted that the Healthy Michigan Plan has an impact on their relationships with patients.

So I do think by requiring one to come in…it [an initial appointment] helps to facilitate the beginning, hopefully in most cases, of a relationship between the provider and the patient. It helps assign…It helps align them together hopefully with some mutual goals in the interest of the patient. So, yes, I do think bringing them in and kind of making that a requirement is helpful. I think it's just helpful because it works to establish that relationship.

– Urban physician, FQHC

Part of my concern is it's going to decrease trust. From the standpoint that before our patients were getting free care, [so] they knew that our only incentive for caring for them was their best interest. That incentive hasn't changed. The revenue that we get from Healthy Michigan is great, but…it's not even enough to pay our staff. It's not going to change what the providers have in any way, but that may not be the perception our patients have. Especially as people talk about, you know, "Well, if your doctor says no to this, it's because they get more money if they don't refer." And before when we didn't refer, patients understood it was either we couldn't get it or it wasn't in their best interest or whatever.

– Urban physician, Free/low-cost clinic

Some PCPs noted that reimbursement rates are an important consideration depending on the type/structure of their practice.

Well, we're a rural health clinic. So that means we're reimbursed for Medicaid patients. We get a flat amount for them irrespective of the complexity of the visit, and it's more favorable than if we were just taking straight Medicaid. So right now we can afford to see Medicaid patients as being part of the rural health clinic initiative, but if we weren't and the reimbursement for primary care reverted back to the old way of doing things with Medicaid, we would probably have to change how we handle things with respect to taking new Medicaid patients and how many Medicaid patients we take. So I know the current Medicaid reimbursement scheme is par with Medicare in Michigan.

– Rural physician; Rural health clinic

You're talking about government reimbursing at the Medicare rates. That was 2013 and 2014 that did that…So far they haven't approved to do that in 2015 or 2016, and the rates that they pay for…the plans pay for Medicaid patients are substandard…you know, are markedly below any other insurances in this country. So they definitely are underpaying primary care providers. There's no two ways about that.

– Urban physician; Small, private practice

So, it hasn't affected our practice because as an FQHC we're reimbursed differently than . . . Medicaid reimburses a hospital practice or a private practice. Because we have to see all comers including all uninsured, and we can't cherry pick…I shouldn't say "cherry pick." We can't self-select what patients we see and won't see…We get "x" dollars for every Medicaid visits. We get "x" dollars for every whatever, with the assumption that we'll see everybody.

– Urban physician, FQHC

It's not affected our practice directly, but it seems that especially in a couple of the counties around us, that the number of private providers who are accepting Medicaid has actually, if anything, gone down, and so what we're finding are patients coming out of other practices, especially private practices with no cost base reimbursement, coming to us or asking to get in line to be with us.

– Rural physician, FQHC

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Primary Care Practitioners' Views of the Impact of the Healthy Michigan Plan

Appendix A: Results from Multivariate Analyses

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Table 1. Bivariate associations between familiarity with HMP by practice types and predominant payer mix

Familiarity with Healthy Michigan Plan	A little/not at all familiar	Very/somewhat familiar	*p*-value
	N (Row %)	N (Row %)	
Practice size			0.047
Large practice	409 (49.4%)	419 (50.6%)	
Small practice	500 (44.8%)	615 (55.2%)	
Practice type			< 0.001
FHQC	101 (33.2%)	203 (66.8%)	
Non-FQHC	833 (48.8%)	874 (51.2%)	
University/teaching hospital			< 0.001
Academic	158 (58.5%)	112 (41.5%)	
Non-academic	771 (44.8%)	951 (55.2%)	
Hospital-based practice			0.043
Hospital-based	310 (50.0%)	310 (50.0%)	
Not hospital-based	619 (45.1%)	753 (54.8%)	
Predominant payer mix			< 0.001
Private	371 (56.5%)	286 (43.5%)	
Medicaid	206 (30.5%)	469 (69.5%)	
Medicare	236 (56.3%)	183 (43.7%)	
Uninsured	3 (25.0%)	9 (75.0%)	
Mixed	67 (47.5%)	74 (52.5%)	
Participating in MiPCT			0.023
Yes	254 (51.1%)	243 (48.9%)	
No	694 (45.2%)	840 (54.8%)	

p-values were calculated using Pearson's chi-square

Table 2. Bivariate associations between practice having a process to identify HMP patients who need HRA completed by practice characteristics

Practice has process to identify HMP patients who need HRA completed	Yes	No/don't know	
	Row %	Row %	*p*-value
Region			< 0.001
Upper Peninsula/Northwest/Northeast (n=296)	38.9	61.1	
West/East Central/East (n=656)	36.6	63.4	
South Central/Southwest/Southeast (n=422)	23.2	76.8	
Detroit Metro (n=623)	37.4	62.6	
Urbanicity			NS
Urban (n=1,530)	32.9	67.1	
Suburban (n=190)	35.8	64.2	
Rural (n=322)	38.8	61.2	
Practice size			NS
Large practice (6+) (n=837)	31.9	68.1	
Small practice (0-5) (n=1,118)	36.0	64.0	
New clinicians hired in past year?			NS
No/Not checked (n=953)	34.4	65.6	
Yes (n=1,089)	33.9	66.1	
New office staff hired in past year?			NS
No/Not checked (n=863)	31.9	68.1	
Yes (n=1,179)	35.8	64.2	
Consulted with care coordinators, case managers, community health workers in past year?			NS
No/Not checked (n=897)	32.7	67.3	
Yes (n=1,145)	35.3	64.7	
Changed workflow in past year?			NS
No/Not checked (n=1,185)	32.6	67.4	
Yes (n=857)	36.3	63.7	
Co-located Mental Health w/in Primary Care in past year?			< 0.001
No/Not checked (n=1,720)	31.6	68.4	
Yes (n=322)	47.5	52.5	
Payment arrangement			NS
FFS-predominant (n=758)	31.1	68.9	
Capitation-predominant (n=44)	40.9	59.1	
Salary-predominant (n=921)	36.2	63.8	
Mixed payment (n=266)	34.2	65.8	
Other payment arrangement (n=40)	42.5	57.5	
Predominant payer mix			< 0.001
Private (n=639)	22.5	77.5	
Medicaid (n=666)	47.4	52.6	
Medicare (n=407)	30.7	69.3	
Uninsured (n=11)	72.7	27.3	
Mixed (n=136)	33.1	66.9	
Received financial bonus for HRA completion			< 0.001
No/Don't know (n=1,664)	26.4	73.6	
Yes (n=365)	69.3	30.7	

p-values were calculated using Pearson's chi-square

Table 3. Bivariate associations between number of self-reported HRAs completed by practice characteristics

Number of HRAs completed (self-reported)	None	1-2	3-10	>10	
	Row %	Row %	Row %	Row %	*p*-value
Region					< 0.001
Upper Peninsula/Northwest/ Northeast (n=293)	13.7	5.5	24.2	56.7	
West/East Central/East (n=654)	18.5	10.6	23.9	47.1	
South Central/Southwest/Southeast (n=416)	31.0	16.1	22.8	30.0	
Detroit Metro (n=624)	19.1	12.2	27.6	41.2	
Urbanicity					< 0.001
Urban (n=1,527)	23.1	13.1	25.7	38.0	
Suburban (n=186)	11.8	9.1	18.8	60.2	
Rural (n=319)	14.1	5.6	23.5	56.7	
Practice size					< 0.001
Large practice (6+) (n=823)	23.9	13.4	25.3	37.4	
Small practice (0-5) (n=1,121)	17.8	10.4	24.8	47.0	
New clinicians hired in past year?					NS
No/Not checked (n=954)	19.7	10.4	26.1	43.8	
Yes (n=1,078)	21.5	12.6	23.6	42.3	
New office staff hired in past year?					NS
No/Not checked (n=863)	21.7	10.4	26.9	41.0	
Yes (n=1,169)	19.9	12.4	23.2	44.5	
Consulted with care coordinators, case managers, community health workers in past year?					NS
No/Not checked (n=899)	22.7	10.3	25.1	41.8	
Yes (n=1,133)	19.1	12.5	24.4	44.0	
Changed workflow in past year?					NS
No/Not checked (n=1,182)	21.3	10.9	26.3	41.5	
Yes (n=850)	19.8	12.5	22.6	45.2	
Co-located Mental Health w/in Primary Care in past year?					< 0.001
No/Not checked (n=1,714)	22.3	12.0	26.0	39.8	
Yes (n=318)	11.9	9.4	18.2	60.4	
Payment arrangement					0.008
FFS-predominant (n=754)	24.0	12.9	26.4	36.7	
Capitation-predominant (n=42)	19.0	9.5	21.4	50.0	
Salary-predominant (n=915)	18.0	10.9	23.1	48.0	
Mixed payment (n=268)	20.5	11.6	26.9	41.0	
Other payment arrangement (n=39)	20.5	5.1	20.5	53.8	
Predominant payer mix					< 0.001
Private (n=635)	27.6	14.3	26.8	31.3	
Medicaid (n=668)	9.7	8.1	17.1	65.1	
Medicare (n=409)	29.3	13.0	31.8	25.9	
Uninsured (n=12)	8.3	8.3	8.3	75.0	
Mixed (n=134)	15.7	15.7	30.6	38.1	

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Practice has process to identify HMP patients who need HRA completed					< 0.001
No/Don't know (n=1,312)	28.5	15.1	26.2	30.2	
Yes (n=694)	3.9	5.2	22.5	68.4	
Practice has process to submit completed HRAs					< 0.001
No/Don't know (n=764)	47.3	18.6	20.7	13.5	
Yes (n=1,243)	3.1	7.3	27.6	61.9	
Received financial incentive for HRA completion					< 0.001
No/Don't know (n=1,636)	23.8	12.8	25.7	37.7	
Yes (n=365)	2.7	6.6	21.1	69.6	
Familiarity with out-of-pocket HMP expenses					< 0.001
Very familiar (n=136)	2.2	1.5	16.9	79.4	
Somewhat familiar (n=371)	8.4	9.4	25.1	57.1	
A little familiar (n=560)	11.4	13.8	26.6	48.2	
Not at all familiar (n=904)	34.5	12.5	23.9	29.1	

p-values were calculated using Pearson's chi-square

Table 4. Bivariate analysis of demographic and practice characteristics and PCP influence and responsibility for decreasing ER use

		PCP influence on ER use			PCP responsibility for decreasing ER use		
	Total (%)	A little/ not at all (%)	Some/ a great deal (%)		Minimal/no (%)	Major/some (%)	
Years in practice (mean, [95%CI])		20.3 [19.3, 21.4]	18.2 [17.6, 18.8]	.001[a]	22.2 [20.7, 23.7]	18.3 [17.7, 18.9]	<.001[b]
				p[c]			p[c]
Race				.005			NS
White (n=1,553)	79.5	83.5	78.1		84.1	78.9	
Black/African American (n=92)	4.7	5.6	4.4		3.8	4.9	
Asian/Pacific Islander (n=215)	11.0	7.0	12.5		8.8	11.3	
American Indian/Alaska Native (n=10)	0.5	0.2	0.6		0.0	0.6	
Other (n=83)	4.2	3.7	4.5		3.3	4.3	
Hispanic/Latino				NS			NS
Yes (n=45)	2.3	1.9	2.4		1.2	2.4	
No (n=1,934)	97.7	98.1	97.6		98.8	97.6	
MD/Non-MD				NS			0.001
MD/DO (n= 1,692)	83.2	83.9	82.9		90.2	82.2	
Non-physicians (n= 342)	16.8	16.1	17.1		9.8	16.8	
Specialty				NS			.008
FM (n=1,088)	53.5	55.7	52.7		63.1	52.1	
GP (n=23)	1.1	1.3	1.1		2.0	1.0	
IM (n=487)	23.9	21.9	24.7		22	24.2	
Med-Peds (n=66)	3.2	3.1	3.3		2.4	3.4	
NP (n=186)	9.1	9.3	9.1		4.7	9.7	
OB/GYN (n=12)	0.6	1.1	0.4		0.8	0.6	
Other (n=13)	0.6	0.6	0.7		0.0	0.7	
PA (n=159)	7.8	7.0	8.1		5.1	8.2	
Urbanicity				.05			NS
Urban (n=1,530)	75.2	72.6	76.2		73.3	75.5	
Suburban (n=188)	9.2	11.9	8.3		9.4	9.2	
Rural (n=316)	15.5	15.6	15.5		17.3	15.2	

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Practice size				.01			<.001
Large practice (6+) (n=832)	42.6	38.0	44.3		30.9	44.2	
Small practice (0-5) (n=1,120)	57.4	62.0	55.7		69.1	55.8	
New clinicians hired in past year?				.04			.002
No/Not checked (n=946)	46.5	50.4	45.1		55.7	45.3	
Yes (n=1,088)	53.5	49.6	54.9		44.3	54.7	
New office staff hired in past year?				.03			NS
No/Not checked (n=859)	42.2	46.1	40.8		47.1	41.5	
Yes (n=1,175)	57.8	53.9	59.2		52.9	58.5	
Consulted with care coordinators, case managers, community health workers in past year?				NS			.01
No/Not checked (n=896)	44.1	44.3	44.0		51.4	43.0	
Yes (n=1,138)	55.9	55.7	56.0		48.6	57.0	
Changed workflow in past year?				NS			.001
No/Not checked (n=1,182)	58.1	60.6	57.2		67.5	56.7	
Yes (n=852)	41.9	39.4	42.8		32.5	43.3	
Co-located Mental Health w/in Primary Care in past year?				NS			.001
No/Not checked (n=1,720)	84.6	86.5	83.9		91.4	83.6	
Yes (n=314)	15.4	13.5	16.1		8.6	16.4	
Practice ownership				NS			.02
Full owner (n=431)	21.9	22.6	21.7		28.6	21.0	
Partner/part-owner (n=228)	11.6	9.9	12.2		12.5	11.4	
Employee (n=1,305)	66.4	67.5	66.1		58.9	67.5	
Underserved care within 3y				NS			NS
No (n=854)	43.2	45.3	42.4		45.2	42.8	
Yes (n=1,125)	56.8	54.7	57.6		54.8	57.2	

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Proportion of established patients who can get same-day/next-day appointment				NS			NS
Almost all (>80%) (n=807)	40.6	42.7	39.8		46.8	39.6	
Most (60-80%) (n=514)	25.9	24.2	26.4		20.0	26.8	
About half (~50%) (n=234)	11.8	12.6	11.5		13.2	11.6	
Some (20-40%) (n=280)	14.1	12.8	14.6		10.8	14.6	
Few (<20%) (n=121)	6.1	5.8	6.2		7.2	5.9	
Don't know (n=32)	1.6	1.9	1.5		2.0	1.6	
Proportion of established patients who can get same-day/next-day appointment has: _				NS			.02
Increased (n=671)	34.2	30.5	35.6		28.3	35.0	
Decreased (n=309)	15.8	17.0	15.3		17.4	15.6	
Stayed the same (n=862)	44	46.6	43.0		51.0	42.9	
Don’t know (n=119)	6.1	5.9	6.1				
Predominant payer mix				NS			.009
Private (n=653)	34.9	33.7	35.3		40.1	34.1	
Medicaid (n=663)	35.4	36.9	34.9		30.8	36.0	
Medicare (n=409)	21.8	21.7	21.9		17.7	22.4	
Uninsured (n=12)	0.6	0.2	0.8		0.0	0.7	
Mixed (n=136)	7.3	7.6	7.1		11.4	6.7	
Specialists available for HMP patients				NS			.009
Very familiar (n=185)	9.3	8.4	9.6		8.0	9.4	
Somewhat familiar (n=541)	27.2	25.3	27.9		19.1	28.4	
A little familiar (n=523)	26.3	26.5	26.3		31.1	25.7	
Not at all familiar (n=739)	37.2	39.8	36.2		41.8	36.5	
Mental health services available for HMP patients				NS			.02
Very familiar (n=153)	7.7	7.9	7.6		5.6	8.1	
Somewhat familiar (n=357)	17.9	16.9	18.3		13.1	18.5	
A little familiar (n=554)	27.8	25.7	28.6		25.9	28.1	
Not at all familiar (n=927)	46.6	49.6	45.4		55.4	45.3	

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Dental coverage in HMP				NS			.06
Very familiar (n=86)	4.3	4.7	4.2		2.4	4.6	
Somewhat familiar (n=269)	13.5	12.4	13.9		10.8	13.8	
A little familiar (n=402)	20.2	19.7	20.4		17.5	20.7	
Not at all familiar (n=1,234)	62.0	63.3	61.5		69.3	60.9	
Difficulty accessing specialists				NS			.03
Often (n=627)	31.3	32.5	30.9		37.4	30.5	
Sometimes (n=701)	35.0	33.8	35.5		27.6	36.1	
Rarely (n=133)	6.6	6.4	6.8		4.7	6.9	
Never (n=18)	0.9	1.1	0.8		0.8	0.9	
Don't know (n=522)	26.1	26.2	26.1		29.5	25.5	
Difficulty accessing medications				NS			.02
Often (n=310)	15.5	15.7	15.4		20.9	14.8	
Sometimes (n=857)	42.9	44.8	42.2		38.2	43.6	
Rarely (n=320)	16	14.2	16.7		11.8	16.7	
Never (n=36)	1.8	2.4	1.6		1.6	1.8	
Don't know (n=476)	23.8	22.8	24.2		27.6	23.2	
Difficulty accessing mental health care				NS			NS
Often (n=690)	34.5	33.8	34.7		35.0	34.4	
Sometimes (n=508)	25.4	25.4	25.4		21.3	26.0	
Rarely (n=183)	9.1	9.3	9.1		7.5	9.4	
Never (n=34)	1.7	3.0	1.2		2.0	1.7	
Don't know (n=586)	29.3	28.4	29.6		34.3	28.5	
Difficulty accessing dental care				NS			.05
Often (n=599)	29.9	33.0	28.8		34.6	29.2	
Sometimes (n=348)	17.4	14.8	18.3		11.4	18.2	
Rarely (n=128)	6.4	5.6	6.7		5.1	6.6	
Never (n=23)	1.1	1.7	1.0		0.8	1.2	
Don't know (n=904)	45.2	44.9	45.2		48.0	44.7	

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Difficulty accessing substance abuse treatment				.02			.03
Often (n=576)	28.8	29.8	28.5		31.9	28.4	
Sometimes (n=431)	21.6	18.4	22.7		13.8	22.6	
Rarely (n=145)	7.3	7.1	7.3		7.9	7.2	
Never (n=28)	1.4	2.6	1.0		2.0	1.3	
Don't know (n=819)	41.0	42.1	40.5		44.5	40.4	
Walk-in appointments available in practice				NS			.03
No/Don't know (n=673)	33.6	34.8	33.2		39.7	32.8	
Yes (n=1,331)	66.4	65.2	66.8		60.3	67.2	
Transportation assistance by practice				NS			.002
No/Don't know (n=1,389)	69.4	71.5	68.6		78.1	68.2	
Yes (n=613)	30.6	28.5	31.4		21.9	31.8	
24h telephone triage in practice				NS			NS
No/Don't know (n=521)	25.9	25.8	26.0		26.5	25.9	
Yes (n=1,488)	74.1	74.2	74.0		73.5	74.1	
Weekend/Evening appts in practice				NS			.005
No/Don't know (n=888)	44.3	47.4	43.1		52.6	43.1	
Yes (n=1,118)	55.7	52.6	56.9		47.4	56.9	
Care coordination/ social work for patients w/complex problems in practice				.03			<.001
No/Don't know (n=870)	43.4	47.4	42.0		57.2	41.5	
Yes (n=1,133)	56.6	52.6	58.0		42.8	58.5	
ER will provide care without appt				.01			NS
Major influence (n=1,677)	82.8	86.5	81.4		82.4	82.9	
Minor influence (n=272)	13.4	9.6	14.8		13.7	13.4	
Little or no influence (n=77)	3.8	3.9	3.8		3.9	3.8	
Patients believe ER provides better quality of care				.01			NS
Major influence (n=341)	16.9	17.2	16.7		19.4	16.5	
Minor influence (n=797)	39.4	34.2	41.3		33.2	40.2	
Little or no influence (n=884)	43.7	48.6	42.0		47.4	43.2	

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ER offers quicker access to specialists				NS			NS
Major influence (n=613)	30.3	28.9	30.8		32.7	29.9	
Minor influence (n=722)	35.7	34.5	36.1		31.5	36.3	
Little or no influence (n=689)	34.0	36.7	33.1		35.8	33.8	
Hospitals encourage use of ER				.01			<.001
Major influence (n=377)	18.8	22.9	17.3		32.5	16.8	
Minor influence (n=577)	28.7	25.5	29.9		22.2	29.7	
Little or no influence (n=1,054)	52.5	51.6	52.8		45.2	53.5	
ER offers access to meds for chronic pain				.001			.01
Major influence (n=1,029)	50.8	57.7	48.3		58.7	49.6	
Minor influence (n=644)	31.8	27.3	33.4		24.4	32.9	
Little or no influence (n=354)	17.5	15.0	18.3		16.9	17.5	
ER is where patients are used to getting care				<.001			<.001
Major influence (n=1,202)	59.6	70.1	55.7		72.0	57.7	
Minor influence (n=631)	31.3	24.4	33.7		22.0	32.7	
Little or no influence (n=185)	9.2	5.4	10.5		5.9	9.6	

Data in the table are shown as column percentages

"Predominant payer mix" is the composite variable of all current payers: payer is considered predominant for the practice if >30% of physician's patients have this payer type and <30% of patients have any other payer type. "Mixed" includes practices with more than one payer representing >30% of patients, or practices with <30% of patients for each payer type.

[a] Years in practice did not violate Levene's test for equality of variances, df(1,1939)= .057, p= .811; therefore students t-test was used, t(1939)= 4.866, p < .001

[b] Years in practice did not violate Levene's test for equality of variances, df(1,1939)=2.664, p= .103; therefore students t-test was used, t(1939)= 3.429, p < .001

[c] *p*-value from Pearson's chi-squared test

Table 5. Multivariate analysis of PCP influence in ER use, and PCP responsibility in decreasing ER use

	PCP influence (N= 1,786)		PCP responsibility (N= 1,773)	
	aOR	95% CI	aOR	95% CI
Years in practice	0.99*	[0.98, 1.00]	0.98**	[0.97, 1.00]
Race				
White (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Black/African American	0.81	[0.49, 1.35]	1.67	[0.70, 3.97]
Asian/Pacific Islander	1.89**	[1.27, 2.83]	1.61	[0.97, 2.69]
American Indian/Alaska Native	2.81	[0.35, 22.67]	1.00	[1.00, 1.00]
Other	1.35	[0.73, 2.51]	1.39	[0.58, 3.33]
Hispanic/Latino				
No (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	1.49	[0.64, 3.49]	4.82	[0.65, 35.91]
Physician				
Non-physician (NP/PA) (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Physician	0.93	[0.68, 1.26]	0.54*	[0.33, 0.88]
Urbanicity				
Urban (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Suburban	0.66*	[0.46, 0.93]	0.94	[0.57, 1.57]
Rural	1.00	[0.73, 1.36]	0.76	[0.51, 1.13]
Practice size				
Large practice (6+) (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Small practice (0-5)	0.84	[0.66, 1.06]	0.66*	[0.48, 0.92]
New clinicians hired in past year?				
No (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	1.08	[0.84, 1.38]	1.20	[0.86, 1.67]
New office staff hired in past year?				
No/Not checked (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	1.15	[0.90, 1.46]	0.93	[0.68, 1.28]
Consulted with care coordinators, case managers, community health workers in past year?				
No/Not checked (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	0.81	[0.64, 1.03]	1.02	[0.75, 1.39]
Changed workflow in past year?				
No/Not checked (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	1.15	[0.91, 1.44]	1.41*	[1.03, 1.94]
Co-located Mental Health w/in Primary Care in past year?				
No/Not checked (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	1.16	[0.84, 1.60]	1.62	[0.97, 2.71]

Logistic regression with adjusted odds ratios; 95% confidence intervals in brackets. Each column is a separate model adjusted for the covariates shown.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6. Multivariate analysis of PCP influence on ER use: sensitivity analysis with random intercept for practice ID

PCP influence on ER use[a]	Original model (N= 1,786)		Practice adjusted model (N= 1,786)	
	aOR	95% CI	aOR	95% CI
Years in practice	0.99*	[0.98, 1.00]	0.99*	[0.98, 1.00]
Race				
White (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Black/African American	0.81	[0.49, 1.35]	0.80	[0.46, 1.39]
Asian/Pacific Islander	1.89**	[1.27, 2.83]	1.96**	[1.28, 3.01]
American Indian/Alaska Native	2.81	[0.35, 22.67]	3.04	[0.34, 26.82]
Other	1.35	[0.73, 2.51]	1.38	[0.71, 2.65]
Hispanic/Latino				
No (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	1.49	[0.64, 3.49]	1.59	[0.65, 3.91]
Physician				
Non-physician (NP/PA) (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Physician	0.93	[0.68, 1.26]	0.91	[0.66, 1.27]
Urbanicity				
Urban (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Suburban	0.66*	[0.46, 0.93]	0.63*	[0.42, 0.94]
Rural	1.00	[0.73, 1.36]	0.99	[0.70, 1.39]
Practice size				
Large practice (6+) (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Small practice (0-5)	0.84	[0.66, 1.06]	0.83	[0.64, 1.08]
New clinicians hired in past year?				
No (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	1.08	[0.84, 1.38]	1.10	[0.84, 1.43]
New office staff hired in past year?				
No/Not checked (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	1.15	[0.90, 1.46]	1.17	[0.90, 1.52]
Consulted with care coordinators, case managers, community health workers in past year?				
No/Not checked (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	0.81	[0.64, 1.03]	0.79	[0.61, 1.03]
Changed workflow in past year?				
No/Not checked (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	1.15	[0.91, 1.44]	1.15	[0.90, 1.46]
Co-located Mental Health w/in Primary Care in past year?				
No/Not checked (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	1.16	[0.84, 1.60]	1.18	[0.84, 1.67]

Logistic regression analysis with adjusted odds ratios; 95% confidence intervals in brackets. First column shows model adjusted for all covariates shown. Second model adds a random intercept for the practice ID.

[a] "PCP influence on ER use" Responses dichotomized as Some influence or A great deal of influence vs. A little influence or No influence at all

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7. Multivariate analysis of PCP responsible for decreasing ER use: sensitivity analysis with random intercept for practice ID

PCP responsible for decreasing ER use[a]	Original model (N= 1,773)		Practice adjusted model (N= 1,773)	
	aOR	95% CI	aOR	95% CI
Years in practice	0.98**	[0.97, 1.00]	0.98*	[0.97, 1.00]
Race				
White (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Black/African American	1.67	[0.70, 3.97]	1.73	[0.69, 4.34]
Asian/Pacific Islander	1.61	[0.97, 2.69]	1.59	[0.92, 2.76]
American Indian/Alaska Native	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Other	1.39	[0.58, 3.33]	1.42	[0.56, 3.59]
Hispanic/Latino				
No (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	4.82	[0.65, 35.91]	5.54	[0.70, 44.04]
Physician				
Non-physician (NP/PA) (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Physician	0.54*	[0.33, 0.88]	0.51*	[0.30, 0.87]
Urbanicity				
Urban (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Suburban	0.94	[0.57, 1.57]	0.92	[0.53, 1.62]
Rural	0.76	[0.51, 1.13]	0.72	[0.46, 1.14]
Practice size				
Large practice (6+) (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Small practice (0-5)	0.66*	[0.48, 0.92]	0.66*	[0.46, 0.95]
New clinicians hired in past year?				
No (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	1.20	[0.86, 1.67]	1.24	[0.86, 1.78]
New office staff hired in past year?				
No/Not checked (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	0.93	[0.68, 1.28]	0.92	[0.65, 1.31]
Consulted with care coordinators, case managers, community health workers in past year?				
No/Not checked (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	1.02	[0.75, 1.39]	1.01	[0.72, 1.41]
Changed workflow in past year?				
No/Not checked (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	1.41*	[1.03, 1.94]	1.46*	[1.03, 2.05]
Co-located Mental Health w/in Primary Care in past year?				
No/Not checked (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	1.62	[0.97, 2.71]	1.69	[0.97, 2.94]

Logistic regression analysis with adjusted odds ratios; 95% confidence intervals in brackets. First column shows model adjusted for all covariates shown. Second model adds a random intercept for the practice ID.

[a] "PCP responsible for decreasing ER use" Responses dichotomized as Major responsibility or Some responsibility vs. A little responsibility or No responsibility at all

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 8. Multivariate analysis of HRA completion: sensitivity analysis with random intercept for practice ID

Complete any HRA[a]	Original model (N= 1,637)		Practice adjusted model (N= 1,637)	
	aOR	95% CI	aOR	95% CI
PCP familiarity with completing HRA				
Very familiar (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Somewhat familiar	0.50	[0.20, 1.24]	0.50	[0.20, 1.24]
A little familiar	0.27**	[0.10, 0.71]	0.27**	[0.10, 0.71]
Not at all familiar	0.23*	[0.07, 0.76]	0.23*	[0.07, 0.76]
HRA useful for identifying health risks				
Very useful (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Somewhat useful	0.95	[0.27, 3.36]	0.95	[0.27, 3.36]
A little useful	3.41	[0.42, 27.75]	3.41	[0.42, 27.75]
Not at all useful	11.13	[0.35, 350.17]	11.13	[0.35, 350.17]
HRA useful for discussing health risks				
Very useful (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Somewhat useful	0.56	[0.13, 2.51]	0.56	[0.13, 2.51]
A little useful	0.04*	[0.00, 0.49]	0.04*	[0.00, 0.49]
Not at all useful	0.04	[0.00, 3.83]	0.04	[0.00, 3.83]
HRA useful for persuading patients to address risks				
Very useful (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Somewhat useful	2.95	[0.62, 14.06]	2.95	[0.62, 14.06]
A little useful	26.95**	[2.87, 253.14]	26.95**	[2.87, 253.14]
Not at all useful	8.34	[0.33, 210.86]	8.34	[0.33, 210.86]
HRA useful for documenting patient behavior goals				
Very useful (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Somewhat useful	0.71	[0.18, 2.84]	0.71	[0.18, 2.84]
A little useful	0.79	[0.14, 4.35]	0.79	[0.14, 4.35]
Not at all useful	1.32	[0.10, 17.34]	1.32	[0.10, 17.34]
HRA useful for getting patients to change behaviors				
Very useful (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Somewhat useful	1.03	[0.25, 4.19]	1.03	[0.25, 4.19]
A little useful	0.87	[0.19, 3.94]	0.87	[0.19, 3.94]
Not at all useful	0.28	[0.03, 2.50]	0.28	[0.03, 2.50]
Provider type				
Non-physician (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Physician	0.89	[0.40, 2.01]	0.89	[0.40, 2.01]
Practice location				
Non-urban (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Urban	0.39*	[0.17, 0.93]	0.39*	[0.17, 0.93]

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Predominant payer mix				
Private (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Medicaid	0.42*	[0.18, 0.99]	0.42*	[0.18, 0.99]
Medicare	1.34	[0.54, 3.33]	1.34	[0.54, 3.33]
Uninsured	0.05*	[0.00, 0.83]	0.05*	[0.00, 0.83]
Mixed	0.71	[0.18, 2.84]	0.71	[0.18, 2.84]
HMP-MC members assigned to PCP as of 7-25-2016	1.22***	[1.16, 1.27]	1.22***	[1.16, 1.27]

Logistic regression analysis with adjusted odds ratios; 95% confidence intervals in brackets. First column shows model adjusted for all covariates shown. Second model adds a random intercept for the practice ID.
[a] "Complete any HRA" Responses dichotomized as any completion rate greater than 0 vs completion rates equal to 0
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 9. Multivariate analysis of HRA completion rate: sensitivity analysis with random intercept for practice ID

HRA completion rate	Original model (N= 1,637)		Practice adjusted model (N= 1,637)	
	Coefficients	95% CI	Coefficients	95% CI
PCP familiarity with completing HRA				
Very familiar (ref)	-	-	-	-
Somewhat familiar	1.19***	[0.74, 1.63]	-0.25***	[-0.38, -0.12]
A little familiar	1.56***	[0.96, 2.16]	-0.32***	[-0.49, -0.15]
Not at all familiar	2.98***	[2.11, 3.85]	-0.52***	[-0.72, -0.33]
HRA useful for identifying health risks				
Very useful (ref)	-	-	-	-
Somewhat useful	-0.45	[-1.07, 0.18]	0.08	[-0.12, 0.29]
A little useful	-0.39	[-1.24, 0.45]	0.09	[-0.18, 0.36]
Not at all useful	-0.50	[-1.68, 0.69]	0.12	[-0.28, 0.53]
HRA useful for discussing health risks				
Very useful (ref)	-	-	-	-
Somewhat useful	0.31	[-0.32, 0.93]	-0.08	[-0.28, 0.13]
A little useful	0.32	[-0.57, 1.20]	-0.08	[-0.37, 0.22]
Not at all useful	0.15	[-1.32, 1.62]	-0.08	[-0.55, 0.40]
HRA useful for persuading patients to address risks				
Very useful (ref)	-	-	-	-
Somewhat useful	0.01	[-0.65, 0.66]	0.02	[-0.19, 0.23]
A little useful	-0.47	[-1.31, 0.36]	0.14	[-0.13, 0.41]
Not at all useful	0.04	[-1.34, 1.43]	0.01	[-0.41, 0.43]
HRA useful for documenting patient behavior goals				
Very useful (ref)	-	-	-	-
Somewhat useful	-0.54	[-1.20, 0.11]	0.10	[-0.10, 0.30]
A little useful	-0.57	[-1.35, 0.20]	0.09	[-0.15, 0.33]
Not at all useful	-0.62	[-1.67, 0.43]	0.10	[-0.22, 0.43]
HRA useful for getting patients to change behaviors				
Very useful (ref)	-	-	-	-
Somewhat useful	-0.12	[-0.93, 0.68]	0.02	[-0.21, 0.26]
A little useful	0.00	[-0.86, 0.87]	-0.01	[-0.27, 0.25]
Not at all useful	0.07	[-1.04, 1.18]	-0.02	[-0.37, 0.32]
Provider type				
Non-physician (ref)	-	-	-	-
Physician	0.22	[-0.24, 0.68]	-0.03	[-0.19, 0.13]
Practice location				
Non-urban (ref)	-	-	-	-
Urban	0.48*	[0.09, 0.87]	-0.11	[-0.24, 0.02]

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Predominant payer mix				
Private (ref)	-	-	-	-
Medicaid	0.44*	[0.00, 0.88]	-0.08	[-0.23, 0.06]
Medicare	0.21	[-0.26, 0.68]	-0.04	[-0.19, 0.11]
Uninsured	0.21	[-1.58, 2.01]	-0.09	[-0.71, 0.53]
Mixed	0.50	[-0.22, 1.22]	-0.11	[-0.32, 0.11]
HMP-MC members assigned to PCP as of 7-25-2016	0.002*	[0.000, 0.004]	-0.0003	[-0.0008, 0.0001]

Generalized linear model with gamma distribution predicting the rate (%) of HRA completions; 95% confidence intervals in brackets. First column shows model adjusted for all covariates shown. Second model adds a random intercept for the practice ID.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 10. Multivariate analysis of consulted with care coordinator, case manager, or community health worker: sensitivity analysis with random intercept for practice ID

Consulted with care coordinators, case managers, community health workers in past year[a]	Original model (N= 1,652)		Practice adjusted model (N= 1,652)	
	aOR	95% CI	aOR	95% CI
Practice size				
Large practice (6+) (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Small practice (0-5)	0.46***	[0.37, 0.59]	0.41***	[0.30, 0.56]
Practice type				
Non-FQHC (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
FQHC	2.30***	[1.59, 3.34]	2.53***	[1.61, 3.95]
Non-academic (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Academic	0.70	[0.47, 1.07]	0.77	[0.47, 1.27]
Not hospital-based/non-teaching (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Hospital-based (non-teaching)	0.79	[0.57, 1.09]	0.80	[0.54, 1.19]
Predominant payer mix				
Private (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Medicaid	0.72*	[0.54, 0.95]	0.70*	[0.50, 0.98]
Medicare	0.73*	[0.53, 1.00]	0.68*	[0.47, 0.99]
Uninsured	1.36	[0.33, 5.66]	1.42	[0.26, 7.76]
Mixed	0.89	[0.58, 1.36]	0.87	[0.53, 1.44]
Participating in MiPCT				
No (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	3.58***	[2.65, 4.84]	4.23***	[2.89, 6.19]
Urbanicity				
Urban (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Suburban	0.82	[0.56, 1.20]	0.79	[0.49, 1.26]
Rural	1.15	[0.84, 1.58]	1.26	[0.84, 1.87]
Sex				
Male (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Female	1.02	[0.80, 1.30]	1.06	[0.80, 1.41]
Specialty care				
Family medicine (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Internal medicine	0.85	[0.64, 1.14]	0.85	[0.60, 1.21]
Non-physician provider	1.39	[0.98, 1.96]	1.41	[0.94, 2.11]
Other	0.98	[0.59, 1.62]	1.00	[0.55, 1.81]
Practice ownership				
Full owner (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Partner/part-owner	1.03	[0.70, 1.52]	1.00	[0.62, 1.60]
Employee	1.58*	[1.08, 2.31]	1.60*	[1.02, 2.50]
Years in practice	1.00	[0.99, 1.01]	1.00	[0.99, 1.01]

Logistic regression analysis with adjusted odds ratios; 95% confidence intervals in brackets. First column shows model adjusted for all covariates shown. Second model adds a random intercept for the practice ID.

[a] "Consulted with care coordinators, case managers, community health workers in past year" Responses dichotomized as Yes vs. No or Not checked

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 11. Multivariate analysis of co-located mental health within primary care in past year: sensitivity analysis with random intercept for practice ID

Co-located Mental Health within Primary Care in past year[a]	Original model (N= 1,652)		Practice adjusted label (N= 1,652)	
	aOR	95% CI	aOR	95% CI
Practice size				
Large practice (6+) (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Small practice (0-5)	0.57***	[0.41, 0.79]	0.43***	[0.26, 0.71]
Practice type				
Non-FQHC (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
FQHC	3.65***	[2.50, 5.33]	6.32***	[3.39, 11.79]
Non-academic (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Academic	0.85	[0.52, 1.39]	0.85	[0.42, 1.74]
Not hospital-based/non-teaching (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Hospital-based (non-teaching)	0.53**	[0.36, 0.79]	0.49*	[0.28, 0.88]
Predominant payer mix				
Private (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Medicaid	2.18***	[1.45, 3.28]	2.65***	[1.51, 4.64]
Medicare	1.25	[0.76, 2.04]	1.44	[0.76, 2.74]
Uninsured	4.01*	[1.08, 14.96]	2.88	[0.47, 17.80]
Mixed	1.53	[0.81, 2.88]	1.13	[0.49, 2.61]
Participating in MiPCT				
No (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	2.15***	[1.50, 3.09]	2.41**	[1.39, 4.17]
Urbanicity				
Urban (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Suburban	1.13	[0.66, 1.91]	1.55	[0.72, 3.35]
Rural	2.24***	[1.51, 3.33]	2.72**	[1.47, 5.02]
Sex				
Male (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Female	0.99	[0.71, 1.37]	0.94	[0.62, 1.43]
Specialty care				
Family medicine (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Internal medicine	1.19	[0.78, 1.82]	1.05	[0.58, 1.91]
Non-physician provider	1.12	[0.74, 1.69]	1.21	[0.70, 2.10]
Other	0.94	[0.46, 1.90]	0.66	[0.25, 1.77]
Practice ownership				
Full owner (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Partner/part-owner	0.80	[0.36, 1.79]	0.59	[0.21, 1.65]
Employee	2.49**	[1.36, 4.58]	2.34*	[1.06, 5.15]
Years in practice	1.00	[0.99, 1.02]	1.00	[0.99, 1.02]

Logistic regression analysis with adjusted odds ratios; 95% confidence intervals in brackets. First column shows model adjusted for all covariates shown. Second model adds a random intercept for the practice ID.

[a] "Co-located Mental Health within Primary Care in past year" Responses dichotomized as Yes vs. No or Not checked

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 12. Multivariate analysis of hiring additional clinicians within the past year: sensitivity analysis with random intercept for practice ID

Hired additional clinicians within the past year[a]	Original model (N= 1,652)		Practice adjusted model (N= 1,652)	
	aOR	95% CI	aOR	95% CI
Practice size				
Large practice (6+) (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Small practice (0-5)	0.25***	[0.19, 0.31]	0.13***	[0.08, 0.20]
Practice type				
Non-FQHC (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
FQHC	1.64**	[1.15, 2.33]	1.89*	[1.10, 3.23]
Non-academic (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Academic	0.78	[0.53, 1.17]	0.81	[0.44, 1.47]
Not hospital-based/non-teaching (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Hospital-based (non-teaching)	0.87	[0.63, 1.19]	0.84	[0.52, 1.34]
Predominant payer mix				
Private (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Medicaid	0.92	[0.70, 1.22]	0.99	[0.66, 1.50]
Medicare	0.83	[0.61, 1.14]	0.76	[0.49, 1.20]
Uninsured	0.51	[0.15, 1.77]	0.61	[0.10, 3.64]
Mixed	1.15	[0.75, 1.75]	1.18	[0.65, 2.14]
Participating in MiPCT				
No (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	0.95	[0.73, 1.25]	1.09	[0.70, 1.71]
Urbanicity				
Urban (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Suburban	0.95	[0.65, 1.39]	1.22	[0.66, 2.25]
Rural	1.01	[0.74, 1.39]	1.18	[0.71, 1.98]
Sex				
Male (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Female	0.97	[0.77, 1.23]	1.00	[0.72, 1.39]
Specialty care				
Family medicine (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Internal medicine	1.13	[0.85, 1.50]	1.21	[0.79, 1.86]
Non-physician provider	1.15	[0.82, 1.61]	1.11	[0.68, 1.79]
Other	0.66	[0.40, 1.09]	0.49	[0.23, 1.04]
Practice ownership				
Full owner (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Partner/part-owner	1.98***	[1.33, 2.93]	2.18*	[1.20, 3.96]
Employee	1.98***	[1.35, 2.90]	2.35**	[1.35, 4.10]
Years in practice	0.99**	[0.98, 1.00]	0.98*	[0.97, 1.00]

Logistic regression analysis with adjusted odds ratios; 95% confidence intervals in brackets. First column shows model adjusted for all covariates shown. Second model adds a random intercept for the practice ID.
[a] "Hired additional clinicians within the past year" Responses dichotomized as Yes vs. No or Not checked
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 13. Multivariate analysis of hiring new office staff within the past year: sensitivity analysis with random intercept for practice ID

New office staff hired in past year[a]	Original model (N= 1,652)		Practice adjusted model (N= 1,652)	
	aOR	95% CI	aOR	95% CI
Practice size				
Large practice (6+) (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Small practice (0-5)	0.51***	[0.41, 0.65]	0.39***	[0.27, 0.56]
Practice type				
Non-FQHC (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
FQHC	1.82***	[1.28, 2.58]	2.00**	[1.23, 3.24]
Non-academic (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Academic	0.68	[0.47, 1.01]	0.76	[0.44, 1.29]
Not hospital-based/non-teaching (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Hospital-based (non-teaching)	1.03	[0.75, 1.40]	1.13	[0.74, 1.74]
Predominant payer mix				
Private (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Medicaid	1.00	[0.77, 1.31]	1.01	[0.70, 1.46]
Medicare	0.95	[0.70, 1.28]	0.94	[0.62, 1.40]
Uninsured	0.32	[0.09, 1.10]	0.19*	[0.04, 0.99]
Mixed	0.69	[0.46, 1.04]	0.66	[0.39, 1.14]
Participating in MiPCT				
No (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	1.06	[0.82, 1.39]	1.10	[0.74, 1.63]
Urbanicity				
Urban (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Suburban	0.66*	[0.46, 0.94]	0.61	[0.36, 1.04]
Rural	0.95	[0.70, 1.29]	0.99	[0.63, 1.56]
Sex				
Male (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Female	0.82	[0.65, 1.03]	0.77	[0.57, 1.03]
Specialty care				
Family medicine (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Internal medicine	0.86	[0.65, 1.13]	0.88	[0.60, 1.29]
Non-physician provider	0.95	[0.68, 1.32]	0.99	[0.64, 1.53]
Other	0.75	[0.47, 1.21]	0.73	[0.38, 1.40]
Practice ownership				
Full owner (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Partner/part-owner	2.25***	[1.53, 3.31]	2.80***	[1.63, 4.83]
Employee	1.38	[0.96, 1.99]	1.45	[0.88, 2.38]
Years in practice	0.98***	[0.97, 0.99]	0.98***	[0.96, 0.99]

Logistic regression analysis with adjusted odds ratios; 95% confidence intervals in brackets. First column shows model adjusted for all covariates shown. Second model adds a random intercept for the practice ID.

[a] "New office Staff hired in past year" Responses dichotomized as Yes vs. No or Not checked

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 14. Multivariate analysis of changed workflow in the past year: sensitivity analysis with random intercept for practice ID

Changed workflow in past year[a]	Original model (N= 1,652)		Practice adjusted model (N= 1,652)	
	aOR	95% CI	aOR	95% CI
Practice size				
Large practice (6+) (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Small practice (0-5)	0.65***	[0.52, 0.81]	0.61***	[0.46, 0.80]
Practice type				
Non-FQHC (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
FQHC	1.06	[0.77, 1.46]	0.99	[0.67, 1.47]
Non-academic (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Academic	0.85	[0.58, 1.24]	0.87	[0.55, 1.36]
Not hospital-based/non-teaching (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Hospital-based (non-teaching)	0.99	[0.73, 1.33]	1.00	[0.70, 1.42]
Predominant payer mix				
Private (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Medicaid	1.15	[0.88, 1.50]	1.19	[0.87, 1.62]
Medicare	1.39*	[1.03, 1.87]	1.51*	[1.06, 2.14]
Uninsured	0.99	[0.30, 3.26]	0.88	[0.22, 3.56]
Mixed	0.78	[0.52, 1.18]	0.77	[0.48, 1.24]
Participating in MiPCT				
No (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Yes	1.08	[0.84, 1.39]	1.12	[0.82, 1.54]
Urbanicity				
Urban (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Suburban	1.18	[0.83, 1.68]	1.16	[0.75, 1.80]
Rural	1.33	[0.99, 1.78]	1.42	[0.99, 2.05]
Sex				
Male (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Female	0.96	[0.77, 1.20]	0.95	[0.74, 1.23]
Specialty care				
Family medicine (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Internal medicine	0.75*	[0.57, 0.98]	0.71*	[0.51, 0.99]
Non-physician provider	1.05	[0.77, 1.44]	1.07	[0.75, 1.55]
Other	0.80	[0.50, 1.27]	0.77	[0.44, 1.35]
Practice ownership				
Full owner (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Partner/part-owner	1.00	[0.68, 1.45]	1.02	[0.65, 1.61]
Employee	0.86	[0.60, 1.23]	0.81	[0.53, 1.25]
Years in practice	0.98***	[0.97, 0.99]	0.98***	[0.97, 0.99]

Logistic regression analysis with adjusted odds ratios; 95% confidence intervals in brackets. First column shows model adjusted for all covariates shown. Second model adds a random intercept for the practice ID.

[a] "Changed workflow in past year" Responses dichotomized as Yes vs. No or Not checked

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 15. Multivariate analysis of an increase in the number of new patients: sensitivity analysis with random intercept for practice ID

Increase in the number of new patients[a]	Original model (N= 1,638)		Practice adjusted model (N= 1,638)	
	aOR	95% CI	aOR	95% CI
Practice size				
Large practice (6+) (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Small practice (0-5)	1.02	[0.81, 1.29]	1.05	[0.80, 1.37]
Practice type				
Non-FQHC (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
FQHC (ref)	1.34	[0.95, 1.90]	1.42	[0.95, 2.11]
Non-academic (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Academic	0.89	[0.60, 1.31]	0.87	[0.56, 1.35]
Not hospital-based/non-teaching (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Hospital-based (non-teaching)	0.81	[0.60, 1.12]	0.79	[0.55, 1.12]
Predominant payer mix				
Private (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Medicaid	3.56***	[2.72, 4.65]	4.01***	[2.92, 5.50]
Medicare	1.16	[0.86, 1.56]	1.15	[0.83, 1.61]
Uninsured	6.43*	[1.36, 30.37]	7.31*	[1.36, 39.21]
Mixed	1.52*	[1.02, 2.27]	1.59*	[1.02, 2.48]
Urbanicity				
Urban (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Suburban	1.48*	[1.01, 2.17]	1.55	[1.00, 2.42]
Rural	0.87	[0.63, 1.18]	0.85	[0.59, 1.22]
Sex				
Male (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Female	1.45**	[1.15, 1.82]	1.48**	[1.15, 1.91]
Specialty care				
Family medicine (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Internal medicine	1.09	[0.82, 1.43]	1.09	[0.80, 1.49]
Non-physician provider	1.32	[0.94, 1.86]	1.36	[0.93, 1.98]
Other	0.71	[0.43, 1.15]	0.72	[0.42, 1.25]
Practice ownership				
Full owner (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Partner/part-owner	0.66*	[0.45, 0.97]	0.63*	[0.40, 0.98]
Employee	1.05	[0.73, 1.52]	1.08	[0.71, 1.63]
Years in practice	0.99	[0.98, 1.00]	0.99	[0.98, 1.00]

Logistic regression analysis with adjusted odds ratios; 95% confidence intervals in brackets. First column shows model adjusted for all covariates shown. Second model adds a random intercept for the practice ID.

[a] "Increase in the number of new patients" Responses dichotomized as To a great extent or To some extent vs. To a little extent or Not at all or Don't know

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 16. Multivariate analysis of existing patients who had been uninsured or self-pay gained insurance: sensitivity analysis with random intercept for practice ID

Existing patients who had been uninsured or self-pay gained insurance[a]	Original model (N= 1,638)		Practice adjusted model (N= 1,638)	
	aOR	95% CI	aOR	95% CI
Practice size				
Large practice (6+) (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Small practice (0-5)	1.05	[0.83, 1.31]	1.05	[0.82, 1.34]
Practice type				
Non-FQHC (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
FQHC (ref)	1.92***	[1.36, 2.72]	1.98***	[1.36, 2.87]
Non-academic (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Academic	1.00	[0.69, 1.47]	1.01	[0.67, 1.51]
Not hospital-based/non-teaching (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Hospital-based (non-teaching)	0.81	[0.60, 1.11]	0.80	[0.58, 1.11]
Predominant payer mix				
Private (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Medicaid	2.61***	[2.01, 3.39]	2.74***	[2.06, 3.65]
Medicare	1.11	[0.83, 1.50]	1.12	[0.82, 1.53]
Uninsured	2.08	[0.59, 7.29]	2.07	[0.55, 7.71]
Mixed	1.44	[0.97, 2.15]	1.47	[0.96, 2.23]
Urbanicity				
Urban (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Suburban	1.32	[0.91, 1.91]	1.34	[0.90, 1.99]
Rural	1.16	[0.86, 1.58]	1.17	[0.84, 1.63]
Sex				
Male (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Female	1.35*	[1.07, 1.69]	1.36*	[1.07, 1.73]
Specialty care				
Family medicine (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Internal medicine	0.96	[0.73, 1.26]	0.95	[0.71, 1.27]
Non-physician provider	1.54*	[1.10, 2.15]	1.55*	[1.09, 2.20]
Other	0.99	[0.61, 1.59]	1.00	[0.60, 1.65]
Practice ownership				
Full owner (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Partner/part-owner	0.75	[0.51, 1.10]	0.74	[0.49, 1.10]
Employee	1.01	[0.70, 1.46]	1.02	[0.70, 1.50]
Years in practice	1.00	[0.99, 1.01]	1.00	[0.99, 1.01]

Logistic regression analysis with adjusted odds ratios; 95% confidence intervals in brackets. First column shows model adjusted for all covariates shown. Second model adds a random intercept for the practice ID.

[a] "Existing patients who had been uninsured or self-pay gained insurance" Responses dichotomized as To a great extent or To some extent vs. To a little extent or Not at all or Don't know

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 17. Multivariate analysis of existing patients changed from other insurance to HMP: sensitivity analysis with random intercept for practice ID

Existing patients changed from other insurance to Healthy Michigan Plan[a]	Original model (N= 1,639)		Practice adjusted model (N= 1,639)	
	aOR	95% CI	aOR	95% CI
Practice size				
Large practice (6+) (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Small practice (0-5)	1.17	[0.92, 1.49]	1.16	[0.88, 1.52]
Practice type				
Non-FQHC (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
FQHC (ref)	1.11	[0.79, 1.56]	1.12	[0.76, 1.64]
Non-academic (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Academic	0.92	[0.61, 1.39]	0.91	[0.57, 1.43]
Not hospital-based/non-teaching (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Hospital-based (non-teaching)	0.82	[0.59, 1.13]	0.79	[0.55, 1.13]
Predominant payer mix				
Private (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Medicaid	2.62***	[1.98, 3.47]	2.84***	[2.07, 3.89]
Medicare	1.13	[0.80, 1.58]	1.12	[0.78, 1.62]
Uninsured	0.61	[0.13, 2.91]	0.54	[0.10, 2.84]
Mixed	1.46	[0.94, 2.26]	1.49	[0.93, 2.40]
Urbanicity				
Urban (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Suburban	1.22	[0.83, 1.78]	1.30	[0.85, 2.00]
Rural	1.57**	[1.15, 2.14]	1.66**	[1.16, 2.37]
Sex				
Male (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Female	1.17	[0.91, 1.49]	1.17	[0.90, 1.53]
Specialty care				
Family medicine (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Internal medicine	1.22	[0.91, 1.65]	1.23	[0.88, 1.71]
Non-physician provider	1.45*	[1.05, 2.01]	1.55*	[1.08, 2.22]
Other	1.04	[0.62, 1.75]	1.05	[0.60, 1.84]
Practice ownership				
Full owner (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Partner/part-owner	0.92	[0.60, 1.40]	0.92	[0.58, 1.45]
Employee	0.98	[0.66, 1.44]	0.97	[0.63, 1.47]
Years in practice	1.00	[0.99, 1.01]	1.00	[0.99, 1.01]

Logistic regression analysis with adjusted odds ratios; 95% confidence intervals in brackets. First column shows model adjusted for all covariates shown. Second model adds a random intercept for the practice ID.

[a] "Existing patients changed from other insurance to Healthy Michigan Plan" Responses dichotomized as To a great extent or To some extent vs. To a little extent or Not at all or Don't know

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 18. Multivariate analysis of an increase in the number of new patients who have not seen a primary care practitioner in many years: sensitivity analysis with random intercept for practice ID

Increase in the number of new patients who have not seen a primary care practitioner in many years[a]	Original model (N= 1,638)		Practice adjusted model (N= 1,638)	
	aOR	95% CI	aOR	95% CI
Practice size				
Large practice (6+) (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Small practice (0-5)	1.18	[0.94, 1.48]	1.19	[0.91, 1.54]
Practice type				
Non-FQHC (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
FQHC (ref)	1.45*	[1.02, 2.07]	1.54*	[1.04, 2.29]
Non-academic (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Academic	1.07	[0.72, 1.57]	1.06	[0.68, 1.63]
Not hospital-based/non-teaching (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Hospital-based (non-teaching)	0.97	[0.71, 1.32]	0.94	[0.66, 1.33]
Predominant payer mix				
Private (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Medicaid	3.06***	[2.34, 4.01]	3.37***	[2.47, 4.59]
Medicare	1.18	[0.88, 1.57]	1.19	[0.86, 1.65]
Uninsured	1.87	[0.54, 6.51]	1.81	[0.46, 7.09]
Mixed	1.13	[0.76, 1.68]	1.17	[0.75, 1.81]
Urbanicity				
Urban (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Suburban	1.19	[0.81, 1.74]	1.21	[0.78, 1.86]
Rural	0.79	[0.58, 1.07]	0.76	[0.53, 1.08]
Sex				
Male (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Female	1.29*	[1.03, 1.62]	1.31*	[1.02, 1.68]
Specialty care				
Family medicine (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Internal medicine	0.94	[0.72, 1.23]	0.91	[0.67, 1.24]
Non-physician provider	1.54*	[1.09, 2.18]	1.61*	[1.10, 2.34]
Other	0.81	[0.51, 1.31]	0.88	[0.52, 1.51]
Practice ownership				
Full owner (ref)	1.00	[1.00, 1.00]	1.00	[1.00, 1.00]
Partner/part-owner	0.83	[0.57, 1.22]	0.83	[0.54, 1.27]
Employee	1.00	[0.69, 1.44]	1.00	[0.67, 1.51]
Years in practice	1.00	[0.99, 1.01]	0.99	[0.98, 1.01]

Logistic regression analysis with adjusted odds ratios; 95% confidence intervals in brackets. First column shows model adjusted for all covariates shown. Second model adds a random intercept for the practice ID.

[a] "Increase in the number of new patients who have not seen a primary care practitioner in many years" Responses dichotomized as To a great extent or To some extent vs. To a little extent or Not at all or Don't know

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 19. Predictive margins of primary care physician impact on emergency room use and primary care physician responsibility for emergency room use

	Primary care provider influence on emergency room use[a]		Primary care provider responsibility for emergency room use[b]	
	Predictive margins %	95% CI	Predictive margins %	95% CI
Race				
White	72.1	[69.8, 74.4]	86.6	[84.9, 88.4]
Black/African American	67.7	[57.2, 78.3	91.4	[84.9, 98.0]
Asian/Pacific Islander	82.9**	[77.6, 88.2]	91.2	[87.4, 95.0]
American Indian/Alaska Native	87.8	[65.6, 110.0]	-	-
Other	77.7	[67.3, 88.0]	89.9	[82.3, 97.5]
Hispanic/Latino				
Yes	73.2	[71.2, 75.3]	87.3	[85.8, 88.8]
No	80.2	[67.1, 93.3]	97.0	[91.2, 102.8]
MD/Non-MD				
MD/DO	74.5	[69.4, 79.6]	92.1*	[88.9, 95.3]
Non-physicians	73.1	[70.8, 75.4]	86.6	[84.8, 88.3]
Urbanicity				
Urban	74.2	[71.8, 76.6]	88.0	[86.3, 89.7]
Suburban	65.5*	[58.4, 72.7]	87.4	[82.4, 92.4]
Rural	74.2	[69.0, 79.4]	84.9	[80.5, 89.3]
Practice size				
Large practice (6+)	75.3	[72.1, 78.4]	90.0	[87.7, 92.3]
Small practice (0-5)	71.9	[69.0, 74.8]	85.8*	[83.6, 87.9]
New clinicians hired in past year?				
No/Not checked	72.6	[69.4, 75.8]	86.5	[84.2, 88.9]
Yes	74.0	[71.0, 77.1]	88.5	[86.2, 90.7]
New office staff hired in past year?				
No/Not checked	71.8	[68.4, 75.3]	87.9	[85.6, 90.2]
Yes	74.5	[71.7, 77.2]	87.1	[84.9, 89.4]
Consulted with care coordinators, case managers, community health workers in past year?				
No/Not checked	75.6	[72.5, 78.7]	87.4	[85.1, 89.7]
Yes	71.6	[68.7, 74.5]	87.6	[85.4, 89.8]
Changed workflow in past year?				
No/Not checked	72.2	[69.4, 75.0]	86.0	[83.9, 88.2]
Yes	74.9	[71.7, 78.0]	89.6*	[87.3, 91.9]
Co-located Mental Health w/in Primary Care in past year?				
No/Not checked	72.9	[70.7, 75.2]	86.9	[85.2, 88.6]
Yes	75.7	[70.5, 81.0]	91.4	[87.6, 95.2]

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Years in practice (intervals)	*		**	
0 years	77.4	[73.8, 81.0]	90.6	[88.2, 93.1]
10 years	75.3	[72.8, 77.8]	89.2	[87.3, 91.0]
20 years	73.1	[71.1, 75.2]	87.5	[86.0, 89.1]
30 years	70.9	[67.9, 73.8]	85.7	[83.6, 87.9]

[a] "How much can primary care practitioners influence non-urgent ER use by their patients?" Responses dichotomized as A great deal or Some vs. A little or Not at all

[b] "To what extent do you think it is your responsibility as a primary care practitioner to decrease non-urgent ER use?" Responses dichotomized as Major responsibility or Some responsibility vs. Minimal or No responsibility

Logistic regression with predicted margins; each column is a separate model/outcome, adjusted for all covariates shown.

The variable "Years in practice" was originally continuous, margins are estimated at specific cut shown. Significance testing was conducted on the continuous variable.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 20. Bivariate and multivariate associations of any HRA completion

PCP familiarity with completing HRA (n=1,898)	%[a]	OR	*p*-value	95% CI
Very familiar (n=928)	48.9	-		
Somewhat familiar (n=440)	23.2	0.50	NS	[0.20, 1.24]
A little familiar (n=248)	13.1	0.27	0.008	[0.10, 0.71]
Not at all familiar (n=282)	14.9	0.23	0.02	[0.07, 0.76]
HRA useful for identifying health risks (n=1,730)				
Very useful (n=453)	26.2	-		
Somewhat useful (n=727)	42.0	0.95	NS	[0.27, 3.36]
A little useful (n=347)	20.1	3.41	NS	[0.42, 27.75]
Not at all useful (n=203)	11.7	11.14	NS	[0.35, 350.18]
HRA useful for discussing health risks (n=1,727)				
Very useful (n=579)	33.5	-		
Somewhat useful (n=696)	40.3	0.56	NS	[0.13, 2.52]
A little useful (n=288)	16.9	0.04	0.01	[0.004, 0.485]
Not at all useful (n=164)	9.5	0.04	NS	[0.004, 3.828]
HRA useful for persuading patients to address risks (n=1,728)				
Very useful (n=464)	26.9	-		
Somewhat useful (n=674)	39.0	2.95	NS	[0.62, 14.06]
A little useful (n=394)	22.8	26.95	0.004	[2.87, 253.14]
Not at all useful (n=196)	11.3	8.34	NS	[0.33, 210.86]
HRA useful for documenting patient behavior goals (n=1,727)				
Very useful (n=391)	22.6	-		
Somewhat useful (n=683)	39.6	0.71	NS	[0.18, 2.84]
A little useful (n=424)	24.6	0.79	NS	[0.14, 4.35]
Not at all useful (n=229)	13.3	1.32	NS	[0.01, 17.34]
HRA useful for getting patients to change behaviors (n=1,722)				
Very useful (n=267)	15.5	-		
Somewhat useful (n=551)	32.0	1.03	NS	[0.25, 4.19]
A little useful (n=620)	36.0	0.87	NS	[0.19, 3.94]
Not at all useful (n=284)	16.5	0.28	NS	[0.03, 2.50]
Provider type (n=1,972)				
Non-physician (n=315)	16.0	-		
Physician (n=1,657)	84.0	0.89	NS	[0.40, 2.01]
Practice location (n=1,972)				
Non-urban (n=488)	24.8	-		
Urban (n=1,484)	75.3	0.39	0.03	[0.17, 0.93]
Predominant payer mix (n=1,787)				
Private (n=610)	34.1	-		
Medicaid (n=640)	35.8	0.42	0.05	[0.18, 0.99]
Medicare (n=393)	22.0	1.34	NS	[0.54, 3.33]
Uninsured (n=11)	0.6	0.05	0.04	[0.003, 0.830]
Mixed (n=133)	7.4	0.71	NS	[0.18, 2.84]

Bivariate association and adjusted logistic regression with odds ratios predicting any completion of HRA from data warehouse records. Multivariate model was adjusted for all variables shown, as well as the number of HMP members assigned to the PCP.

[a] Percent of respondents per level of familiarity with completing HRA.

Table 21. Rate of HRA completion by predictive factor

PCP familiarity with completing HRA	Completion rate (%)	*p*-value	95% CI
Very familiar	23.3	-	[22.1, 24.4]
Somewhat familiar	18.2	<0.001	[16.8, 19.5]
A little familiar	17.0	<0.001	[15.4, 18.6]
Not at all familiar	13.7	<0.001	[12.1, 15.2]
HRA useful for identifying health risks			
Very useful	18.9	-	[17.0, 20.9]
Somewhat useful	20.7	NS	[19.4, 22.1]
A little useful	20.5	NS	[18.4, 22.6]
Not at all useful	21.0	NS	[16.8, 25.1]
HRA useful for discussing health risks			
Very useful	21.2	-	[18.8, 23.5]
Somewhat useful	19.8	NS	[18.5, 21.1]
A little useful	19.8	NS	[17.5, 22.0]
Not at all useful	20.5	NS	[15.2, 25.8]
HRA useful for persuading patients to address risks			
Very useful	19.8	-	[17.6, 22.0]
Somewhat useful	19.8	NS	[18.4, 21.1]
A little useful	21.9	NS	[19.7, 24.2]
Not at all useful	19.6	NS	[15.3, 24.0]
HRA useful for documenting patient behavior goals			
Very useful	18.5	-	[16.6, 20.5]
Somewhat useful	20.7	NS	[19.3, 22.0]
A little useful	20.8	NS	[19.7, 22.6]
Not at all useful	21.0	NS	[17.5, 24.5]
HRA useful for getting patients to change behaviors			
Very useful	20.1	-	[17.0, 23.2]
Somewhat useful	20.7	NS	[19.1, 22.2]
A little useful	20.1	NS	[18.8, 21.4]
Not at all useful	19.8	NS	[17.2, 22.5]
Provider type			
Non-physician	21.0	-	[19.2, 22.8]
Physician	20.0	NS	[19.2, 20.9]
Practice location			
Non-urban	21.8	-	[20.2, 23.3]
Urban	19.7	0.02	[18.8, 20.5]
Predominant payer mix			
Private	21.3	-	[20.0, 22.7]
Medicaid	19.4	0.05	[18.3, 20.6]
Medicare	20.4	NS	[18.7, 22.1]
Uninsured	20.4	NS	[12.7, 28.0]
Mixed	19.2	NS	[16.7, 21.7]

Predicted HRA completion rates from GLM regression with gamma distribution predicting rate of completed HRAs using data warehouse records. Multivariate model was adjusted for all variables shown, as well as the number of HMP members assigned to the PCP.

Table 22. Multivariate analysis of associations with self-reported numbers of HRAs completed

	Number of HRAs completed (N= 1,697)	
	aOR	95% CI
Region		
Upper Peninsula/Northwest/Northeast	Reference	
West/East Central/East	0.71	[0.27, 1.89]
South Central/Southwest/Southeast	0.48	[0.17, 1.34]
Detroit Metro	0.61	[0.22, 1.70]
Urbanicity		
Urban	Reference	
Suburban	1.75**	[1.18, 2.59]
Rural	1.06	[0.41, 2.79]
Practice size		
Large practice (6+)	Reference	
Small practice (0-5)	1.49***	[1.20, 1.87]
New clinicians hired in past year?		
No/Not checked	Reference	
Yes	0.86	[0.68, 1.08]
New office staff hired in past year?		
No/Not checked	Reference	
Yes	1.17	[0.93, 1.46]
Consulted with care coordinators, case managers, community health workers in past year?		
No/Not checked	Reference	
Yes	1.01	[0.80, 1.26]
Changed workflow in past year?		
No/Not checked	Reference	
Yes	0.89	[0.72, 1.10]
Co-located Mental Health w/in Primary Care in past year?		
No/Not checked	Reference	
Yes	1.46*	[1.07, 1.99]
Payment arrangement		
FFS-predominant	Reference	
Capitation-predominant	1.72	[0.85, 3.49]
Salary-predominant	1.45**	[1.16, 1.82]
Mixed payment	1.06	[0.78, 1.45]
Other payment arrangement	1.50	[0.71, 3.17]
Predominant payer mix		
Private	Reference	
Medicaid	2.34***	[1.81, 3.03]
Medicare	0.75*	[0.58, 0.97]
Uninsured	3.41	[0.66, 17.53]
Mixed	1.24	[0.84, 1.83]
Practice has process to identify HMP patients who need HRA completed		
No/Don't know	Reference	
Yes	1.80***	[1.40, 2.32]

Continued on next page

Continued from previous page

Practice has process to submit completed HRAs		
No/Don't know	Reference	
Yes	7.88***	[6.16, 10.07]
Received financial bonus for HRA		
No/Don't know	Reference	
Yes	1.14	[0.84, 1.55]
Familiarity with HMP expenses		
Very familiar	Reference	
Somewhat familiar	0.49*	[0.27, 0.87]
A little familiar	0.47**	[0.27, 0.83]
Not at all familiar	0.48*	[0.27, 0.87]
Familiarity with healthy behavior incentives		
Very familiar	Reference	
Somewhat familiar	0.60*	[0.39, 0.92]
A little familiar	0.51**	[0.33, 0.80]
Not at all familiar	0.24***	[0.15, 0.38]
Model cuts		
Cut 1[a]	0.15**	[0.05, 0.50]
Cut 2[b]	0.43	[0.13, 1.43]
Cut 3[c]	2.48	[0.75, 8.18]

Ordered logistic regression with adjusted odds ratios adjusted for the covariates shown; 95% confidence intervals in brackets

Dependent variable ordinal categories are “None”, “1-2”, “3-10”, and “>10”

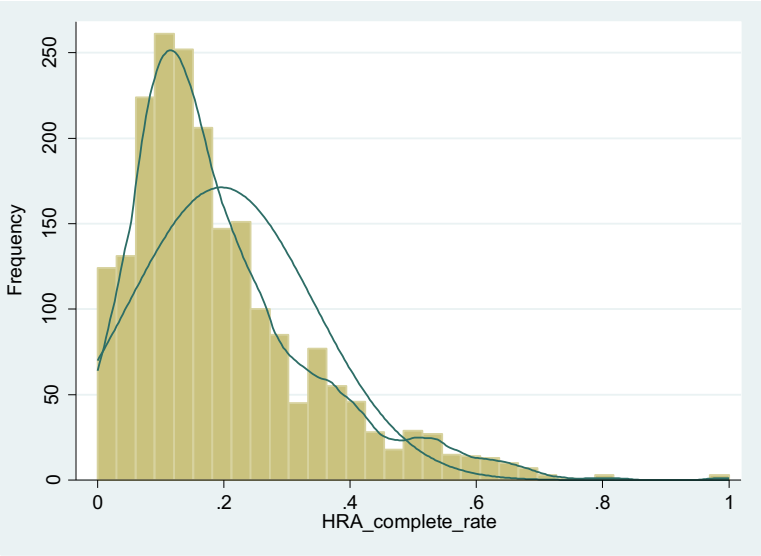
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

[a] Cut 1: Estimated cut point on the underlying latent variable used to differentiate category of None completed from 1-2, 3-10, and > 10 completed when the predictor variables are evaluated at zero

[b] Cut 2: Estimated cut point on the underlying latent variable used to differentiate categories of None and 1-2 completed from 3-10 and > 10 completed when the predictor variables are evaluated at zero

[c] Cut 3: Estimated cut point on the underlying latent variable used to differentiate categories of None, 1-2, and 3-10 completed from > 10 completed when the predictor variables are evaluated at zero

Figure 1. Distribution of HRA completion rates by PCP



Variable definitions

HRA rate: Calculated variable based on data warehouse information compiled 7/25/16. Rate represents the number of HMP members assigned to the PCP with a completed HRA attestation date divided by the total number of HMP members assigned to the PCP. PCPs with 0 HMP patients assigned at the date of data collection were marked as missing.

MiPCT: Indicator variable from the data warehouse marking practice participation in the Michigan Primary Care Transformation Project (MiPCT).

Predominant payer mix: Composite variable of all current payers: payer is considered predominant for the practice if it represents the highest share of payer types and >30% of physician's patients have this payer type. "Mixed" includes practices with more than one payer representing >30% of patients where there is a tie, or practices with <30% of patients for each payer type.

Urbanicity: County codes were linked to the U.S. Department of Agriculture Economic Research Service 2013 Urban Influence Codes to classify regions into urban (codes 1-2), suburban (codes 3-7) and rural (codes 8-12) designations.

Primary Care Practitioners' Views of the Impact of the Healthy Michigan Plan

Appendix B: Quotes from In-Depth Interviews with Primary Care Practitioners

1. Patient Descriptions

1.1 Unmet Needs

I think just the fact that so many things had not been addressed in the past and some of them just came in with lists. Like, "I've got bad teeth." "I have a hernia." "I haven't had a Pap smear in how long?" "I think my blood pressure is a problem." "I've got this skin thing." You know, "My hand is numb." . . . It's like the dam burst.

(Rural physician assistant, Rural health clinic)

I would say, you know, overall the patients are overall unhealthy in terms of having uncontrolled diseases which have been there for a while and which have resulted in some end-organ damage. They overall tend to be, you know, more overweight. Unhealthier habits such as smoking I would say are definitely more prevalent. Issues with both mental health as well as substance abuse.

(Urban physician; Large, hospital-based practice)

So we see a lot of people with asthma, and a number of patients who, you know, are just kind of eeking by on borrowed medications . . . Some part of medications that now we're able to get inhalers for them and do a pulmonary function test and start working on improving things instead of just damage control. Also, there's a number of people with diabetes . . . a number of people who hadn't had labs in two or three years and were just kind of type 1 diabetics who were managing their insulin, rarely checking their blood sugars and never getting the hemoglobin A1C.

(Rural physician; Large, hospital-based practice)

1.2 Long Time without Care

Most of the new people we got last year probably…. You know, I'd say, "When was your last physical?" And they'd say, "I don't know. I don't think I've ever had one," or "It's been 5 years plus." … Or the only thing they had was just going to the emergency room.

(Urban physician; Small, private practice)

So, for instance…two cases where gentlemen have walked in, not having been seen in, you know, in twenty years perhaps, if at all. One gentleman said he hadn't been to see the doctor in forty years. One had multifocal carcinoma upon presentation, and the other had hypertension, diabetes and was later found to have had a stroke, all prior to arrival at the office, but those were all new diagnoses made.

(Urban physician assistant, FQHC)

Literally I've had some patients who haven't seen a doctor for twenty years, and those who were kind of getting primary care in the emergency room, through like free clinics and things of that nature.

(Urban physician; Large, hospital-based practice)

Some are existing patients that now have insurance, and so now they can get the things done you had been wanting them to do, but I would say I've seen several that didn't have a doctor for years. They knew they had diabetes and other problems, but they didn't . . . They had no health insurance, and so they just ignored it for years. Now they're coming in and getting established.

(Urban physician; Small, private practice)

1.3 Patient Insurance Status

Back in the day prior to the Affordable Care Act and the Medicaid expansion, we had maybe 20% of our patients were insured, and the rest were low-income, uninsured. Most of our patients are employed...but, as I said, most of them had no insurance. So when Affordable Care passed and when Medicaid expansion in particular passed, then we started doing a lot more of insurance billing, and it kind of expanded the Medicaids which we participated with.

(Urban physician, Free/low-cost clinic)

We had a 45% increase in the people who basically signed up and named us at their providers. Some of those actually came out of our . . . offices, and so they were not necessarily new patients every one of them, but a large majority of them were. . . They were being seen other places or not being seen at all, and when they signed up and we increased, you know, basically our commitment to 45% new patients in the Medicaid plan, we didn't increase our providers by 45%, and I know we're having a real struggle here at times getting some of these people in when we've got already established patients who pretty much filled our time up even before we started this.

(Rural physician, FQHC)

1.4 Churn

You know, they'll say something like, "Can we do this before the end of the month because my insurance is going to lapse?" And then they come back and, you know, a few months later, "Well, I'm back on insurance." I mean it's just crazy.

(Rural physician assistant, Rural health clinic)

I have a sense that that seems to happen somewhat regularly, meaning like annually it seems like, but this is all new and so it's hard to say. ... I have no way of knowing if they've recently changed or if they're planning to change.

(Urban physician, FQHC)

It matters what they have now or if ... they know and bring it up, like "Hey, I'm gonna lose this," or "Let's not do that now. I'm enrolled for this new insurance plan.... Let's let these things off until next month or the first of the year or whatever.

(Rural physician, FQHC)

Especially with the county health plans, those were a month-to-month thing. They covered nothing.

(Urban physician; Small, private practice)

1.5 New Patient Population

We have so many working poor people up here. You know, they work two and three jobs, barely can scrape it together, and they're coming in after years of little or no care, especially the men because the women at least have the breast and pelvic exam program ... And it's like they are getting everything done. They are . . . It's like problems that have backed up over the years. Dental stuff is being taken care of. Vision is being taken care of, but they usually start with me, and it's been really wonderful.

(Rural physician assistant, Rural health clinic)

These are deserving people. They have genuine issues. They're not, you know, lying around. These are a lot of working poor people.

(Rural physician assistant, Rural health clinic)

We're in an area where there's a lot of working poor out there with no insurance at all. We're in a big, kind of logging and mom and pop machine shop area kind of thing. So those people basically didn't have any kind of insurance up until a year ago. ....A lot of them are these independent sorts that don't want anything to do with the federal government or anything having to do with government in general, and yet they kind of come in and on one hand they slam-bam the administration that got their insurance for them, and yet they'll turn around and say, "It's kind of nice having insurance."

(Rural physician, FQHC)

I think the majority have jobs ..., but they didn't have insurance ... Their employer didn't offer it ... They fell through the cracks because they weren't poor enough and they're working....

(Urban physician assistant, FQHC)

I think the newer patients I've had who've recently had insurance tend to be a little bit healthier because I think they have been engaged in the workforce somehow. . .

(Urban physician; Large, hospital-based practice)

2. Practice Characteristics

2.1 Patient-Centered Care

. . . we are really trying to follow an integrated health model, you know, with [organization] and because we have on-site behavioral health services in the primary care clinic, yes. There have been a number of patients who have walked in, been evaluated and had a subsequent behavioral evaluation and counselling services scheduled subsequently as a result of coming in.

(Urban physician assistant, FQHC)

Because we have onsite dental and, you know, often times with just the general evaluation, you know we will refer not only for just routine cleaning but obviously if we see some problematic issues. So, yes, they can receive care pretty seamlessly. We often times can even get patients seen for dental the same day that they are seen for medical.

(Urban physician assistant, FQHC)

So I would say that a primary care physician making an initial referral to a psychiatric or behavioral health has about a 10% chance of actually working due to all of the complexities in the systems and how they work ... This is if you're not co-located ... But if I have the psych social worker here and we can work out a plan right on site, then he/she can be active in making sure that the appointments are actually set up. . . making sure that the person knows where they're going and that they have transportation. It's much more effective. It's like going from a 10% to 80% chance that they will, you know, have . . . That they will actually connect with their therapist.

(Urban physician; Small, private practice)

So I mean we emphasize that we have. . . someone answering our phones 24/7. So if they have a concern and they're not sure if they should wait until tomorrow or go to the ER, call us first. We can help you talk through that. So we mention that as an option. For our patients that tend to go to the ER frequently, we have a nurse case manager as well. So for people who go frequently, we always touch base with them after the ER visit to say, "What happened? How could we prevent this? Do you need follow-up with our office?" So then we have a chance to talk in the office and say, "Look, what happened? Next time that that happens, please call us first. We're happy to talk." Sometimes that helps; sometimes it doesn't.

(Urban physician; Large, hospital-based practice)

2.2 Provider on Call/Phone Triage

The other thing we have is 24/7 phone call availability for a provider. So we pretty much insisted with our patients that they call us first unless, you know, they're sucking air on their back with chest pain . . . Then it's pretty clear they need to be in an ambulance, but short of that, we want them to call us and talk to us before they go running to the emergency room.

(Rural physician, FQHC)

There's been kind of a new promotion going on here which is called "Call Us First," which is just to try to repeat this message over and over to people that they should call their primary physician's office first before deciding what to do if they're sick after hours ... It's just a series of different messages throughout the system.

(Urban physician; Small, private practice)

They call the doctor on call. I think there's a difference between that and a hotline. A hotline implies to me somebody you don't know who just calls and they give you some good advice, but if they call me, I can tell them "I will see you tomorrow morning at 8:00."

(Rural physician; Small, private practice)

Our clinic specifically does not have after-hours service. So, you know, our clinic has traditional hours. . . . Our health system has set up some urgent care clinics. They are not very near our community, and that might be part of the reason why our patients go to the ED, but definitely kind of in the extended area there are urgent care centers which do have kind of extended hours, same-day clinics and that kind of thing. But I still don't really see our patients buying into that as much as we would hope.

(Urban physician; Large, hospital-based practice)

We do have a pretty good network with our home nurses to increase their visitations on our chronic disease patients to help adjust things as best they can. I get frequent phone calls from them when I'm on call at night after 8:00... trying to decide what to do with a patient who may be having some problems.

(Rural physician; Large, hospital-based practice)

2.3 Urgent Appointments

We keep slots open every day. If you call at 8:00 in the morning, you will be able to get in with your practitioner because even the busiest, fullest practice guy has got openings . . . Patients have learned I'm here, and if they come in and they're [another provider's] patient, but I'm seeing them and I realize this is bad, I'm going to immediately find [that provider] and bring him in. You know, and so that's another thing that I think has cut down on, "Well, let's just go to the ER" is that we can look right there.

(Rural physician assistant, Rural health clinic)

Just in parallel with Healthy Michigan, we re-formatted our schedule, . . . I guess that we just found that all of a sudden we had patients who are more willing to come in to see us. All the providers have re-formatted their schedule so that all of us now have whole half days where we're just dealing with acute emergent urgent care type stuff. Just trying to open up access to people who . . . just trying to decrease them going to the ER.

(Urban physician, FQHC)

3. Changes in Practice

3.1 Hired New Clinicians or Staff

So organization-wide. . . Thirty-nine persons have been slotted for new employment. So it's about an 8 or 10% staff addition as a result of Healthy Michigan.

(Urban physician, FQHC)

There are more PA's at our clinic than there used to be.

(Rural physician; Large, hospital-based practice)

Other things is we've been able to increase the number of persons who are answering phones so that our wait times for patients are improving. Another big problem we've had for years is how long patients have to wait for referrals. We've increased the staff for people processing referral requests, decreasing wait time for that…Patients don't have to wait as long to get their referrals processed.

(Urban physician, FQHC)

I know that we've hired new . . . new staff and support care . . . in support roles . . . a medical assistant.

(Urban physician assistant, FQHC)

This is kind of my personal beef with the Medicaid expansion plan is the huge requirement for prior authorization. So we have had to bring in a new secretary to the office just to handle prior authorization requests for our practice. Basically, even she alone cannot keep up with it. So, we have a couple of other secretaries who do prior authorizations, but that has been the biggest, I would say, my downside….

(Urban physician; Large, hospital-based practice)

3.2 Changes in Number of Patients

We've overwhelmed. (LAUGHTER) That's the short version. I mean, we are already, as you know with a federally qualified health center, we accept, always have accepted, Medicaid because we have a cost-base reimbursement agreement with the state for seeing those patients with the Medicaid expansion going up to whatever it was 133 or 137% or whatever that was . . . Then that gave us a whole lot more patients . . . current patients who now qualify for Medicaid under the Medicaid expansion. So, I guess that's the biggest change. All of a sudden, we've got a whole lot more patients serving the same population, but now they've got insurance.

(Urban physician, Free/low-cost clinic)

3.3 Wait Times

Whoa, we're sort of overrun and the house is full. So, we're still open. Any Healthy Michigan patient can call us and come see us, but it's not like you're going to probably get as timely care as would be ideal.

(Urban physician, FQHC)

Well, the goal has been to improve wait times. I just think that, to be honest, because we're encountering patients who may have been kind of off the grid, so to speak, without healthcare for so long, that when they come in, they have . . . It takes a lot . . . It's requiring more of us . . . more time to thoroughly evaluate the patient and kind of get them moving forward, you know, as far as healthcare.

(Urban physician assistant, FQHC)

It hasn't been a problem for us because . . . There's enough of us present and there's enough availability for appointments that I don't think it's been much of a problem.

(Rural physician; Large, hospital-based practice)

3.4 Administrative Burden

Say if they have [health plan A], a written referral on a prescription pad is pretty much useless. It's got to be all done online. For [health plan B], they don't have to have a formal referral, and for C and D [health plans] it's just gotta be written on a prescription pad. So, it [which HMP affiliated health plan] kind of basically steers me in the direction of how I give them referrals, and it also determines how I give them a prescription for an MRI or a CT scan. Some I know are going to require prior authorization right out of the gate, and some of them don't require prior authorization, and some of them I have to go online. Same thing. So, their insurance kind of determines, you know, what's going to be involved in getting them the necessary tests and medications.

(Urban physician; Small, private practice)

3.5 Practice Capacity/Flow

I know there's demands on how fast we've got to get them in, and that's probably the thing that got us the worst. I mean if they said, "Well, as long as you see them in the first year and start to pick up their care after that," we could have handled that, but the idea of a huge wave of people knocking on the door saying, "We need our first exam in three months," …It was overwhelming.

(Rural physician, FQHC)

3.6 Revenue

Since my center opened in like '95, they really hadn't done any facility updates in that twenty years. Now in the last six months, moneys have been freed up to . . . So for the first time ever, we had some rooms repainted. This is despite like bullet holes in the walls and other crazy stuff. They were patched and painted. Again, this all ties back to not so much like Healthy Michigan is directly paying for these things, but we went from having not an extra penny at the end of the fiscal year to, "Okay, we can breathe. So maybe we can start to do the things we want to do."

(Urban physician, FQHC)

So, we're actually getting revenue now. That's a new experience. It's certainly fairly low, but it's more than zero, and so that's awesome.

(Urban physician, Free/low-cost clinic)

[O]ne of our challenges…from an FQHC standpoint, when we have patients that do have Medicaid, we do get an increased reimbursement. So that number…being aware of that is, I think, very important for all of the providers in the clinic and probably all of the staff as well.

(Urban physician, FQHC)

4. Acceptance of Medicaid/Healthy Michigan Plan Patients

We just don't take anybody off the street. No. No matter what plan. We screen. They're screened.

(Urban physician; Small, private practice)

So unless we get new providers or, you know, somehow we can increase the providers we have up here available, we're gonna have to kind of turn the screws down a little bit and just slow down the intake

until we can get some. We're always working on that. I'll be honest, the pipeline for primary care in rural America is not getting more open. It seems to be getting tighter.

(Rural physician, FQHC)

Since we are part of this large health system, there are a lot of administrators that are involved in this decision-making process. So we do have monthly meetings with them, the physicians and the administrators, and these topics are discussed. Thus far, most providers have figured out... how to accommodate the higher number of patients without it having too much of an impact on how much time they're in the clinic. Clearly the more patients you see, the more paperwork and other after-hours work that a physician has to provide, and that does have its limits.

(Rural physician; Large, hospital-based practice)

Well, I mean that's kind of, sort of the fundamental basis of our clinic. So that's not really any decision at this point as to whether we're going to accept them. That's really kind of who we are. So that's kind of what our main mission is is to see people who are underinsured or uninsured.

(Urban physician; Small, private practice)

I chose to work at a clinic where I knew there was an 80% Medicaid population. So I think it's a population I knew I wanted to work with. I'm not sure what else to say, but I mean it's a population that I think needs care for many different perspectives in terms of, you know, social work, financial, mental health, and I think it's a valuable population for me to provide care to. It's meaningful for me.

(Urban physician; Large, hospital-based practice)

I guess the thing right now is that we're short staff providers, and so we don't have a lot of capacity for adding new patients. That's at my clinic. We recently had a provider that left, and we weren't able to fully replace that position. So the same amount of people, but less providers.

(Rural physician; Large, hospital-based practice)

For us it's a little bit different critter because we accept patients without insurance. And we don't charge. If you don't have insurance, we ask people for a $10 copay. If they can't afford it, we don't send them to collections or nothing like that. We still take care of people. So when they get Medicaid, now we're just getting paid for what we did when we didn't have that before.

(Urban physician, Free/low-cost clinic)

If they're coming from outside the county and there are chronic pain meds involved, you know we want the MAPs . . . that Michigan automated program where we can see where they've been getting the stuff from. Because you'll find somebody who is perfectly compliant, who has maybe gotten a few here and a few there, and then you see the person who's averaging over 300 pain pills/month, and they're getting them from multiple people. And you realize, "Oh, I don't want this person anywhere near my practice."

(Rural physician assistant, Rural health clinic)

5. Reimbursement Rates

You know, the previous Medicaid rate was not very good. . . We tended to limit new patients. We would occasionally take a new patient, but sometimes we'd feel like we just couldn't, but it's certainly better than the Medicaid rate. We're looking forward to when they can pay us like [the] Medicare rate at the time of service.

(Rural physician; Small, private practice)

Well, if they cut the reimbursement by half, then I can't afford to see them. Then I'd just see the new patients. Other people that I've been treating for free for years, I'll keep seeing. I have to pay my bills.
(Urban physician; Small, private practice)

I have heard that the reimbursement rates for primary care will be better or are better than they used to be, but that's about the extent of what I know.
(Urban physician; Large, hospital-based practice)

What I understand is they are currently at Medicare rates. And that that is supposed to change in 2015, and there's a debate about whether or not to extend them. If we are talking about access for patients long-term, they have to be extended or we're going to have a different crisis in this state in terms of again people with[Medicaid/HMP] cards with no access. I know the stories that we hear from our patients coming back from other Medicaid providers. . . haven't been positive. If we're serious about giving these folks true access to healthcare, then the providers need to be paid to provide that.
(Urban physician, Free/low-cost clinic)

Well, that would be great whenever we get it, but [HMP health plan] bundles it all up and sends it to us twice a year, and we have no idea when they're going to send it.... We don't get paid as we go along. Michigan Medicaid does, but [HMP health plan] does not ... When we get a check, it's just a check with no numbers attached to it, and we beg for the data. On which patient did we get this? Which bill did we get the uplift, because there's no accountability. It's just sort of a lump sum.
(Rural physician; Small, private practice)

6. Impact of Healthy Michigan Plan on Patients

6.1 Overall Impact on Patients and Their Health

We're getting a lot more . . . smoking cessation right now because the individuals coming in . . . now they can afford to get the patches or the gum or whatever . . . We're getting a lot more people trying to quit smoking, which is encouraging, but that's about the only change that I've seen.... I think there's a little bit of . . . maybe a little bit of freedom of choice there that they maybe didn't have before.
(Rural nurse practitioner, Rural health clinic)

It is a huge benefit. I think it's so interesting to hear some of the political rhetoric that you hear on TV... they don't really understand the waste that goes on in terms of . . . when people don't have insurance and what ends up happening that could have been fixed much sooner if they did have insurance.
(Urban physician, FQHC)

The people I've seen so far, lives are improving. You know, blood pressure is getting treated. Smoking is getting dealt with. Diet is . . . people are looking at eating, you know, somewhat differently.
(Rural physician assistant, Rural health clinic)

6.2 Reduced Financial Concern by Patients

They are no longer petrified about, "Oh, I can't afford that," or "I can't do that."
(Urban physician, FQHC)

So they have come to see me, and I've tended to bandage them when they got sick. We've done little in-office screens . . . limited, but this patient has almost no money but they're financially responsible. They have a little job, and they make their money and they do their job, but they're really scared of debt. So

they have never let me do much. They have never let me offer much. . . . They'll come to see me when they need me and that kind of thing. They got their Healthy Michigan. They show up and they're like, "Alright doctor, I want everything."

(Urban physician, FQHC)

The primary care and prescription parts . . . They just didn't do it because they knew they couldn't afford it. So now it's within reach. That makes it a little smoother for them.

(Rural nurse practitioner, Rural health clinic)

Her particular issue is mental health, and she's got a few mental health things. One of them is attention deficit disorder. Another is anxiety and panic disorder, and so the impact is a couple fold. First off, it's going to make it easier getting medications because she's no longer trying to pay cash to get medicines.

(Urban physician, Free/low-cost clinic)

6.3 Control of Chronic Conditions

Well, they're benefiting from being able to have any preventive services available to them…. Maybe they had high blood pressure and had other conditions when they were incarcerated, that they're now able to follow up on and get their medications for and so forth.

(Urban physician; Small, private practice)

I think the impact of that overall . . . this patient is now going to have some pretty longstanding health conditions managed, hopefully managed well. . . The risks for further sequelae due to those chronic medical conditions will be hopefully minimized. His risk for recurrent stroke . . . Now we can, you know, try and modify . . .minimize that risk. The same for end-organ damage with his kidneys, retinopathy . . . those types of things. I think we can positively impact that.

(Urban physician assistant, FQHC)

It's hard to measure that [impact of HMP on patients], but I really think that especially these people who knew they had chronic health problems, they were just ignoring them, and now they can actually get them taken care of. It's gonna add years onto their life because now it's not going to be uncontrolled diabetes. It's gonna be controlled diabetes and controlled hypertension and hyperlipidemia.

(Urban physician; Small, private practice)

6.4 Ripple Effect

Many patients in coming to our clinic with Healthy Michigan thought that they needed to have Healthy Michigan or have some sort of insurance to even be able to access care which is, in our case, being a federally qualified health center not the case. I mean they could come even if uninsured. So there have been a number of individuals who. . . I believe that they have been seen as a result of having the insurance . . . [they've] been able to get things like mammography, Pap smears, optometry services quite easily, and then also I believe have referred family members and friends who may not be insured to receive primary care because they understand that they can be seen without insurance here.

(Urban physician assistant, FQHC)

6.5 Disease Detection and Treatment

But I've had new people come in and say that they didn't have insurance until this came up. They're working two jobs, and luckily they fall just under the level where they can get it . . . We run cholesterol tests and sugar tests on them and anemia, and we find things with them.

(Urban physician; Small, private practice)

A guy said to us, "I'm so thankful to come in." We just checked him over, and criminy…. He's got all kinds of issues, you know, with cholesterol. We found out he's a diabetic now. We found out this prostate thing is elevated. Where he would have been out in the cold. A young guy, too.

(Urban physician; Small, private practice)

Getting new uninsured patients in, these folks have multiple problems going on. So like I did a new patient visit this last week where my problem list at the end of the visit had like twelve items on it. Most of them haven't had any preventive care.

(Urban physician, Free/low-cost clinic)

6.6 Patient Activation

I think they felt, and for whatever reason, that when they were coming in on sliding fee, that basically we were just covering their nickel for them. . . . They tended not to take advantage of primary care as much as they might have otherwise. And now that they've got coverage, I think they sort of feel empowered.

(Rural physician, FQHC)

They seem to feel freer to come to the office with the same things they might have taken to the ER a year ago, but that's also part of being established in an office practice for the first time in some cases, too.

(Rural physician, FQHC)

The only thing I have seen more directly for me . . . and this hasn't happened very often, but a few times it's like, "Oh, well I have insurance now. So, doc, can you get me that full body MRI? I need to make sure I get all the cancer blood tests because, you know, now I have insurance and I can get all that stuff." That discussion sometimes comes up a little bit more for me. "That's great that you have insurance, but that's not necessarily what we need to get for you."

(Urban physician, FQHC)

I think there's less barrier, and they're more willing to come in and talk about things because they know there's not going to be a problem every time we make a recommendation with trying to afford it and that kind of a thing .... I think they're more like a partner in the whole situation again rather than a one-sided recipient.

(Rural physician; Small, private practice)

7. Providers' Thoughts on ER Use

7.1 Appropriate/Inappropriate Use

I think a lot of times we have good relationships with people. They'd rather be seen by us, but we've also got people who just abuse the system in general. Every little twinge is, you know, Armageddon and they need to be seen immediately.

(Rural physician assistant, Rural health clinic)

The ones that abuse the ER don't call first. They just don't. The ER . . . The closest one . . The staff is very helpful there. They're very nice. It's probably a pleasant experience for them to go get pampered for simple things. So the ones that abuse it, I don't think that the Healthy Michigan Plan is going to change that. The only thing that will change is maybe some of the diabetics or the people who are being identified with high blood pressure and, you know, we work with those . . . We may save them a visit to the ER once a year, but the ones who are big abusers, it makes no difference if they have insurance or not. They just go there.

(Rural nurse practitioner, Rural health clinic)

You know, I've seen ER visit reports where it's been something relatively serious, and then I've seen it where it's been something ridiculous, to the point where I don't actually ask the patients this question, but what's running through my head is, "You went in over this?" So, I don't know if there's an absolute way to decrease ER visits. One of the things I encourage my patients to do is if it's not that serious or if it's just a sore throat, try urgent care first You won't wait as long, and it's not nearly as expensive .... We do have an after-hours phone number for people to call if it's something that needs attention right now this minute, but it's not an absolute emergency which requires an ER visit. Sometimes we get a call, and sometimes we don't.

(Urban physician; Small, private practice)

I mean they can ignore that recommendation and go there [the ER] directly, but then we'll catch them after they've made a few inappropriate visits and then we'll start . . . It's usually one of our nurse educators will get ahold of them during a visit and counsel them about how to take advantage of the system outside the ER ...

(Rural physician, FQHC)

They're always encouraged to call our office, and with the expanded hours we're going to be more apt to get them in. ... In fact, almost all of our patients that have an acute care issue when they call our office, we get them in, and that's a high priority. ... but we do know what the . . . The serious issues . . . They go to the ED.

(Rural physician; Large, hospital-based practice)

You know, I think that principally, lack of access as well as extended hours I'm sure does play a role, but I think some of it is . . . "If I'm really sick, I'm going to go to the ER" kind of an attitude which is also a problem there. Maybe it's our failure to pre-communicate to our patients that we are available to answer questions and kind of help manage the problem . . . help triage the problem. So it's certainly one of the things that's on our mind is to try to figure out how we can get a better handle on this to help our patients.

(Urban physician; Large, hospital-based practice)

Well, if they had a copay.. . . . I don't know if you can do that, but like if it's not an urgent thing and you end up in the ER, you end up with a copay with some sort of penalty. To bring it to their attention that they need to call their doctor first before they go to the ER, unless it's life threatening.

(Urban physician; Small, private practice)

Probably the majority of the ER visits tend to be something that could have been dealt with at our office. Probably in terms of hours and I think having patients understand that, you know, sometimes you can call us and it's okay to wait a little bit longer . . .But again, I think if we had more openings markedly available, then they might not feel they'd have to wait another week to get seen or if there is something urgent, that they can get seen that day, not have to wait until the next morning.

(Urban physician; Large, hospital-based practice)

There was a big partnership with [organization], and so somebody was able to prove to [organization] maybe 15 years ago now that, "Hey, if you take care of these patients up front and maybe you allow them to get specialized care, then …they won't come to the ER and get admitted for unnecessary care that could have been taken care of, you know, previously." ….I think a lot of docs do amazing work in primary care, but when there's an issue that needs to see a specialist, it's like, "Alright. Here's a list of docs. Go call them." And then the patient goes there, and it's like, "Well, you need to pay $250 to get seen," and they may not have that money.

(Urban physician, FQHC)

When we get ER reports, they follow through with the patient to see what is their plan for follow-up because a lot of times people get into this routine of you went to the ER once and now a week later you're not better, and so you go back to the ER. We're trying to prevent that because that's something we can have an effect on.

(Urban physician, Free/low-cost clinic)

I mean what can a health system do? I don't know. Change people's attitude. Change people's philosophy. I don't know. I don't know that health systems can do a whole lot about that, I mean without being punitive. I mean the way to fix it, of course, is be punitive and tell the patients after the fact this wasn't an emergency and we're not going to pay for it. What is that going to do? They've got no money to pay for it themselves.

(Urban physician, Free/low-cost clinic)

First of all, we've gone out in trying to change this for long before we ever started the new Medicaid folks because we're also in an ACO, and so there's financial incentive to try to keep them out of the ER. Plus, we know that the care there is going to be expensive. We also know that it's fractured.

(Rural physician, FQHC)

7.2 Patient Education about ER Use

Patient education [about ER use], but it doesn't work. We stress that to our people. "What the hell are you doing in urgent care again?" "What are you doing going to the emergency room again?" "Well, there was a 2 hour wait out there, doctor. … In my office sometimes… I'll see 60 -80 . . . rarely 80, but sometimes 80 . . . 60-70 people/day….We go through and evaluate each patient, but that goes when you sign up with me. If you don't like it, then sign up with another doctor. I can't do anything about it.

(Urban physician; Small, private practice)

I think a lot of it is education…. a lot of the young don't read newspapers any more. Thinking things that come across phones… The fact that if you have a cold, if you have these symptoms, going onto an antibiotic is not going to make you better faster. You know, that kind of mass education. Keep it simple, straightforward might help.

(Rural physician assistant, Rural health clinic)

I do a lot of teaching. Like if someone comes here for a sore throat or something, I teach them how they got what they got, what the natural progression is before it's going to be over. If they take a medication for it, teach them what the common side effects are and what allergic symptoms would be to try and make them educated enough so they don't feel the need to go to the ER over every little thing. . . . I guess that's what we do here. I spend a ton of time teaching, but that only works for the people who listen, I guess.

(Rural nurse practitioner, Rural health clinic)

Well, yeah, in my mind, a caseworker solves like a remedial problem, a very high intensity of inputs, and I think that can be good for people who are really quite somewhat impaired in their abilities, but there's kind of like a basic level in which maybe we should anticipate that most of these people don't know how to use a primary care physician. Things that you and I assume because of how we've grown up . . .They don't have in their baseline. And so, some sort of just like basic education to people about how to use a doctor's office… Like how does it work? How do you make an appointment? How do you come in? When should you call us? When should you call us if something's going wrong? If you don't get your medicine . . . What should you do if you're sick?

(Urban physician; Small, private practice)

I actually saw a patient yesterday . . . . I think he has Medicaid, not necessarily Healthy Michigan . . . But like he went [to the ER] last month for, you know, an upper respiratory infection and two months ago for like allergies. So I asked him what was the point? And his response, and I think this is kind of classic for a lot of people, was like, "Well, I didn't know if it was an emergency or not, and so that's why I went." Luckily it wasn't, and so we kind of talked about, you know, what other options could you go to get some other reassurance that it's not an emergency. And so we talked to him specifically about, "Just give a call, and we'll . . . We'll keep in touch."

(Urban physician, FQHC)

Is it an emergency? My throat is really sore. "Well, do you think you're going to die?" "No, of course, I'm not going to die." But they've got a really sore throat, so I'd better go to emergency. So I don't know if the education fixes that per se…. I don't know what fixes that.

(Urban physician, Free/low-cost clinic)

7.3 Recommending Other Sources of Care

I think convenience is an issue, and as more practices either have more extended hours and/or we make more use of urgent care versus emergency care, I think that can help a bit with that issue.

(Urban physician, Free/low-cost clinic)

8. Reasons for ER Use

8.1 Culture of ER Use

They don't listen. They don't pay attention. We've dismissed many patients because of that. It's more convenient to go to the emergency room. I can see on a weekend if they call me first and there's an issue, I'll tell the answering service or I'll talk to them and say, "Yeah, well, you'd better be checked. Do not wait until Monday." But a lot of them are just constantly going into the ER, and that's always been a problem….The pain, they feel, is worse, and they need to be seen right then.

(Urban physician; Small, private practice)

People go to the ER way more for many things. . . that aren't anyway near an emergency unfortunately, and it's just sort of a culture. "Oh, I don't feel good; I'll go to the ER," in the community where we're at. So it's hard. And I can envision how maybe Healthy Michigan or, excuse me, having Medicaid and getting some care may over time reduce that.

(Urban physician, FQHC)

In the whole state of Michigan, I think we're one of the highest ED utilization clinics in the state of Michigan. Our kind of copartner in this is, I believe, like another [city] clinic, and some of it is we think possibly some kind of a cultural issue. When you're really sick, you go to the ER type of attitude, but we

do have a lot of ED utilization, even amongst patients who just have had insurance and they're back in the ED with a problem, in spite of the fact that we do give literature and information about some urgent care centers and how to access us if it's after hours and things like that, but that is a challenge.

(Urban physician; Large, hospital-based practice)

I think some of these people honestly since they haven't had insurance, maybe ever, or haven't been to the doctor in a long time . . . They don't understand why they can't come in that day to be seen and why they can't go to the ER and tell everybody I'm their doctor, and then I start getting all these reports to review and I've never heard of this person. Some of these people are so ignorant of the healthcare system that they just don't really understand that I'm not your doctor until you see me, but I would say that's the case of people even who have private insurance.

(Urban physician; Small, private practice)

I think people use the ER whether they have insurance or not. They don't even think of, "I'm going to the ER and I'm going to get a bill." Their mindset is, "Well, I can't afford it anyway, and so I'm not paying for it." It's not even a big deal. So, whether they have insurance or not, I don't necessarily think I've seen an increase in people saying, "Well, I have insurance, and now it'll cover."

(Urban physician, FQHC)

8.2 Perceived Need

The vast majority of my patients that go to the ER took it upon themselves to go to the ER. They didn't call us first. If they called us first, it would be things like chest pain or can't breathe or might be having a stroke, or they're calling when we're closed. But then we usually say Urgent Care unless it's chest pain, I can't breathe or I'm having a stroke.

(Urban physician; Small, private practice)

Sometimes. . . it's a benign thing, but it's something they're very frightened about. So we had a young man who was having vertigo, and he had been seen here a couple of times for it. He didn't fully understand and was still frightened by it . . . And so he went to the ER.

(Urban physician, Free/low-cost clinic)

I think for some folks with mental health problems, until we get the mental health problem solved, there is nothing to be done because they're going to be scared in the middle of the night, have difficulty interpreting what they're feeling, and they're going to end up there.

(Urban physician, Free/low-cost clinic)

They're just worried. . . . I mean it's me judging them by the telephone…. I can't allay all of their fears that they have something bad going on. So that's the main thing . . . They're worried that they have a serious illness. They don't understand what's serious and what's not sometimes.

(Rural physician; Small, private practice)

8.3 Need for Off Hours Care/Convenience

Some other ones go there because the best ride they can get or the family members that give them transportation work during the day and are only available in the evening. So they just go to the ER because that's when they have a ride.

(Rural nurse practitioner, Rural health clinic)

I always ask them, "Why did you go? What happened? Are you feeling any better?" And usually it's, "Well, Saturday morning I woke up and . . ." or "Saturday I had a fall," or "Saturday I had trouble breathing and I went to the ER."

(Urban physician; Small, private practice)

We have a lot of population that lives downtown, and there is not an urgent care. The ER is much more accessible than an urgent care is downtown.

(Urban physician; Large, hospital-based practice)

8.4 Encouraged to Go by Their Provider

So sometimes we'll just order . . . I'll just order a troponin and order it stat. Then they call me. If it's elevated, I'll send them right over to the emergency room then . . . I tell them, "Hold them there. If it's elevated . . . It only takes a few minutes to run it . . . send them to the ER." People come in with leg pain. I send them over to the lab. I send them over to get a Doppler right away . . . venous . . . and if it comes back positive . . . Send them right to the emergency room. They evaluate them, and get them on medication right away . . . Or admit them if they need to be.

(Urban physician; Small, private practice)

We'll have people come in and realize they need to be in the ER. We got the wheelchair and I take them down there and confer with the ER doctor and tell them why. So it kind of goes both ways.

(Rural physician assistant, Rural health clinic)

Let's say someone had a patient this week with an abrupt turnaround from a recent hospitalization, had abnormal labs. He followed up the way he was supposed to have, but when we got his lab results, you know, the tests revealed that his acute condition was, you know, recurring. So in those instances, you know, we'll give them a call and say, "Hey, you've got to go to the ER for further evaluation, only because we can't directly admit you ourselves."

(Urban physician assistant, FQHC)

So most of the ones that have gone, so far that I'm aware of, have been people we've sent from the office… Two diabetics actually that we've sent, one twice and one once, who were completely out of control and things like that.

(Urban physician, Free/low-cost clinic)

Many of our patients have difficulty expressing what they're feeling adequately or giving a really good history, it's even hard to triage it on the phone. I know I have sent people into the ER where I'm 90% sure it's relatively benign, but I can't be certain enough with the history I'm getting to say "no, they don't belong there."

(Urban physician, Free/low-cost clinic)

9. Barriers to/Facilitators of Care

9.1 Wait Times

And yes, some people I want to get in where they have depression and things. They need somebody. It's very hard to get them in. It's a six-month wait, or they don't take them anymore. A six-month wait!

(Urban physician; Small, private practice)

Mental health services are always a problem. I don't recall offhand, but it depends on the plan and where they get referred to. . . . Most of the plans participate with one or two of the mental health facilities that are around. . . They have to call and make the appointment . . . the patient does, and a lot of times they are then seen by a psychologist. They are not seen by psychiatrists . . . seen by psychiatrists if they're needed . . . but that's usually a couple of months down the line.

(Urban physician; Small, private practice)

Some of those people were coming to see me already and they just didn't really have insurance .... But a lot of these people weren't accessing healthcare, and now they're trying to access healthcare. And while we've expanded. . . You know, we already had a shortage of family docs or internists or whatever primary care person you're thinking of. And so, you know, if you want a new appointment with me, you're looking at like a 10 or 12 week waiting list, okay? So that's just crazy... So all of these people have coverage. Now they all want to come to the clinic and be seen. They can't get to see me for a long time. "Well, I'll go to the ER." So while it's helped with coverage, there's a long way to go in terms of improvement for access.

(Urban physician, FQHC)

I just saw a guy today. . . He said, "They can't get me in for three months." ...He said, "They told me you'd fill my psych meds." I told him, "And they're right. I will." . . . He's a guy who's had issues over the decades. He needs to actually be sitting down with a shrink. They can't do anything for three months? He does not need to be without his meds.

(Rural physician assistant, Rural health clinic)

We have occasional newbies who move up here. "Oh, I have diabetes and where's the nearest endocrinologist?" "Sixty-five miles down the road, and he's booked three months down the road." We tell them, "We'll handle your diabetes unless you are totally out of whack or you have an insulin pump, or you're a really touchy brittle diabetic." I've got lots of diabetics in my practice.

(Rural physician assistant, Rural health clinic)

So now they're [CMH] starting to use Telehealth where they have psychiatrists from all over the country skyping with patients. Unfortunately, the psychiatrist is only available the one day a week they're skyping, and then if there's a medication question or question from me to that psychiatrist during the week, they're not available. But the staff takes a message, and they wait to ask them on the next Tuesday that they're skyping. It makes getting patients in to see a psychiatrist very difficult.

(Urban physician; Small, private practice)

I guess for the patients who have Medicaid, there are [dental] clinics that will accept Medicaid patients, but either there's a really long wait list or they have to go and just wait in line.

(Urban physician; Large, hospital-based practice)

You know dental is the same problem as it is in the whole state. You know, we have a Medicaid dental clinic here, but it's a long wait to get in. It's still a problem because regular dentists don't . . . I don't know about downstate, but up here no one accepts Medicaid.

(Rural physician; Small, private practice)

9.2 Administrative Burden

Philosophically I would say I would want my practice to accept Medicaid patients. If there were something that was in my power to make the process of taking care of the Medicaid patients less onerous. . . At the collective level as you are making that decision, I would hope that my system leadership

would advocate for kind of cutting the red tape that is sometimes required . . . which is what makes it difficult to care for Medicaid patients.

(Urban physician; Large, hospital-based practice)

Well, we accept three of them [Medicaid health plans] right now. We don't accept every one that's in [area of] Michigan. We no longer accept Healthplan A Medicaid or Healthplan B Healthy Michigan simply because they're such a pain ... to deal with.

(Urban physician, Free/low-cost clinic)

9.3 Acceptance of Medicaid/Healthy Michigan Plan Patients

My staff will do like a little quick run-through what medications do they take . . . Briefly, what are their health issues. If it's someone who has morphine addiction and they're trying to be brought down using suboxone ... that's not a good fit for her.... So we pretty much take everybody except we weed out the ones where I don't think it's a good fit.

(Rural nurse practitioner, Rural health clinic)

So I would say it's 10 times as hard to get dental care as it is medical care.

(Urban physician; Small, private practice)

So the mental health situation in this area . . .We have a couple of private psychiatrists . . . The only ones I'm really familiar with work for the hospital. They don't take Medicaid or Medicare.

(Urban physician; Small, private practice)

9.4 Workforce

I think the fundamental problem with regard to ER is related to access . . . primary care access. So I live in a real huge bottleneck. There's just not enough of me . . . There's not enough primary care . . .

(Urban physician, FQHC)

Well, we have a particular problem in this area because we're very underserved as far as mental health goes. In this county, all we have is the community mental health office, and...They don't have a full-time psychiatrist. ... if the counselor believes the person needs psychiatric intervention by the MD, then they get ahold of me and say, "Please write a referral so we can slide this person in with the psychiatrist." So it takes a long time.

(Rural nurse practitioner, Rural health clinic)

But it's [i.e. transportation] definitely a problem up here because where . . . Where we're located, the nearest hospital is 40 miles away. All of the specialists are a minimum of 40 miles away. So it's very . . . Travel is a very difficult obstacle here.

(Rural nurse practitioner, Rural health clinic)

We have no dermatologists in this county. So when I try to refer one of my patients to a dermatologist, there are no offices that will take the patients. So that's kind of a problem for us is the lack of specialists who take Medicaid patients in certain fields.

(Rural nurse practitioner, Rural health clinic)

Well, we were already getting a lot of new patient requests even before this because there's just not enough doctors in this area. I guess it picked up a little bit with that expansion, but I mean the hospital won't let us hire more staff. …So we just had to limit how many new patients we'll take.

(Urban physician; Small, private practice)

It doesn't help them very much if they have an insurance, but the nearest orthopedist is 1-1/2 hours away.

(Urban physician, Free/low-cost clinic)

9.5 Out-of-Pocket Costs

But, you know, those are two examples that I could repeat in my practice of people who didn't want any health intervention screening care because they were just nervous about the bills that would be generated. They don't want to know if they're supposed to be on a medicine because they're nervous about paying for it. Now they're okay to explore that.

(Urban physician, FQHC)

our population in general doesn't go to the ER very often and I think it's because when you're uninsured, you don't go to the ER because then you just get a big ass bill and now you've got to go to collections and then you bankrupt.

(Urban physician, Free/low-cost clinic)

You know, my practice style has and always will be do what's right for the patient and then worry about the cost afterwards, but it has made things a little easier now that they do have insurance. So my recommendations were always the same, but whether the individual went through with the plan when they didn't have insurance, did vary depending upon their own personal beliefs and, you know, personal financial situation.

(Rural physician; Large, hospital-based practice)

9.6 Patient-Primary Care Interactions

I just think that kind of . . . I believe it kind of helps to kind of develop the working relationship between the provider and the patient because we're talking, and they're allowed to talk relatively freely.

(Urban physician assistant, FQHC)

9.7 Transportation

That's a problem up here. It's a a widespread rural area. There are 320,000 people in the entire [area]. People live on the bush. People's cars freeze. People will have drunk driving on their record. They have to rely on other people to drive them in. I had three cancellations in one day where the driver fell through.

(Rural physician assistant, Rural health clinic)

I had two guys yesterday in my office who called their insurance, got transportation arranged, and came to see me. Most of the people I see are Medicaid. So, it's possible. But I can guarantee you that [lack of] transportation is a huge hindrance to good healthcare in the population that I see. So that as a benefit is a huge help.

(Urban physician, FQHC)

I think that's [transportation] actually a really good service because, again, my office is located in [city]. A lot of my patients, particularly Medicaid patients, have big transportation barriers….there is, I believe, like a three-day advance notice or something they have to give. So sometimes that can get in the way if the patient needs to come back … for . . . like an immediate short-term follow-up.

(Urban physician; Large, hospital-based practice)

A lot of the poor folks who would be on this program would live in Sawyer which is 18 miles away. They are offered like bus vouchers or something or advised they can take the bus, or they can actually get a voucher for a door-to-door bus, but it's very limited and very strict …. If you take a bus to the doctor's office and the office is behind, your bus has to leave.

(Rural physician; Small, private practice)

I didn't go to medical school to be screwing around with signing forms about getting people to and from their doctor's appointment. That doesn't help them be healthier per se. It doesn't require my involvement or my signature.

(Rural physician; Large, hospital-based practice)

10. Types of Care

10.1 Serious/Complex Mental Health

It's difficult but, you know, we do so much mental health stuff. I treat depression every day. I treat generalized anxiety every day. I don't need [organization] for that. I need them for my schizophrenic patients. I need them for out of control bipolars who've jumped off their meds. . . . You need them for the stuff that's really heavy duty. Severe depression or nonresponsive or, you know, you're thinking, "Does this person need shock therapy?" I can't order that.

(Rural physician assistant, Rural health clinic)

If they don't think you're bad enough, they won't see you. "Oh, ADHD? We don't do that." "Oh, it's just mild depression. No, you're okay. Go back to your doctor." . . . Even if they're severe enough to need a psychiatrist, I've seen people wait four to six months on a waiting list. If you miss any of your counseling appointments in between, they might kick you off the list. It's kind of brutal.

(Urban physician; Small, private practice)

You know, I think where you see this specifically is like I've had a couple of patients that I've been like long-term . . . you know, maybe has long-term psychiatric needs and not been able to get the correct care, and we've done our best to help them, but now you say, "Hey, let's get you set up," and now they're going to therapy, they're getting the correct medications that they need. That makes a humungous difference, I think, for them.

(Urban physician, FQHC)

The colocation is primarily they are health psychologists. So they're psychologists. They're not psychiatrists. So they do have limitation that they can do initial evaluations and counseling, but not really manage kind of complex . . . If the patient needs a prescription and it's for a simple condition like depression, we can certainly co-manage with them. But when we're dealing with more complex psychiatric illnesses, we do need these patients to be referred on to a psychiatrist, and at that point we have had problems with the patients not always having access to behavioral health, because many of the Medicaid plans, part of Healthy Michigan, are not accepted by the behavioral health department in our health system.

(Urban physician; Large, hospital-based practice)

10.2 Mental Health

Because there are so many mental health and social issues, it's probably overwhelming for most primary physicians to have a significant percentage of their practice be Medicaid without having a social worker or a care manager or an integrated psychiatric part to their practice.

(Urban physician; Small, private practice)

I think we would love to have colocation of mental health, but it hasn't been feasible from our discussions so far. You know, I mean we're trying to work more on group models of care to help with waiting times for patients and with patient satisfaction and just overall care, but that's been an ongoing theme we've been trying to improve.

(Urban physician; Large, hospital-based practice)

They can get into Psychiatry, but it's much more challenging. They have to go to three psychology visits. They can't miss those visits. Then they get referred to a psychiatrist who will see them for a short-term basis. Often I hear a lot of negative comments about the psychiatry experience that they have. The counseling piece generally has been okay and doable. If the patient is motivated to call and make the initial appointment, then I think it has been going well for them.

(Urban physician; Large, hospital-based practice)

10.3 Dental Care

The new one, they get some dental stuff too. They've had dental problems for years, and their teeth are falling out, affecting their hearts and everything else….

(Urban physician; Small, private practice)

I can't tell you how many times a day I get asked for antibiotics because of some form of dental infection, and either they can't get a dental appointment or it's two months into the future. I really don't know of very many patients that have an easy time getting dental.

(Urban physician; Small, private practice)

I mean even to get access to dental care. That was a huge problem in the past . . . Primary care doctors would see people with dental pain with abscesses, and they couldn't get in to see a dentist. So our job was often to put them on antibiotics and pain meds, and knowing that what they needed was to have an extraction or a root canal done.

(Rural physician; Large, hospital-based practice)

10.4 Primary Care

Access to preventative services, prescriptions, and more just access to physicians for medical problems . . . chronic disease management . . . All that is improved with Healthy Michigan. No question in my mind, and I'm sure that your data is going to support that.

(Rural physician; Large, hospital-based practice)

Because they just weren't going to come in for a complete physical that might cost them a lot of money, as much as we begged them to, or even if we gave them a deal. So now we can sit down, and they get sort of top notch review just like anybody else with good insurance. Complete exam, screening labs and talk about preventative care . . . Like finally they've recognized that they need this too…. It seems like

they're happy and relieved now to be covered, and they feel . . . that sense that there is a safety net there for them.

(Rural physician; Small, private practice)

I think one of the biggest benefits that I see from the insurance …now there's a lot of help in terms of the chronic disease management. I think we do see a high proportion of chronic disease, whether that's diabetes, blood pressure, smoking, obesity. And you know the nice thing about that is that it allows . . . more options.

(Urban physician, FQHC)

From the patient perspective though, I see tons of benefits because they get . . . preventative care . . . One of the big things is if you don't have insurance, you know the idea of getting a colonoscopy. That's not even feasible. You know, that's so expensive. And now that they have insurance . . . The same thing with some of the screening stuff, specifically mammograms and Pap smears, things like that.

(Urban physician, FQHC)

10.5 Specialty Care

With [healthplan], it's very easy. They don't have to have a formal referral, either prescription or online. They can just find one in the [healthplan] directory and go see them. . . . Sometimes the specialist will call me and say, "did you recommend this?" Sometimes I have, and sometimes I haven't. But, again… they don't need a formal referral.

(Urban physician; Small, private practice)

Specialists had a limited number of openings for the uninsured in the past… There were a certain number per month that different groups allowed . . . As far as I know, there's no change in saying "yes" to anybody who's got Healthy Michigan insurance. I would assume that all the specialists accept that in this area.

(Rural physician; Large, hospital-based practice)

So, for some specialties we had very good access. For other specialties, we had very limited or no access. So, there's a gynecologist . . . who's been incredibly generous, and so we've always had really good access for that. But things like neurology and neurosurgery have been a little more difficult. Dermatology is kind of forget it. Podiatry . . .If somebody had a significant problem, we could. Ear, Nose, Throat – again, you had to really have a very significant problem. Sleep studies for sleep apnea - which is very prevalent in our patients – we had no access for a long time. Over the last year or so, we've had some limited access, but with them having insurance, now I've got really good access for them.

(Urban physician, Free/low-cost clinic)

[C]ertain specialties we struggle with getting patients with Medicaid in. Like Rheumatology is probably the biggest one. Other than that, it's been actually pretty good. We've been able to get most of our patients with Medicaid into most specialties or other care that they need.

(Urban physician; Large, hospital-based practice)

Specialists – If they have no insurance versus they have Medicaid or Healthy Michigan Medicaid, again, there's just a world of difference because now I can get stuff done. You know, back in the day, we never used to order colonoscopies for patients if they were uninsured because nobody can afford $2,000 to have that done. But with Medicaid where that's a covered benefit, yeah, now we get to order them all the time on people.

(Urban physician, Free/low-cost clinic)

10.6 Testing and Pathology

Another great thing is screening colonoscopies for colon cancer. So under the program I was talking about, we could get them a colonoscopy . . . if I saw a polyp on sigmoid, I could send them. If they had a disease like ulcerative colitis, I could send them, but I could not get a screening colonoscopy, even for people with family history of colon cancer. Now, I can write the referral. They go! It's fantastic! I'm very excited.

(Urban physician, Free/low-cost clinic)

Let's say somebody has got a heart murmur. Somebody has got fluid in their legs, and you're listening to their heart and thinking, "Hmmm. I can get an EKG. I can send them for an echocardiogram . . . I can do this stuff. I can check a pro BNP. I can look at their kidney function." Before I'd have to call over to the lab and say, "Alright, how much is it going to cost this person to pay cash so we can check their kidney function?" ...You know, I'm not a money person. I'll take care of people, and Healthy Michigan has made that easier.

(Rural physician assistant, Rural health clinic)

So if you have diabetes, the good thing is that we can get labs. That's not an issue. [organization] has allowed us to get labs and actually doesn't even charge the patient for labs, which is pretty awesome.

(Urban physician, FQHC)

I am seeing patients come in and getting the care that they need. Yes, it sometimes is a headache because if I need something, I will have to run in through many channels and sometimes things don't get done. I have had patients, for instance, coming with a belly mass where they needed a CAT scan, and you know the prior authorization didn't go through and they waited like three months or four months before somebody figured out that they hadn't had a CAT scan. It delayed care which possibly could have had some adverse outcome.

(Urban physician; Large, hospital-based practice)

10.7 Hearing and Vision

. . . hearing aids. That's fantastic. Vision. . . . Most all the plans cover the vision. They get a checkup for that. They don't pay for their glasses….

(Urban physician; Small, private practice)

People like my age . . . fifties/sixties . . . [I] ask… "When's the last time you've had a good eye exam?" It's not like they need to go to an ophthalmologist, but, you know, I want them to go. We've got good optometry. If they see something that needs an ophthalmologist, I know they can refer them on.

(Rural physician assistant, Rural health clinic)

10.8 Medications and Supplies

[T]hey also now have access to a pharmaceutical formulary which is, you know, light years better than what they had when they were looking at, "Okay, what's the $4 Wal-Mart offer me?"

(Urban physician, FQHC)

So if you are somebody who needs insulin, it can get really tricky if you don't have insurance because insulin can be hundreds of dollars. You would get people who would resist seeing you because they're afraid of how much things are going to cost, and so they just persist in their uncontrolled diabetes, and then all the complications that come with it. Once they're sort of like, "Okay, well, insulin is covered and

I can get my routine labs because that will get covered," well then they show up, and it just makes my life easier for sure, and theirs, I think. And then COPD . . . Some of the inhalers and other things that, you know, are recommended in terms of standard of care treatment . . . Those are also quite expensive and... If things are expensive, people are just not going to do it. It doesn't matter if it's the right thing or even if it helps them.

(Urban physician, FQHC)

I'm not a huge fan of [healthplan]. I mean it's better than no insurance, but they're pretty restrictive on a lot of things. If you call and you sit on hold and you fill out forms, then they finally give them the medicine. Half of the time, no, they still won't give them the medicine. So that's a frustration. You start to remember the drugs they're just never going to cover, and you just try to avoid those . . . Just like private insurance formularies. They change all the time... You just prescribe, and if the pharmacist shrugs his shoulders and says, "No, that's not covered," you say, "Then, what is? What do they cover?" It usually involves my staff having to call all the insurance companies, sit on hold and ask them that question.

(Urban physician; Small, private practice)

If I prescribe a medication that's not covered, the person doesn't call me often times. It's just not out of their mindset to think they can call me and say, "I'm having trouble." So, they either don't know that they should call or they can't call, or they're not skilled at using the phone and leaving a message and so forth. So what happens is if I prescribe somebody something on March 1st, they didn't get it at the pharmacy. They just let it drop until the next time they're here, and then I find out six weeks later that they didn't get the medication . . . So we could have solved the problem right away because I would have used some alternative, but to start with I don't have clear information about what's covered, and then secondly the patient isn't used to expecting to get something, and so they just take it for granted that they can't get it. End of story.

(Urban physician; Small, private practice)

Glucometer strips were our number one pharmacy cost. So, the fact that that cost is going away means we can do a lot more work in other areas. Awesome.

(Urban physician, Free/low-cost clinic)

The main challenges have been with contraception because they will only cover things like the NuvaRing or the patch if the patient can prove that they failed OCPs [oral contraceptives]. It's completely ridiculous because so many people can't remember to take those.

(Urban physician; Large, hospital-based practice)

The other issue that's been a problem is that there are some things that are covered by [healthplan] that are over-the-counter, but the pharmacies don't know about it. For example, vitamin D is covered in certain dosages. So I'll tell patients, "Look, I know it's covered. I've talked to [healthplan]. They've confirmed for me that it's covered. They go to the pharmacy, and the pharmacy says, "Sorry. You'll have to pay out of your pocket."

(Urban physician; Large, hospital-based practice)

And we had. . . a lot of people with asthma who were being managed with a borrowed nebulizer and the nebules from Walmart, packs of 100 because. . . That was the cheapest way for them to get asthma medication because they couldn't afford inhalers . . . So we're able to get medications for them and do a pulmonary function test ...start working on improving things instead of just damage control.

(Rural physician; Large, hospital-based practice)

But for the most part, I think, the access to medication makes a huge difference and especially when we're talking about chronic disease management. It's such a benefit.

(Urban physician, FQHC)

For generic drugs that are covered, not a problem, but even some of the generic drugs aren't covered. We have a formulary that is updated in our electronic medical record that works most of the time, that lets us know what's covered and what's not, but even then it's not accurate. The patient will go to the pharmacy to pick up their prescription, and it's not covered and then they can't dispense it, and then it's a big hassle for everybody and it doesn't . . . It's not resolved in a very timely fashion. So sometimes these individuals will go without their prescription for a couple of days until Medicaid processes their prior authorization.

(Rural physician; Large, hospital-based practice)

10.9 Substance Use Disorder

They don't come in actively seeking treatment. The only ones that I found here are the ones who have been sent in by court order or have lost their job and family is getting after them to either straighten up or get out. Those individuals don't come looking for help until something really dire happens, and some of them have, you know, even gone to jail and had their children taken away and have been given a choice, "Either straighten up or we'll take the children"….They have to be forced into it.

(Rural nurse practitioner, Rural health clinic)

They do provide evaluation and they can certainly provide the patient with some resources to get help, but we don't really do substance abuse counseling or treatment at our center.

(Urban physician; Large, hospital-based practice)

For a lot of our folks with substance abuse, … when they are ready to make the change, we've referred them through the state programs . . . Almost all of them have been uninsured to date. I haven't had anybody that's really under [healthplan] yet that's really ready to make that change.

(Urban physician, Free/low-cost clinic)

10.10 Pain Management

I'd say the one area where we have probably some limitations is the person who is outside our county who wants to come in with complex pain and mental health issues... You've got somebody who's on beaucoup pain meds. You get the feeling, you know, "why are you not in your own county?" It's either that people are refusing to prescribe any pain meds, which is ridiculous, or these are people who've burned their bridges.

(Rural physician assistant, Rural health clinic)

One of our biggest referrals for behavioral health for new people coming in are people who are on chronic pain meds. We pretty much insist that they participate . . . at least be offered, you know, assistance in behavioral health for chronic pain management, and it seems like pretty good numbers in the last year have taken advantage of that.

(Rural physician, FQHC)

If you turn in your paperwork and you're on a bunch of controlled substances and it appears that you expect me to start filling those, that sends off red flags. Not to say we don't, but we look and see why you're taking those things and let you know that we may disagree and may want to transition you to a

different medication or wean you off of them. If you're seeing a pain specialist and you plan on continuing the meds, fine. Then we don't . . . That's not a red flag.

(Urban physician; Small, private practice)

A lot of people go there [the ED] for pain medication. They ran out of the pain medication they have or they're not getting their pain treated in a way that they want. So they'll go to the ER and at least get a. . . short supply of opiate medications. That's it. That's a big component. A lot of people with musculoskeletal complaints, back pain that's chronic, will go to the ER.

(Rural physician; Large, hospital-based practice)

11. Health Risk Assessment

11.1 Process

[T]hey always complete their portion of it [HRA] prior to seeing me. So I don't discuss their . . .I don't go through the, "how do you feel your health is?" "Are you smoking?" "What are your goals?" I can see where that's probably trying to generate conversation. I don't do any of their portion with them. That's all done prior to me sitting down. So then I fill out everything . . . the physician portion; 80% of the time I fill that out in the room with them, and then that leads to a conversation about some appropriate health screenings . . . whether or not we want to check their cholesterol or, "Okay, I'm just looking at your BMI here. This is something that's going to be reported."

(Urban physician, FQHC)

I review it with them. If they haven't completed it, we go over it. I'll just ask them, you know, "what do you want to be serious about on here?" "Is there something you'd really like to go after?" For some guys, it's simple. I've . . . Guys say, "I want to drop 20 pounds." I'll ask them, "What do they drink?" "I drink a lot of pop." You know, "Hey. Just stop drinking pop. You'll probably drop 20 pounds right there."

(Rural physician assistant, Rural health clinic)

My girls would look on the computer first and see that they had straight Medicaid, which isn't the HMP . . . the Healthy Michigan plan. So the people would come in and they would have their HRA forms half filled out, or they would have been faxed to us half-filled out. So we were seeing on the computer that they didn't have HMP, but yet they were walking in with forms for it. So in the beginning, it was very confusing… Now people are starting to come through right from the get-go… It's a little smoother now than it was last year.

(Rural nurse practitioner, Rural health clinic)

The health risk assessment [sometimes] comes to us partially filled in based on the conversation that the caseworker had with the member, and so there was a real good lead-in that way because the person on the phone explained to the member "this is where you're going to go," and they helped them understand where my office is. So when they come in, they already feel like they actually belong here…They actually come in with a sense of continuity, like they're just on the next step of the ladder.

(Rural nurse practitioner, Rural health clinic)

But filling out that form facilitates those discussions . . . Usually the first visit is kind of more of a Q and A and introduction to each other, and the next we schedule for a full physical. So it gives us the opportunity to kind of prep folks for what they're going to get in a physical and why.

(Urban physician assistant, FQHC)

I would have to say we have not really done a good job of accommodating it...it's one of those, at the end of a visit, after the fact type of thing. ...I'm thinking maybe one of the better ways to facilitate it is to actually ask the patient at the check-in, "Do they have any forms that need to be completed?"

(Urban physician; Large, hospital-based practice)

Well, we've just had to change our policy so that the receptionist knew that when they called and said they had that form, it had to be scheduled as a physical. Yeah, that's really the big thing was just making sure they were scheduled appropriately and then billed appropriately. I mean it's supposed to be billed as a physical . . . To get that checkmark that "yes, you've done it," it's not going to register with [healthplan] that they've done it unless it comes in as a physical.

(Urban physician; Small, private practice)

It's a pretty long form. It would be nice to figure out a way to make it more simple and smaller.

(Urban physician; Small, private practice)

I think the nurses help do it before I get in the room. They'll like put some of the data in when they talk with the patient.

(Rural physician; Small, private practice)

Those sorts of things . . . a good primary care doctor would already have reviewed with the patient. So I feel it's kind of duplicate work and unnecessary clerical work for our staff . . . that it's already documented in the record, and I just don't think it changes behaviors.

(Rural physician; Large, hospital-based practice)

Well, all of the plans are doing the health risk assessment, which is great and we've been able to set up a process here so that. . . If they're patients that have been ours... we're able to do the health risk assessment here with their first visit. If it's a new patient, we do it at their second visit because we have some additional information that we can put into that to help set their goals. You know, having those tools to be able to help patients make . . . do goal-setting and move forward has been really helpful.

(Urban physician, Free/low-cost clinic)

A lot of times we get that as a fax where they've already pre-filled out their part [of the HRA] on either online or over the phone. You know, asking questions like, "So you actually do eat healthy?" "You do exercise." Sometimes they answer "no," and sometimes . . . Sometimes it's like, "Well, yeah, I do that. I walk a lot." Sometimes, it's "No, I just thought that's what they wanted to hear." You know, when they say . . . They checkmark on there, "I do want to quit smoking." And I'll say, "Well, would you like to try the patch?" They'll say, "No, not yet. I'm not ready just yet."

(Urban physician; Small, private practice)

11.2. Impact of HRA Completion and Discussion

Oh, we usually will talk about strategies to improve their health. Usually with obesity, addressing some of the factors that may be contributing to obesity, cholesterol issues and diabetes risk. Probably higher . . . equally as high on the totem pole, I guess, would be tobacco use. We talk a lot about cessation, and I refer a lot of people over to Michigan Quit line as a result of us kind of sitting down and specifically talking about those kinds of areas of interest on the HRA forms.

(Urban physician assistant, FQHC)

I think that it helps to focus what the patient wanted to work on with regard to their health issues, you know, and their risk factors.

(Urban physician; Small, private practice)

I'll tell you one patient for whom this was extremely helpful for me and hopefully for the patient, was a patient who I'd been taking care of for a long time, serious depression. We had been battling with the depression. I've known her for over twenty years. In the past, I knew she'd used marijuana, but she had stopped. The question that we had not talked about, and when my coordinator this on the front, it was about her marijuana use again. It was like, "Oh, you're using again," and it led us into that discussion, which we might not have had. She at least reportedly has stopped again so far, and her depression has improved, not controlled but better, and so that was a huge help. So sometimes it can clue us into things that we thought were addressed and done, but they're not.

(Urban physician, Free/low-cost clinic)

I think I do remember something at the end about something they were going to try to improve, but I've not seen anybody come back and have like some sort of . . . made some achievement or have I been asked to document that they made that change, do you know what I mean? I haven't seen that come back yet.

(Urban physician; Small, private practice)

Now what I have seen is that although I may bring that up on one visit and maybe I bring that up before I do the [HRA] questionnaire, over time they know because the next time they come back and they've had some goals that we've talked about and they got printed out and they were given to them, and then they come back and I can say, "How did these go?" Sometimes they say, "I didn't do any of them," and sometimes they say, "I did all of them."

(Urban physician, FQHC)

I haven't sensed that it's helped motivate them to be healthier. It's more a process that they have to go through.

(Rural physician; Large, hospital-based practice)

We've got weight management programs. We've got healthy eating classes every evening. We have a nutritionist that come in and hold "How to Grill Vegetables" classes. We do a lot of that stuff already, and so maybe because that's an option we already have available for patients that we've been running for a number of years. . . Maybe it's just kind of second nature to us and to our patients that these options are there. So…Does this help me in a discussion with the patient? I don't think so really whatsoever. Does it somehow tweak the patient that maybe they ought to get a flu shot this year? No. People either want it or they don't want it. Like I said, filling out a questionnaire is not going to help them decide that kind of stuff, I don't think.

(Urban physician, Free/low-cost clinic)

It seems to encourage not being passive about it. You know, that you are a partner in this.

(Rural physician assistant, Rural health clinic)

So when I get in and introduce myself and whatever the niceties are, then we usually start with that because that opens up the conversation and gets them talking about things . . . Because I have to reinforce what they're doing well already and the things where they need some improvement perhaps and then we get into the physical part of it.

(Rural nurse practitioner, Rural health clinic)

There are a few people who come in and say, "Well, I'm here because my insurance company told me I had to." They don't fully grasp it as being a part of health maintenance yet, but that will probably come with time.

(Rural nurse practitioner, Rural health clinic)

You know, there's still a long way to go in terms of people understanding their situation, but, you know, at least it's still . . . It's creating the conversation.

(Urban physician, FQHC)

11.3 HMP Impact on Health Behaviors

He got his first physical . . . He said it was the first one he had had in his life. He had never had a physical before. Also he started on the smoking cessation.

(Rural nurse practitioner, Rural health clinic)

The smoking cessation resources . . . Those are quite helpful. Also for the obese group, they haven't actually taken advantage of dietician services yet, but some of the diabetics have. So that's a resource that's helpful. Those are probably the two biggest ones. Smoking and diabetes are big in this area.

(Rural nurse practitioner, Rural health clinic)

Like I'll take advantage of community resources. For instance, the YMCA has a program to help patients who may be prediabetic or at significant risk for diabetes. So we'll initiate their participation in that program to help them additionally with behavioral and lifestyle changes for better health outcome and to minimize risk for, you know, diabetes and other chronic medical conditions . . . hypertension, and that type of thing.

(Urban physician assistant, FQHC)

12. Cost Sharing

I don't know anything about it because most of my patients . . . The ones that I'm seeing have no copays on the plans and they're mostly indigent.

(Urban physician; Small, private practice)

Well I actually don't pay attention to the copay part. I just like to know what insurance they have in case I need to do a referral or order medications or something. That's why I look at it, but I don't stand with them at their checking out at the end of their visit. So I wasn't sure if any of them had copays or not…. People have a hard time understanding copay versus deductible, and I guess I didn't realize that applied to anybody in our county on the Healthy Michigan plan.

(Rural nurse practitioner, Rural health clinic)

They could start making people pay something [for nonurgent ER visits] whether they have to pay $5 or $10 or $20. I think the biggest problem with healthcare is people have these little plastic cards that allow them to go somewhere and it doesn't cost them.

(Rural nurse practitioner, Rural health clinic)

Well, the first thing that comes to mind is the same way we give them benefits . . . you know, give them financial incentives for being healthy. We should take some of it back away if they overuse the ER inappropriately.

(Rural physician, FQHC)

The only other thing I really see that's important on the negative side is . . . that six-month lapse between service and payment. The other question I know that we've had in this office is . . . Let's say the patient gets that bill at the end of six months and they don't pay it. What happens to these folks? Because that's gonna be important for our planning down the road. Are those folks going to go back to being uninsured because then we have to be able to plan in six months to a year to be taking on a load of uninsured patients again.

(Urban physician, Free/low-cost clinic)

There's that stupid list of a dozen or so diseases that when people have regular Medicaid, but Healthy Michigan plan that if this is the primary diagnosis, then they're exempt from the copay, and if it's not, then they've got to pay the $2 copay. I mean that kind of stuff is a pain in the neck.

(Urban physician, Free/low-cost clinic)

13. Financial Incentives

I know that people have come in and they have told me they're here because they want a reward, or their insurance told them they would be rewarded for doing . . . whatever it is. . . As far as if they do particular behaviors, they get particular rewards? I've never had a conversation with a patient about that aspect. So I feel like the only rewards I'm aware of is they showed up, they filled out their health risk [assessment], and they get some reward.

(Urban physician, FQHC)

I have heard some people comment that if they come in, they get a $25 gift card to Wal-Mart or something like that. It didn't sound as though it was tied to anything other than coming in for their first visit.

(Rural nurse practitioner, Rural health clinic)

The only rewards program I know of is on [healthplan] and, you know, people bring their paperwork in and say, "Can you just basically sign this that I completed my mammogram this year so I can get a $15 gift card?" Or, "If my diabetes is controlled, I get a $20 gift card." Those are usually the ones that I see. I've got a couple of patients who every year, they're all over their [health plan] insurance. They know exactly what they have to do to get their gift cards, and they bring them in like clockwork, but not a whole lot of them do that. There's only a couple of people that I know of who routinely bring me in health rewards.

(Urban physician; Small, private practice)

They've never mentioned like, "Hey, I came in today because I know this is waived." They might know that it's a covered benefit and so they'll do it, but I would be unaware that it was because they had costs waived. But it's important for me to know because I can encourage them to come in then.

(Urban physician; Large, hospital-based practice)

I thought that it doesn't take effect for like a year, like to discount some premiums and that kind of stuff or discounts on co-insurance. That's just starting to take effect now. And most of ours qualify for the gift card because, again, their income is low enough that they don't have a lot of copays and stuff yet.

(Urban physician, Free/low-cost clinic)

14. PCP Communication

14.1 PCP Communication with Health Plans

All I know is that we got the communications and we got something telling us about . . . certain forms that we have to fill out for the . . . called the HRA forms. But I don't remember exactly, you know, the initial communications and how it was determined that we were going to get it.

(Urban physician; Small, private practice)

Like with [healthplan A and B], they have representatives who stop in periodically and actually do face-to-face questions and answers and verbally went over their programs.

(Rural nurse practitioner, Rural health clinic)

I got a couple of memos by mail. I didn't really pay that much attention to them…" until I started getting all these new patient requests.

(Urban physician; Small, private practice)

Well, it [i.e., communication with health plans] at least gave. . . a clear expectation of what those patients should receive upon initial evaluation and kind of help to explain what the goals were from the health care organizations in evaluating the patient's health status.

(Urban physician; Small, private practice)

The first we got was from a group called Free Clinics of Michigan, and then Michigan Primary Care Association …and, since then, of course, you've spoken to the provider reps of the individual insurance plans and that kind of stuff.

(Urban physician, Free/low-cost clinic)

14.2 PCP Communication with Patients

We've got some people who qualify for that [i.e., Medicaid cell phone]. Cell phones can be a problem though because a lot of times, you know, people let them lapse, like especially if they have something like a Trac fone. All of a sudden the number is out of order. It's harder to get a hold of people because there are less land lines. If it's something where we need to get a hold of the person, we'll dictate letters and send them. But a lot of times they get returned. People move around.

(Rural physician assistant, Rural health clinic)

A lot of my patients have those [Medicaid cell phones]. The minutes are quite limited, and so they are sort of always out of minutes, it feels like. I had a guy yesterday. I said, "Okay, so we're gonna have to call you when these labs come back. What's the best way to reach you?" And he pulls out his phone. "Oh, just call my Obama phone." We call people who utilize these . . . the Obama phones on a daily basis.

(Urban physician, FQHC)

I know some people that are on their third phone number. …That's one of our problems is people come in, they give us a phone number, and then a month or two later they'll call to make an appointment… And then when they go to do the courtesy call the day before to remind them, we don't have a good number. So when they do show up, we say "Okay, we need a better phone number for you," and they say, "Oh, yeah, I got a new Obama phone." Well, a lot of my patients go through phones faster than I go through shoes . . . No, I mean I'm sure it's [Medicaid cell phone] helped. I mean a lot of people wouldn't have access to a cell phone either way.

(Urban physician; Small, private practice)

The Obama phone is great. Yeah. People very . . . My understanding from those folks who have mentioned having it . . . That's enabled them to, for the most part, stay connected to the office and to, you know, maintain means by which to be contacted for information relating to medical care and whatnot.

(Urban physician assistant, FQHC)

As part of a medical home, we have a lot of services that we are trying to provide, by telephone services like titrating insulin and things like that, and the lack of available phone service has impacted. You know, many of the patients we cannot help are people that we cannot communicate with because. . . One week they have a phone; the next week they don't. I know I have had a few patients tell me that they have this [i.e., Medicaid cell phone] . . .

(Urban physician; Large, hospital-based practice)

Some [cell phones] are not really working, and some are….

(Urban physician; Small, private practice)

Here we have phone interpretation. Yeah, we have phone interpretation at the front desk. So if they call, you know, we schedule appointments and we can see them with phone interpretation, but if they're home and they need to call to make an appointment, that's when it gets challenging.

(Urban physician; Large, hospital-based practice)

15. Provider Knowledge about HMP and Medicaid Expansion

I may have received some emails [about HMP]. You know, I'm sure I did. As far as the . . . I have a variety of routine emails that come from state agencies that keep physicians apprised of things.

(Urban physician assistant, FQHC)

Well, I think that when the governor was trying to get this to be approved in Michigan, he had to go around to all the hospital systems and get CEO's of different hospital systems to get on board and say, "We guarantee that we are going to help you to see these people," because there wouldn't be any point in having a new program if everybody declined to see the patients.

(Urban physician; Small, private practice)

Oh, I think it was back when the governor finally got the motion in Congress to get that rolling after working with the feds. They had published a list of the requirements for being on Medicaid, and that was online. So that's probably . . . I learned about the same time everybody else did.

(Rural physician, FQHC)

…frankly I didn't even really understand that Healthy Michigan was the Medicaid expansion (LAUGHTER) until you called and started talking about it that way because there used to be a plan called… I'm thinking there was something with a very similar name that phased out when Medicaid expansion went through. We used to have a community charity voucher or discount program.

(Urban physician; Small, private practice)

I was impressed that our governor bucked his own party to do it because, of course, I was very much aware of how many people were falling through the cracks who were definitely poor and were told that they didn't qualify for Medicaid, but worked at a crappy job that didn't offer insurance. So, I knew we had expanded Medicaid. I just didn't understand…how they were doing it.

(Urban physician; Small, private practice)

My recollection is I first became aware of it [i.e., the Healthy Michigan Plan] in the newspaper, but more so from a bulletin from the Michigan State Medical Society.

(Rural physician; Large, hospital-based practice)

Primary Care Practitioners' Views of the Impact of the Healthy Michigan Plan

Appendix C: Primary Care Practitioner Survey Instrument

Healthy Michigan Plan Evaluation: Perspectives of Primary Care Practitioners

Thank you for completing this survey about your views and experiences caring for patients enrolled in the Healthy Michigan Plan (the expansion of Medicaid in Michigan). We recognize the difficulty distinguishing Healthy Michigan Plan patients from others, especially other Medicaid managed care patients. Please do the best you can. ***All individual responses will be kept confidential. Only aggregate responses will be reported.***

Section 1: Practice, Patient, and Personal Characteristics

Please answer questions about your practice with your primary practice location in mind.

1. In what year did you complete clinical training? _____

2. Are you board certified? ☐ No ☐ Yes → **2a. If yes, in which specialties?** _____

3. What is the zip code for your primary practice location? ___ ___ ___ ___ ___

4. Not including yourself, how many of the following practitioners are associated with you at this location?

a. Physicians: _____ c. Physician assistants: _____

b. Nurse practitioners: _____ d. Nurse midwives: _____

5. Has your practice made any of the following changes in the past year? *(check all that apply)*

☐ Hired additional clinicians (physicians, nurse practitioners, physician assistants, nurses, medical assistants)

☐ Hired additional office staff

☐ Consulted with care coordinators, case managers, community health workers, or similar professionals

☐ Changed workflow processes for new patients

☐ Co-located mental health within primary care

6. Regarding ownership of your practice, are you a:

☐ Full-owner

☐ Partner/part-owner

☐ Employee → **6a. If employee, what type of entity is your employer?**

- ☐ University or teaching hospital
- ☐ Hospital
- ☐ Other (*specify*):_____

7. What best describes the primary way you are paid for seeing patients?

☐ Fee-for-service ☐ Salary based

☐ Capitation or patient enrollment-based ☐ Other (*specify*): _____

8. In the past three years, have you provided care in a setting that serves poor and underserved patients with no anticipation of being paid?

☐ Yes ☐ No

9. What proportion of your <u>established</u> patients who request a same- or next-day appointment at your primary practice can get one?

☐ Almost all (>80%) ☐ Most (60-80%) ☐ About half (~50%) ☐ Some (20-40%) ☐ Few (<20%) ☐ Don't know

9a. Over the past year, this proportion has:

☐ Increased ☐ Decreased ☐ Stayed the same ☐ Don't know

10. Are you Hispanic or Latino? ☐ Yes ☐ No

11. What is your race? *(check all that apply)*

☐ Black or African American
☐ Asian
☐ American Indian or Alaska Native
☐ White (European, Middle Eastern, other)
☐ Native Hawaiian or Pacific Islander
☐ Other (*specify*): _____

12. Please estimate the proportion of patients you see who are: *(these do not have to add up to 100%)*

a. African American or Black: _____%
b. Hispanic or Latino: _____%
c. Do not speak English well enough to give an adequate history: _____%

13. Please estimate the percent of your patients who have each of the following as their primary source of health insurance coverage: *(total should add to 100%)*

a. Private insurance _____ %
b. Medicaid _____ %
c. Healthy Michigan Plan _____ %
d. Medicare _____ %
e. No insurance (i.e., self-pay) _____ %

Total = 100%

14. Are you currently accepting new patients with…?

a. Private insurance	☐ Yes	☐ No	☐ Don't know
b. Medicaid	☐ Yes	☐ No	☐ Don't know
c. Healthy Michigan Plan	☐ Yes	☐ No	☐ Don't know
d. Medicare	☐ Yes	☐ No	☐ Don't know
e. No insurance (i.e., self-pay)	☐ Yes	☐ No	☐ Don't know

Section 2: Experience with the Healthy Michigan Plan (HMP)

These questions ask about your experiences caring for patients enrolled in the Healthy Michigan Plan (Medicaid expansion). For more information about the Healthy Michigan Plan, see the enclosed Fact Sheet.

15. In general, how familiar are you with the Healthy Michigan Plan?

☐ Very familiar ☐ Somewhat familiar ☐ A little familiar ☐ Not at all familiar

16. How familiar are you with the following:

	Very familiar	Somewhat familiar	A little familiar	Not at all familiar
a. Specialists available for Healthy Michigan Plan patients	☐	☐	☐	☐
b. How to complete a Health Risk Assessment	☐	☐	☐	☐
c. Out-of-pocket expenses Healthy Michigan Plan patients have to pay	☐	☐	☐	☐
d. How to submit a Health Risk Assessment	☐	☐	☐	☐
e. Healthy behavior incentives that Healthy Michigan Plan patients can receive	☐	☐	☐	☐
f. Mental health services available for Healthy Michigan Plan patients	☐	☐	☐	☐
g. Dental coverage in the Healthy Michigan Plan	☐	☐	☐	☐

17. To what extent has your practice experienced the following since the Healthy Michigan Plan began in April 2014?

	To a great extent	To some extent	To a little extent	Not at all	Don't know
a. Increase in number of new patients	☐	☐	☐	☐	☐
b. Existing patients who had been uninsured or self-pay gained insurance	☐	☐	☐	☐	☐
c. Existing patients changed from other insurance to Healthy Michigan Plan	☐	☐	☐	☐	☐
d. Increase in the number of new patients who haven't seen a primary care practitioner in many years	☐	☐	☐	☐	☐

18. How much influence do you have in making the decision to accept or not accept Medicaid or Healthy Michigan Plan patients in your practice?

☐ The decision is entirely mine ☐ I have some influence

☐ I have a lot of influence ☐ I have no influence

19. Please indicate the importance of each of the following for your practice's decision to accept new Medicaid or Healthy Michigan Plan patients.

	Very important	Moderately important	Not very important	Not at all important	Don't know
a. Reimbursement amount	☐	☐	☐	☐	☐
b. Capacity to accept new patients with any type of insurance	☐	☐	☐	☐	☐
c. Availability of specialists who see Medicaid or Healthy Michigan Plan patients	☐	☐	☐	☐	☐
d. Illness burden of Medicaid or Healthy Michigan Plan patients	☐	☐	☐	☐	☐
e. Psychosocial needs of Medicaid or Healthy Michigan Plan patients	☐	☐	☐	☐	☐

20. How often do your <u>Healthy Michigan Plan</u> patients have difficulty accessing the following?

	Often	Sometimes	Rarely	Never	Don't know
a. Specialists	☐	☐	☐	☐	☐
b. Medications	☐	☐	☐	☐	☐
c. Mental health care	☐	☐	☐	☐	☐
d. Dental/oral health care	☐	☐	☐	☐	☐
e. Treatment for substance use disorder	☐	☐	☐	☐	☐
f. Counseling and support for health behavior change	☐	☐	☐	☐	☐

21. How often do your <u>privately insured patients</u> have difficulty accessing the following?

	Often	Sometimes	Rarely	Never	Don't know
a. Specialists	☐	☐	☐	☐	☐
b. Medications	☐	☐	☐	☐	☐
c. Mental health care	☐	☐	☐	☐	☐
d. Dental/oral health care	☐	☐	☐	☐	☐
e. Treatment for substance use disorder	☐	☐	☐	☐	☐
f. Counseling and support for health behavior change	☐	☐	☐	☐	☐

The questions on this page ask about your experiences with Health Risk Assessments (HRAs).

22. Approximately how many Health Risk Assessments have you completed with Healthy Michigan Plan patients?

☐ None ☐ 1-2 ☐ 3-10 ☐ More than 10

23. How often do your Healthy Michigan Plan patients bring in their Health Risk Assessment to complete at their initial office visit?

☐ Almost always ☐ Often ☐ Sometimes ☐ Rarely/never

24. Please report your experience with the following:

	Yes	No	Don't know
a. My practice has a process to identify Healthy Michigan Plan patients who need to complete an HRA.	☐	☐	☐
b. I/my practice have been contacted by a Medicaid Health Plan about a patient who needs to complete an HRA.	☐	☐	☐
c. My practice has a process to submit completed HRAs to the patient's Medicaid Health Plan.	☐	☐	☐
d. I/my practice have received a financial bonus from a Medicaid Health Plan for helping patients complete HRAs.	☐	☐	☐

25. How much influence do the following have on completion and submission of the Health Risk Assessment?

	A great deal of influence	Some influence	A little influence	No influence	Don't know
a. Financial incentives for patients	☐	☐	☐	☐	☐
b. Patients' interest in addressing health risks	☐	☐	☐	☐	☐
c. Financial incentives for practices	☐	☐	☐	☐	☐

26. For Healthy Michigan Plan patients who have completed their Health Risk Assessment, how useful has this been for each of the following:

	Very useful	Somewhat useful	A little useful	Not at all useful
a. Identifying health risks	☐	☐	☐	☐
b. Discussing health risks with patients	☐	☐	☐	☐
c. Persuading patients to address their most important health risks	☐	☐	☐	☐
d. Documenting patient behavior change goals	☐	☐	☐	☐
e. Getting patients to change health behaviors	☐	☐	☐	☐

The questions on this page ask about non-urgent emergency room (ER) use.

27. How much can primary care practitioners influence non-urgent ER use by their patients?

☐ A great deal ☐ Some ☐ A little ☐ Not at all

28. To what extent do you think it is your responsibility as a primary care practitioner to decrease non-urgent ER use?

☐ Major responsibility ☐ Some responsibility ☐ Minimal responsibility ☐ No responsibility

29. Does your practice offer any of the following to help Healthy Michigan Plan patients avoid non-urgent ER use?

	Yes	No	Don't know
a. Walk-in appointments.	☐	☐	☐
b. Assistance with arranging transportation to appointments	☐	☐	☐
c. 24-hour telephone triage	☐	☐	☐
d. Appointments during evenings and weekends	☐	☐	☐
e. Care coordination/social work assistance for patients with complex problems	☐	☐	☐

30. In your opinion, to what extent do the following factors influence non-urgent ER use?

	Major influence	Minor influence	Little or no influence
a. The ER will provide care without an appointment	☐	☐	☐
b. Patients believe the ER provides better quality of care	☐	☐	☐
c. The ER offers quicker access to specialists	☐	☐	☐
d. Hospitals encourage use of the ER	☐	☐	☐
e. The ER offers access to medicines for patients with chronic pain	☐	☐	☐
f. The ER is where patients are used to getting care	☐	☐	☐

31. What, in your experience, could decrease non-urgent ER use by Healthy Michigan Plan patients?

_____

_____

32. Please think about what has changed for your patients <u>who were previously uninsured</u> and are now covered by the Healthy Michigan Plan. Rate the extent to which you think the Healthy Michigan Plan has had an impact on each of the following for these patients: *(If you have no previously uninsured patients now covered by the Healthy Michigan Plan, choose "Don't know" for all.)*

	Great impact	Some impact	Little impact	No impact	Don't know
a. Better control of chronic conditions	☐	☐	☐	☐	☐
b. Improved medication adherence	☐	☐	☐	☐	☐
c. Better ability to work or attend school	☐	☐	☐	☐	☐
d. Improved ability to live independently	☐	☐	☐	☐	☐
e. Improved health behaviors	☐	☐	☐	☐	☐
f. Improved emotional wellbeing	☐	☐	☐	☐	☐
g. Early detection of serious illness	☐	☐	☐	☐	☐

33. When was the most recent time, if ever, you discussed out-of-pocket medical costs with a Healthy Michigan Plan patient?

☐ Yes ☐ No → ***If no, SKIP to Question 36***

34. Thinking of the most recent time you discussed out-of-pocket medical expenses with a Healthy Michigan Plan patient, who brought up the topic? *(check one)*

☐ The patient

☐ Me

☐ Somebody else in the practice (e.g., clerical or nursing staff)

☐ Other (*specify*): _____

35. Thinking of the most recent time you discussed out-of-pocket medical expenses with a Healthy Michigan Plan patient, did the conversation result in a change in the management plan for the patient?

☐ Yes ☐ No ☐ Don't remember

36. Given what you know about it, in general, do you support or oppose the continuation of the Healthy Michigan Plan?

☐ Support ☐ Oppose ☐ Don't know

37. What changes would you suggest for the Healthy Michigan Plan?

_____

_____

38. Please rate your agreement with each of the following statements.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
a. All providers should care for some Medicaid/Healthy Michigan Plan patients.	☐	☐	☐	☐	☐
b. Caring for Medicaid/Healthy Michigan Plan patients enriches my clinical practice.	☐	☐	☐	☐	☐
c. Caring for Medicaid/Healthy Michigan Plan patients increases my professional satisfaction.	☐	☐	☐	☐	☐
d. It is my responsibility to provide care for patients regardless of their ability to pay.	☐	☐	☐	☐	☐

39. In general, to what extent do you agree or disagree with the following statements:

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
a. I know what kind of insurance a patient has at the beginning of an encounter.	☐	☐	☐	☐	☐
b. I ignore a patient's insurance status on purpose so it doesn't affect my recommendations.	☐	☐	☐	☐	☐
c. If I need to know a patient's insurance status it is easy to find out.	☐	☐	☐	☐	☐
d. I only find out about a patient's insurance coverage if they have trouble getting something I recommend.	☐	☐	☐	☐	☐

40. Is there anything else you would like to tell us about the impact of the Healthy Michigan Plan on your patients or your practice?

_____

_____

41. If you are you interested in receiving a special summary of survey findings, please provide your email address below. *(Your email will be used only for the purpose of sending survey findings.)*

Email address: _____@_____

Thank you for completing this survey. Please return the survey in the envelope provided.

Primary Care Practitioners' Views of the Impact of the Healthy Michigan Plan

June 29, 2017

University of Michigan
Institute for Healthcare Policy & Innovation

Evaluation team: Susan Dorr Goold, Renuka Tipirneni, Adrianne Haggins, Eric Campbell, Cengiz Salman, Edith Kieffer, Erica Solway, Lisa Szymecko, Sarah Clark, Sunghee Lee

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EXECUTIVE SUMMARY

The University of Michigan Institute for Healthcare Policy and Innovation (IHPI) is conducting the evaluation required by the Centers for Medicare and Medicaid Services (CMS) of the Healthy Michigan Plan (HMP) under contract with the Michigan Department of Health and Human Services (MDHHS). The fourth aim of Domain IV of the evaluation is to describe primary care practitioners' experiences with Healthy Michigan Plan beneficiaries, practice approaches and innovation adopted or planned in response to the Healthy Michigan Plan, and future plans regarding care of Healthy Michigan Plan patients.

Methods

We conducted 19 semi-structured telephone interviews with primary care practitioners caring for Healthy Michigan Plan patients in five Michigan regions selected to include racial/ethnic diversity and a mix of urban and rural communities. Interviews informed survey items and measures and enhanced the interpretation of survey findings.

We then surveyed all primary care practitioners in Michigan with at least 12 assigned Healthy Michigan Plan patients about practice changes and innovations since April 2014 and their experiences caring for patients with the Healthy Michigan Plan.

Results

The final response rate was 56% resulting in 2,104 respondents.

Knowledge of Patient Insurance

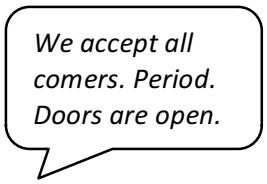
- 53% report knowing a patient's insurance at the beginning of an appointment
- 91% report that it is easy to find out a patient's insurance status
- 35% report intentionally ignoring a patient's insurance status

Familiarity with HMP

- 71% very or somewhat familiar with how to complete a Health Risk Assessment
- 25% very/somewhat familiar with beneficiary cost-sharing
- 36% very/somewhat familiar with healthy behavior incentives for patients
- PCPs working in small, non-academic, non-hospital-based and FQHC practices and those with predominantly Medicaid or uninsured patients reported more familiarity with HMP

Acceptance of Medicaid and HMP

- 78% report accepting <u>new</u> Medicaid/HMP patients – more likely if:
  - Female, racial minorities or non-physician PCPs
  - Internal medicine specialty
  - Salary payment
  - Medicaid predominant payer mix
  - Previously provided care to underserved
  - Stronger commitment to caring for underserved
- 73% felt a responsibility to care for patients regardless of their ability to pay
- 72% agreed all providers should care for Medicaid/HMP patients



Changes in Practice

- 52% report an increase in new patients to a great or to some extent
- 57% report an increase in the number of new patients who hadn't seen a PCP in many years
- 51% report established patients who had been uninsured gained insurance
- Most practices hired clinicians (53%) and/or staff (58%) in the past year
- 56% report consulting with care coordinators, case managers and/or community health workers
- 41% said that almost all established patients who request a same or next day appointment can get one; 34% said the proportion getting those appointments had increased over the past year
- FQHCs, those with predominately uninsured, Medicaid and mixed payer mixes and suburban practices were more likely to report an increase in new patients. FQHCs, and those with predominately Medicaid payer mix, were more likely to report existing patients who had been uninsured gained insurance, and an increase in the number of patients who hadn't seen a PCP in many years.
- Large and FQHC practices were more likely to have hired new clinicians in the past year. Small, non-FQHC, academic and suburban practices and were less likely to report hiring additional staff.
- Large and FQHC practices and those with predominantly private or uninsured payer mixes were all more likely to report consulting with care coordinators, case managers and/or community health workers in the past year.

Your working poor people who just were in between the cracks, didn't have anything, and now they've got something, which is great.

Experiences caring for HMP Beneficiaries - Health Risk Assessments

- 79% completed at least one HRA with a patient; most of those completed >10
- 65% don't know if they or their practice has received a bonus for completing HRAs
- PCPs reported completing more HRAs if they
  - Were located in Northern regions
  - Were paid by capitation or salary compared to fee-for-service
  - Reported receiving a financial incentive for completing HRAs
  - Were in a smaller practice (5 or fewer) size
- 58% reported that financial incentives for patients and 55% reported financial incentives for practices had at least a little influence on completing HRAs
- 52% said patients' interest in addressing health risks had at least as much influence
- Most PCPs found HRAs useful for identifying and discussing health risks, persuading patients to address their most important health risks, and documenting behavior change goals

What I've heard people say is "I just want to stay healthy or find out if I'm healthy."

ER Use and Decision Making

- 30% felt that they could influence non-urgent ER use by their patients a great deal (and 44% some)
- 88% accepted major or some responsibility as a PCP to decrease non-urgent ER use
- Many reported offering services to avoid non-urgent ER use, such as walk-in appointments, 24-hour telephone triage, weekend and evening appointments, and care coordinators or social work assistance for patients with complex problems
- PCPs identified care without an appointment, being the place patients are used to getting care and access to pain medicine as major influences for non-urgent ER use

People who work day shift…It's easier for them to go to the ER or something for a minor thing because they don't have to take time off work. That's a big deal.

- PCPs recommended PCP practice changes, ER practice changes, patient educational initiatives, and patient penalties/incentives when asked about strategies to reduce non-urgent ER use

Access

- PCPs with HMP patients who were previously uninsured reported some or great impact on health, health behavior, health care and function for those patients. The greatest impact was for control of chronic conditions, early detection of serious illness, and improved medication adherence
- PCPs reported that HMP enrollees, compared to those with private insurance, more often had difficulty accessing specialists, medications, mental health care, dental care, treatment for substance use and counseling for behavior change

I learned a long time ago if the patient doesn't take the medicine, they don't get better…if they don't have insurance to cover it and they don't ever pick it up, then they're not going to take it.

It can still take up to six months to see a psychiatrist unless you get admitted to the hospital.

Discussing Costs with Patients

- 22% of PCPs reported discussing out-of-pocket costs with an HMP patient. The patient was the most likely one to bring up the topic
- 56% of the time, such a discussion resulted in a change of management plans
- PCPs who were white, Hispanic/Latino, non-physician practitioners and with Medicaid or uninsured predominant payer mixes were more likely to have cost conversations with patients
- PCPs who were younger and in rural practices were more likely to report a change in management due to cost conversations with patients

Impact and Suggestions to Improve the Healthy Michigan Plan

We provided PCPs open-ended opportunities in the survey to provide additional information. We asked about the impact of HMP:

- PCPs noted HMP has allowed patients to get much needed care, improved financial stability, provided a sense of dignity, improved mental health, increased accessibility to care and compliance (especially medications), helped people engage in healthy behaviors like quitting smoking and saved lives

And also about suggestions to improve HMP:

- Educating patients about health insurance, health behaviors, when and where to get care, medication adherence and greater patient responsibility
- Improving accessibility to other providers, especially mental health and other specialists, and improve reimbursement
- Educating providers and providing up-to-date information about coverage, formularies, administrative processes and costs faced by patients
- Better coverage for some services (e.g., physical therapy)
- Formularies should be less limited, more transparent and streamlined across plans
- Decrease patient churn on/off insurance

Primary Care Practitioners' Views of the Impact of the Healthy Michigan Plan

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METHODS

IN-DEPTH INTERVIEWS WITH PRIMARY CARE PRACTITIONERS

Sample: To develop PCP survey items and measures, and to enhance the interpretation of survey findings, we conducted 19 semi-structured interviews with primary care practitioners caring for Medicaid/Healthy Michigan Plan patients between December 2014 and April 2015. These interviews were conducted in five Michigan regions: Detroit, Kent County, Midland/Bay/Saginaw Counties, Alcona/Alpena/Oscoda Counties, and Marquette/Baraga/Iron Counties. These regions were purposefully selected to include racial/ethnic diversity and a mix of urban and rural communities. Interviewees were both physicians and non-physician practitioners who worked at small private practices, Federally Qualified Health Centers (FQHCs), free/low-cost clinics, hospital-based practices, or rural practices.

Interview Topics: Topics included: provider knowledge/awareness of patient insurance and experiences caring for HMP patients, including facilitators and challenges of accessing needed care; changes in practice, due to or to meet the needs of HMP patients; how decisions were made about whether to accept Medicaid/HMP patients and what might change PCPs' acceptance of new Medicaid/HMP patients in the future; provider and patient decision-making about ER use; experience with Health Risk Assessments (HRAs), and any knowledge or conversation with patients about out of pocket costs.

Analysis: Interviews were audio recorded, transcribed and coded iteratively using grounded theory and standard qualitative analysis techniques.[1,2] Quotations that illustrate key findings included in this report were drawn from these interviews.

SURVEY OF PRIMARY CARE PRACTITIONERS

To evaluate the impact of the Healthy Michigan Plan, we surveyed primary care practitioners about their experiences caring for Healthy Michigan Plan beneficiaries, new practice approaches and innovations, and future plans.

Sample: The sample was drawn from the 7,360 National Provider Identifier (NPI) numbers assigned in the MDHHS Data Warehouse as the primary care provider for at least one Healthy Michigan Plan managed care member as of April 2015. Eligible for the survey were those with at least 12 assigned members (an average of one per month); 2,813 practitioners were excluded based on <12 assigned members. Of the remaining 4,547 NPIs, 25 were excluded because the NPI entity code did not reflect an individual physician (20 were organizational NPIs, 4 were deactivated, and 1 was invalid). Also excluded were 161 physicians with only pediatric specialty; 4 University of Michigan physicians involved in the Healthy Michigan Plan evaluation; and 35 physicians with out-of-state addresses >30 miles from the Michigan border. After exclusions, 4,322 primary care practitioners (3686 physicians and 636 nurse practitioners/physician assistants) remained as the survey sampling frame.

Survey Design: The survey included measures of primary care practitioner and practice characteristic derived from published surveys and reports,[3,4,5,6,7] and measures related to the Healthy Michigan Plan on a variety of topics, including:

- Plans to accept new Medicaid patients[8]
- Perceptions of difficulty accessing care for Healthy Michigan Plan beneficiaries with parallel questions about difficulty accessing care for privately insured patients
- Experiences with Healthy Michigan Plan beneficiaries regarding decision making about emergency department use
- Perceptions of influences on non-urgent ER use by Healthy Michigan Plan beneficiaries
- Practice approaches in place to prevent non-urgent ER use
- Experiences of caring for newly insured Medicaid patients, including ability to access non-primary care (specialty care, equipment, medication, dental care, mental health care)[6,7]
- New practice approaches adopted within the previous year
- Future plans regarding care of Medicaid patients

Drs. Goold, Campbell and Tipirneni developed the survey questions in collaboration with other members of the research team. The development process began by identifying the key survey domains through an iterative process with the members of the evaluation team. Then, literature searches identified survey items and scales measuring the domains of interest.[3-8] For domains without existing valid measures, items were developed from data collected from the 19 semi-structured individual interviews with PCPs. New items were cognitively pretested with two primary care practitioners who serve Healthy Michigan Plan patients, one MD from a low-cost clinic and one PA from a private practice. Both practitioners were asked about their understanding of each original survey item, their capacity to answer these questions, and how they would answer said items. The final survey itself was pretested with one PCP for timing and flow.

Survey Administration: Primary care provider addresses were identified from the MDHHS data warehouse Network Provider Location table, the MDHHS Provider Enrollment Location Address table, and the National Plan & Provider Enumeration System (NPPES) registry detail table linked to NPI. Research assistants reviewed situations where primary care practitioners had multiple addresses, and selected (a) the address with more detail (e.g., street address + suite number, rather than street alone), (b) the address that occurred in multiple databases, or (c) the address that matched an internet search for that physician.

The initial survey mailing occurred in June 2015 and included a personalized cover letter describing the project, a Fact Sheet about the Healthy Michigan Plan, a hard copy of the survey, a $20 bill, and a postage-paid return envelope. The cover letter gave information on how to complete the survey via Qualtrics, rather than hard copy. Two additional mailings were sent to nonrespondents in August and September 2015. Data from mail surveys returned by November 1, 2015, were entered in an excel spreadsheet, reviewed for accuracy, and subsequently merged with data from Qualtrics surveys.

Survey Response Characteristics: Of the original sample of 4,322 primary care practitioners in the initial sample, 501 envelopes were returned as undeliverable. Of the 2,131 primary care practitioners who responded, 1,986 completed a mailed survey, 118 completed a Qualtrics survey, and 27 were ineligible (e.g., retired, moved out of state). The final response rate was 56% (54% for physicians, 65% for nurse practitioners/physician assistants).

Comparison of the 2,104 eligible respondents and the 1,690 nonrespondents revealed no differences in gender, birth year, number of affiliated Medicaid managed care plans, and FQHC designation. More nonrespondents had internal medicine specialty.

Table 1. Comparison of Respondents to Nonrespondents

	Respondents N=2104	Nonrespondents N=1690	p
Gender			
Female	44.6	43.7	0.55
Male	55.4	56.3	
Birth Year			
1970 or earlier	71.0	69.5	0.32
1971 or later	29.0	30.5	
Medicaid Managed Care Plans			
1 plan	20.5	20.1	0.48
2 plans	27.2	25.7	
3 or more plans	52.3	54.2	
Practice setting			
FQHC	14.9	14.7	0.86
Not FQHC	85.1	85.3	
Specialty			
Family/general practice	54.5	51.0	
Internal medicine	27.3	36.3	<.0001
Nurse practitioner/physician assistant	17.0	11.3	
Ob-gyn/other	1.2	1.4	

Analysis: We calculated descriptive statistics such as proportion of primary care practitioners reporting difficulty accessing specialty care for Healthy Michigan Plan beneficiaries or experiences related to emergency department decision making. No survey weighting was necessary, as the sample included the full census of PCPs with ≥12 HMP patients. Bivariate and multivariable logistic regression analysis was used to assess the association of independent variables (personal, professional and practice characteristics) with dependent variables - practice changes reported since Medicaid expansion. Multivariable models were run with and without interaction variables (Ownership*Practice size and FQHC*predominant payer type), and chi-square goodness-of-fit tests calculated. All analyses were performed using STATA version 14 (Stata Corp, College Station, TX. Quotes from practitioner interviews have been used to expound upon some key findings from our analysis of survey data.

SURVEY OF PRIMARY CARE PRACTITIONERS
RESULTS

Survey results are presented in the following format:

Topic

Key findings
Illustrative quote(s) from PCP interviews
Tables of Results
Results of analysis of relationships (e.g., chi-square, multivariable logistic regression)

Respondents' Personal, Professional and Practice Characteristics

Just over half of respondents were men. About 80% self-identified as white. Eleven percent identified as Asian/Pacific Islander, with small numbers in other racial and ethnic groups. More than 80% of respondents were physicians, although nearly three-quarters had nonphysician providers in their practice. About half identified their specialty as family medicine and a quarter as internal medicine. More than half were in practices with 5 or fewer providers; 15% practiced in FQHCs. Three-quarters of PCP respondents practiced in urban settings, 31% in Detroit. Their self-reported payer mix varied; about one-third had Medicaid/HMP as the predominant payer.

Table 2. Personal, Professional and Practice Characteristics of PCP Respondents (N=2104)

Personal characteristics		
Gender	N	%
Male	1165	55
Female	939	45
Race		
White	1583	79
Black/African-American	93	5
Asian/Pacific Islander	224	11
American Indian/Alaska Native	10	<1
Other	86	4
Ethnicity		
Hispanic/Latino	46	2
Non-Hispanic/Latino	1978	98
Professional characteristics		
Provider type	N	%
Physician	1750	83
Non-Physician (NP/PA)	357	17
Specialty		
Family medicine	1123	53
Internal medicine	507	24
Medicine-Pediatrics	67	3
General practice (GP)	24	1
Obstetrics/Gynecology (OB/Gyn)	12	<1
Nurse practitioner (NP)	192	9
Physician's Assistant (PA)	165	8
Other	14	<1
Board/Specialty certification	N	%
Yes	1695	82
No	383	18

Table 2 (continued). Personal, Professional and Practice Characteristics of PCP Respondents

Years in practice		
<10 years	520	26
10-20 years	676	34
>20 years	810	40
Provider ownership of practice		
Full-owner	446	22
Partner/part-owner	232	11
Employee	1352	1352
Practice characteristics		
Practice size (mean, median, SD)	7.5, 5, 16.5	
Small (≤5 practitioners)[a]	1157	57.5
Large (≥6 practitioners)	855	42.5
Presence of non-physician practitioners in practice[b]	1275 (72%)	72
Federally qualified health center (FQHC)	311 (15%)	15
University/teaching hospital practice	276 (13%)	13
Hospital-based practice (non-teaching)	643 (31%)	31
Payer mix (current % of patients with insurance type)	Mean %	SD
Private	32.8%	19.8
Medicaid	23.3%	18.3
Healthy Michigan Plan	10.9%	11.8
Medicare	30.2%	16.7
Uninsured	5.8%	7.1
Predominant payer mix[c]	N	%
Private	661	35
Medicaid/Healthy Michigan Plan	677	35
Medicare	421	22
Uninsured	12	1
Mixed	141	7
Payment arrangement		
Fee-for-service	784	38
Salary	946	45
Capitation	44	2
Mixed	275	13
Other	40	2
Urbanicity[d]		
Urban	1584	75
Suburban	193	9
Rural	327	16

[a] Dichotomized at sample median

[b] >5% missing

[c] Composite variable of all current payers: payer is considered predominant for the practice if >30% of physician's patients have this payer type and <30% of patients have any other payer type. "Mixed" includes practices with more than one payer representing >30% of patients, or practices with <30% of patients for each payer type.

[d] Zip codes and county codes were linked to the U.S. Department of Agriculture Economic Research Service 2013 Urban Influence Codes to classify regions into urban (codes 1-2), suburban (codes 3-7) and rural (codes 8-12) designations.

Knowledge of Patient Insurance

Because we relied on PCPs to report their experiences caring for patients with Healthy Michigan Plan coverage we asked them questions about their knowledge of patients' insurance status.

Key findings: About half report knowing what kind of insurance a patient has at the beginning of an encounter. Nearly all report that it is easy to find out a patient's insurance status. About a third report intentionally ignoring a patient's insurance status.

Table 3. Knowledge of Patients' Insurance Status

	Strongly agree	Agree	Neither	Disagree	Strongly disagree
If I need to know a patient's insurance status it is easy to find out (N=2081)	904 (43.4%)	982 (47.2%)	131 (6.3%)	57 (2.7%)	7 (0.3%)
I know what kind of insurance a patient has at the beginning of an encounter (N=2081)	442 (21.2%)	671 (32.2%)	342 (16.4%)	427 (20.5%)	199 (9.6%)
I ignore a patient's insurance status on purpose so it doesn't affect my recommendations (N=2078)	294 (14.1%)	433 (20.8%)	549 (26.4%)	577 (27.8%)	225 (10.8%)
I only find out about a patient's insurance coverage if they have trouble getting something I recommend (N=2071)	281 (13.6%)	551 (26.6%)	393 (19.0%)	649 (31.3%)	197 (9.5%)

Familiarity with Healthy Michigan Plan

Key findings: PCPs report familiarity with how to complete and submit a Health Risk Assessment. They report less familiarity with beneficiary cost-sharing and rewards, and the availability of specialists and mental health services. PCPs working in small, non-academic, non-hospital-based and FQHC practices reported more familiarity with Healthy Michigan Plan.

> *[O]ne of our challenges…from an FQHC standpoint, when we have patients that do have Medicaid, we do get an increased reimbursement. So that number…being aware of that is, I think, very important for all of the providers in the clinic and probably all of the staff as well.*
>
> – Urban physician, FQHC

In general, how familiar are you with the Healthy Michigan Plan? (N=2031)

Very familiar	Somewhat familiar	A little familiar	Not at all familiar
307 (15.1%)	776 (38.2%)	557 (27.4%)	391 (19.3%)

Table 4. Familiarity with Healthy Michigan Plan

How familiar are you with the following:	Very familiar	Somewhat familiar	A little familiar	Not at all familiar
How to complete a Health Risk Assessment	966 (47.6%)	472 (23.3%)	276 (13.6%)	314 (15.5%)
How to submit a Health Risk Assessment	700 (34.6%)	469 (23.2%)	355 (17.5%)	501 (24.7%)

Table 4 (continued). Familiarity with Healthy Michigan Plan

How familiar are you with the following:	Very familiar	Somewhat familiar	A little familiar	Not at all familiar
Healthy behavior incentives that Healthy Michigan Plan Patients can receive	257 (12.6%)	481 (23.7%)	548 (27.0%)	746 (36.7%)
Specialists available for Healthy Michigan Plan patients	189 (9.3%)	553 (27.3%)	533 (26.3%)	752 (37.1%)
Mental health services available for Healthy Michigan Plan patients	156 (7.7%)	369 (18.2%)	564 (27.8%)	943 (46.4%)
Out-of-pocket expenses Healthy Michigan Plan Patients have to pay	137 (6.7%)	377 (18.6%)	577 (28.4%)	940 (46.3%)
Dental coverage in the Healthy Michigan Plan	89 (4.4%)	274 (13.5%)	415 (20.4%)	1,254 (61.7%)

We hypothesized that PCPs in different practice settings would differ in their familiarity with Healthy Michigan Plan. We found that PCPs working in **small**, **non-academic**, **non-hospital-based** and **FQHC** practices, as well as practices with **predominantly Medicaid or uninsured payer mixes**, reported greater familiarity with Healthy Michigan Plan. Differences in familiarity based on practice size, academic or hospital-based status were relatively modest.

Acceptance of Medicaid and Healthy Michigan Plan

Key findings:

About 4 in 5 survey respondents reported accepting <u>new</u> Medicaid/Healthy Michigan Plan patients. Most PCPs reported having at least some influence on that decision. Capacity to accept any new patients was rated as a very important factor in decisions to accept Medicaid/Healthy Michigan Plan patients.

> *We accept all comers. Period. Doors are open. Come on in. But I have to add a comment to that or a clarification…a qualification to that. My nurse manager…The site manager just came to me on Monday of this week and said, "You know, [name], if a person wants a new appointment with you, we're scheduling…It's like the end of April. There are so many patients now that are in the system that even for routine follow-up stuff, we can't get them in."*
>
> – Urban physician, FQHC

In multivariable analyses PCPs were more likely to accept new Medicaid/Healthy Michigan Plan patients if female, racial minorities, non-physician providers, specializing in internal medicine, paid by salary vs. fee-for service, with prior history of care to the underserved, or working in practices with Medicaid predominant payer mixes. PCPs were less likely to accept new Medicaid/Healthy Michigan Plan patients if they considered their practice's overall capacity to accept new patients important.

> *[A]s long as the rural health center plans still pay me adequately, I don't foresee making any changes. If they were to all of a sudden say, "Okay, we're only going to reimburse 40% or 50% of what we used to," that would be enough to put me out of business. So I would think twice about seeing those patients then, but as long as they continue the way they have been for the last six years that I've owned the clinic, I don't see making any changes. It works just fine.*
>
> – Rural nurse practitioner, Rural health center

PCPs in the Detroit area were more likely to accept new Medicaid/Healthy Michigan Plan patients than PCPs in other regions of the state. Of PCPs' <u>established patients</u>, an average of 11% had

Healthy Michigan Plan and 23% had Medicaid as their primary source of coverage (see demographics table, pg. 4-5).

Most PCPs reported providing care in a setting that serves poor and underserved patients with no anticipation of being paid in the past three years, and nearly three-quarters felt a responsibility to care for patients regardless of their ability to pay. Nearly three-quarters agreed all practitioners should care for Medicaid/Healthy Michigan Plan patients.

We asked PCPs whether they were currently accepting new patients with Healthy Michigan Plan and other types of insurance:

Table 5. Acceptance of New Patients by Insurance Type[5]

Accepting *new* patients, by type of insurance	N (%)
Private	1774 (87%)
Medicaid*	1517 (75%)
Healthy Michigan Plan*	1461 (73%)
Medicare	1717 (84%)
No insurance (i.e., self-pay)	1541 (76%)
*Combined, 1575 (78%) of PCP respondents reported accepting new patients with either Healthy Michigan Plan or Medicaid.	

How much influence do you have in making the decision to accept or not accept Medicaid or Healthy Michigan Plan patients in your practice?

The decision is entirely mine	I have a lot of influence	I have some influence	I have no influence
459 (23%)	275 (14%)	425 (21%)	866 (43%)

Table 6. Importance for Accepting New Medicaid or Healthy Michigan Plan Patients

Please indicate the importance of each of the following for your practice's decision to accept new Medicaid or Healthy Michigan Plan patients:	Very important	Moderately important	Not very important	Not at all important	Don't know
Capacity to accept new patients with any type of insurance	774 (38%)	638 (31%)	187 (9%)	177 (9%)	273 (13%)
Reimbursement amount	532 (26%)	613 (30%)	274 (13%)	310 (15%)	327 (16%)
Availability of specialists who see Medicaid or Healthy Michigan Plan patients	528 (26%)	617 (30%)	310 (15%)	284 (14%)	313 (15%)
Psychosocial needs of Medicaid or Healthy Michigan Plan patients	404 (20%)	623 (30%)	376 (18%)	344 (17%)	304 (15%)
Illness burden of Medicaid or Healthy Michigan Plan patients	370 (18%)	574 (28%)	442 (22%)	370 (18%)	296 (14%)

We asked PCPs about their prior experience and attitudes toward caring for poor or underserved patients. A majority reported providing care in a setting that serves poor and underserved patients with no anticipation of being paid.

In the past three years, have you provided are in a setting that serves poor and underserved patients with no anticipation of being paid?

Yes	No
1,153 (57.0%)	871 (43.0%)

Table 7. Attitudes About Caring for Poor or Underserved Patients

	Strongly Agree	Agree	Neither	Disagree	Strongly disagree
All practitioners should care for some Medicaid/Healthy Michigan Plan patients	941 (45%)	555 (27%)	346 (17%)	150 (7%)	81 (4%)
It is my responsibility to provide care for patients regardless of their ability to pay	874 (42%)	642 (31%)	282 (14%)	190 (9%)	78 (4%)
Caring for Medicaid/Healthy Michigan Plan patients enriches my clinical practice	418 (20%)	590 (29%)	746 (36%)	246 (12%)	67 (3%)
Caring for Medicaid/Healthy Michigan Plan patients increases my professional satisfaction	379 (18%)	543 (26%)	794 (39%)	260 (13%)	88 (4%)

We hypothesized that acceptance of new Medicaid/Healthy Michigan Plan patients would vary by PCPs' personal, professional and practice characteristics. In multivariable analyses, **we found that PCPs were more likely to accept new Medicaid/Healthy Michigan Plan patients if female, racial minorities, non-physician providers, specializing in internal medicine, paid by salary vs. fee-for service, with prior history of care to the underserved, or working in practices with Medicaid predominant payer mixes. PCPs were less likely to accept new Medicaid/Healthy Michigan Plan patients if they considered their practice's overall capacity to accept new patients important.**

Table 8. Multivariable Analysis of Association of PCP and Practice Characteristics with Medicaid Acceptance

	Unadjusted Odds of Medicaid Acceptance (OR, 95% CI)	Adjusted[a] Odds of Medicaid Acceptance (aOR, 95% CI)
Personal and Professional characteristics		
Female Gender	1.59 (1.28-1.98)**	1.32 (1.01-1.72)*
Race		
White	[ref]	[ref]
Black/African American	3.93 (1.80-8.57)*	3.46 (1.45-8.25)*
Asian/Pacific Islander	1.76 (1.20-2.58)*	1.84 (1.21-2.80)*
Other	1.94 (1.04-3.62)*	1.79 (0.84-3.80)
Ethnicity, Hispanic	1.88 (0.79-4.48)	1.54 (0.56-4.22)
Years in Practice		
<10 years	[ref]	[ref]
10-20 years	0.69 (0.51-0.93)*	0.87 (0.62-1.22)
>20 years	0.51 (0.38-0.68)**	0.82 (0.58-1.15)
Non-physician provider (vs. physician provider)	4.78 (3.09-7.40)**	2.21 (1.32-3.71)*

Table 8 (continued). Multivariable Analysis of Association of PCP and Practice Characteristics with Medicaid Acceptance

	Unadjusted Odds of Medicaid Acceptance (OR, 95% CI)	Adjusted[a] Odds of Medicaid Acceptance (aOR, 95% CI)
Specialty		
Family medicine	[ref]	[ref]
Internal medicine	1.43 (1.12-1.83)*	1.47 (1.09-1.97)*
Nurse practitioner (NP)	7.81 (3.95-15.45)**	3.53 (1.64-7.61)*
Physician Assistant (PA)	4.07 (2.32-7.16)**	1.83 (0.94-3.56)
Other	2.86 (1.21-6.79)*	2.02 (0.75-5.45)
Board Certified	0.57 (0.42-0.77)**	0.92 (0.64-1.32)
Personal and Professional characteristics		
Payment arrangement		
Fee-for-service	[ref]	[ref]
Salary predominant	3.02 (2.36-3.85)**	2.09 (1.58-2.77)**
Mixed payment	1.34 (0.98-1.84)	1.43 (0.99-2.07)
Other payment arrangements	2.44 (1.01-5.93)*	1.33 (0.51-3.49)
PCP attitudes		
Capacity very/moderately important	0.53 (0.41-0.68)**	0.59 (0.44-0.79)**
Reimbursement very/moderately important	0.64 (0.51-0.79)**	0.86 (0.67-1.10)
Specialist availability very/moderately important	0.95 (0.76-1.17)	1.11 (0.86-1.42)
Illness burden of patients very/moderately important	1.02 (0.83-1.27)	1.03 (0.81-1.32)
Psychosocial needs of patients very/moderately important	1.10 (0.89-1.37)	1.14 (0.89-1.45)
Provided care to the underserved in past 3 years	1.64 (1.33-2.03)**	1.35 (1.05-1.73)*
Expressed commitment to caring for underserved	1.16 (1.13-1.19)**	1.14 (1.11-1.18)**
Practice characteristics		
Small practice with ≤5 providers (vs. large practice)	1.18 (0.95-1.47)	1.27 (0.99-1.63)
Urban (vs. rural/suburban)	0.69 (0.53-0.89)*	0.97 (0.72-1.31)
Federally qualified health center (FQHC)	2.40 (1.66-3.47)**	1.08 (0.70-1.65)
Mental health co-location	1.99 (1.42-2.79)**	1.16 (0.79-1.71)
Predominant payer mix		
Private insurance	[ref]	[ref]
Medicaid/HMP	8.64 (6.14-12.15)**	7.31 (5.05-10.57)**
Medicare	1.94 (1.47-2.55)**	2.04 (1.52-2.73)**
Mixed	3.32 (2.05-5.37)**	3.76 (2.24-6.30)**

[a] Adjusted for covariates of gender, years in training, physician vs. non-physician provider, board certification, urbanicity, FQHC status, predominant payer mix, except for when independent variable included in list.

* $p < 0.05$

** $p < 0.001$

Note: Each cell represents a separate bivariate or multivariable logistic regression model. Bivariate and multivariable logistic regression analysis was used to assess the association of the independent variables of PCP personal, professional and practice characteristics, as well as attitudes, with the dependent variable of PCP Medicaid acceptance.

Changes in Practice

Key findings:

Most PCPs reported an increase in new patients and in the number of new patients who hadn't seen a PCP in many years.

Really the only thing I know about the expansion is in early 2014 we started getting a way lot more requests for a new patient visit than we've ever had before. I was just like, "what is going on? We don't get 25 requests for new patients/month." So when it started really climbing, that's when I figured out, "Okay. It's probably due to the Obamacare Medicaid expansion."

– Urban physician; Small, private practice

Most reported established patients who had been uninsured gained insurance. Fewer reported patients changing from other insurance to Healthy Michigan Plan.

Your working poor people who just were in between the cracks, didn't have anything, and now they've got something, which is great.

– Urban physician, FQHC

Most practices hired clinicians and/or staff in the past year. Most reported consulting with care coordinators, case managers and/or community health workers.

About a third of PCPs reported that the portion of established patients able to obtain a same- or next-day appointment had increased over the previous year.

FQHCs, those with predominately uninsured, Medicaid and mixed payer mixes and suburban practices were more likely to report an increase in new patients. FQHCs, and those with predominately Medicaid payer mix, were more likely to report existing patients who had been uninsured gained insurance, and an increase in the number of patients who hadn't seen a PCP in many years.

Large and FQHC practices were more likely to have hired new clinicians in the past year. Small, non-FQHC, academic and suburban practices and were less likely to report hiring additional staff.

Large and FQHC practices and those with predominantly private or uninsured payer mixes were all more likely to report consulting with care coordinators, case managers and/or community health workers in the past year.

Table 9. Experiences of Practices Since April 2014

To what extent has your practice experienced the following since Healthy Michigan Plan began in April 2014?	To a great extent	To some extent	To a little extent	Not at all	Don't know
Increase in the number of new patients who haven't seen a primary care practitioner in many years (N=2020)	496 (24.6%)	638 (31.6%)	407 (20.1%)	130 (6.4%)	349 (17.3%)
Increase in number of new patients (N=2021)	351 (17.4%)	706 (34.9%)	389 (19.2%)	195 (9.6%)	380 (18.8%)
Existing patients who had been uninsured or self-pay gained insurance (N=2019)	321 (15.9%)	701 (34.7%)	502 (24.9%)	108 (5.3%)	387 (19.2%)
Existing patients changed from other insurance to Healthy Michigan Plan (N=2019)	110 (5.4%)	529 (26.2%)	576 (28.5%)	176 (8.7%)	628 (31.1%)

Table 10. Changes Made to PCP Practices Within the Past Year

Has your practice made any of the following changes in the past year? (check all that apply)	Checked	Not Checked‡
Hired additional clinicians	1120 (53.2%)	984 (46.8%)
Hired additional office staff	1209 (57.5%)	895 (42.5%)
Consulted with care coordinators, case managers, community health workers	1174 (55.8%)	930 (44.2%)
Changed workflow processes for new patients	878 (41.7%)	1226 (58.3%)
Co-located mental health within primary care	325 (15.4%)	1779 (84.6%)

‡288 (13.7%) participants did not check any boxes indicating that their practice had made changes in the previous year. This data was factored into the "Not Checked" category for each potential response.

What proportion of your established patients who request a same- or next-day appointment at your primary practice can get one? (N=2033)[7]

Almost all (>80%)	Most (60-80%)	About half (~50%)	Some (20-40%)	Few (<20%)	Don't know
826 (40.6%)	527 (25.9%)	237 (11.7%)	287 (14.1%)	122 (6.0%)	34 (1.7%)

Over the past year, this proportion has:

Increased	Decreased	Stayed the same	Don't know
682 (34.0%)	316 (15.8%)	883 (44.1%)	123 (6.1%)

Table 11. Multivariable Analysis of Association of Practice Characteristics with Changes Made in PCP Practices Within the Past Year

Has your practice made the following changes in the past year?	Hired additional clinicians	Hired additional office staff	Consulted with care coordinator, case manager, or community health worker	Changed workflow processes for new patients	Co-located mental health within primary care
Practice size:					
Large (ref)	71.8%	67.8%	71.1%	49.4%	19.5%
Small	40.0%§	52.4%§	49.0%§	38.3%§	11.4%§
Practice Type:					
FQHC (ref)	61.8%	68.0%	72.7%	43.0%	31.9%
Non-FQHC	52.3%†	57.5%‡	56.0%§	43.0%	11.5%§
Academic (ref)	48.5%	47.8%	57.1%	38.3%	17.3%
Non-Academic	54.4%	60.7%‡	58.4%	43.8%	14.9%
Hospital-based (ref)	51.6%	56.7%	57.6%	42.0%	12.7%
Not hospital-based	54.6%	60.0%	58.6%	43.5%	16.6%
Predominant payer mix:					
Private (ref)	54.6%	60.7%	65.0%	41.4%	11.5%
Medicare	51.3%	58.9%	54.5%‡	48.5%†	13.1%
Medicaid	53.2%	59.4%	53.0%§	43.4%	19.3%§
Uninsured	39.4%	33.5%	64.3%	39.7%	26.4%
Mixed	57.9%	51.5%†	58.3%†	35.1%	14.2%
Urbanicity:					
Urban (ref)	53.6%	59.9%	58.1%	41.6%	13.4%
Suburban	53.1%	50.9%†	53.3%	45.1%	15.2%
Rural	54.0%	59.1%	62.2%	48.8%†	23.8%§

Table 12. Multivariable Analysis of Association of Practice Characteristics with Experiences of Practices Since April 2014

*To what extent has your practice experienced the following since the Healthy Michigan Plan began in April 2014?***	Increase number of new patients	Existing patients who had been uninsured or self-pay gained insurance	Existing patients changed from other insurance to Healthy Michigan Plan	Increase in the number of new patients who have not seen a primary care practitioner in many years
All	52.3%	50.6%	31.6%	56.2%
Practice size:				
Large (ref)	51.4%	50.0%	28.9%	54.0%
Small	51.7%	51.2%	31.9%	57.8%
Practice Type:				
FQHC (ref)	58.8%	64.9%	32.6%	63.7%
Non-FQHC	50.5%†	48.5%§	30.3%	55.1%†
Academic (ref)	52.9%	53.5%	29.9%	59.2%
Non-Academic	51.3%	50.2%	30.8%	55.7%
Hospital-based (ref)	51.5%	49.5%	28.3%	56.9%
Not hospital-based	51.6%	51.3%	31.7%	55.8%
Predominant payer mix:				
Private (ref)	39.4%	41.5%	22.4%	46.2%
Medicare	43.8%	44.8%	25.0%	50.5%
Medicaid	69.7%§	64.7%§	43.0%§	72.4%§
Uninsured	79.4%†	59.1%	14.4%	61.5%
Mixed	49.9%†	50.4%	29.2%	49.7%
Urbanicity:				
Urban (ref)	51.0%	49.5%	28.6%	56.7%
Suburban	59.8%†	55.6%	33.1%	60.3%
Rural	49.1%	53.7%	38.8%‡	51.3%

*Proportions are the predictive margins from logistic regression models adjusted for each practice characteristic in the table, as well as PCP gender, specialty, ownership of practice, and years in practice.
**Analyses based on sum of those who responded "to a great extent" or "to some extent" for the items below.
All p-values are based on logistic regression analysis
†p<0.05
‡p<.01
§p<0.001

Experiences Caring for Healthy Michigan Plan Beneficiaries

Health Risk Assessments

Key findings:

About four-fifths of PCPs who responded to the survey have completed at least one HRA with a patient; over half of those have completed more than 10.

Most PCPs reported their practice has a process in place for submitting HRAs, but not for identifying patients who needed HRAs completed. Some PCPSs reported having been contacted by a health plan about a patient who needed to complete an HRA. Most don't know whether they or their practice has received a financial incentive for completing HRAs. PCPs reported completing more HRAs if they were located in Northern regions, reported a Medicaid or uninsured

predominant payer mix, payment by capitation or salary, compared to fee-for-service, receiving a financial incentive for completing HRAs, smaller practice size, and co-location of mental health in primary care.

Most PCPs reported that financial incentives for patients and practices had at least a little influence on completing HRAs. According to PCPs, patients' interest in addressing health risks had at least as much influence.

> *We finally get the chance to do prevention because if someone doesn't have insurance and doesn't see a doctor, then there's no way we can do any kind of prevention. We're just kind of dealing with the end-stage results of whatever's been going on and hasn't been treated. So I mean what I've heard people say is "I just want to stay healthy or find out if I'm healthy," and to me that says a lot. We can at least find out where they stand in terms of chronic illness or if they have any or if they are healthy, how can we make sure that they stay that way?*
>
> – Urban physician; Large, hospital-based practice

Most PCPs found HRAs useful for identifying and discussing health risks, persuading patients to address their most important health risks, and documenting behavior change goals. Most found them at least a little useful for getting patients to change behavior.

> *I recently… In the last month, I've signed up two people [for Weight Watchers…two or three people to that, and one of them is really sticking to it. She's already lost 10 pounds.*
>
> – Urban physician; Small, private practice

Approximately how many Health Risk Assessments have you completed with Healthy Michigan Plan patients? (N=2032)

None	1-2	3-10	More than 10
420 (20.7%)	235 (11. 6%)	503 (24.8%)	874 (43.0%)

How often do your Healthy Michigan Plan patients bring in their Health Risk Assessment to complete at their initial office visit? (N=1923)

Almost always	Often	Sometimes	Rarely/never
215 (11.2%)	416 (21.6%)	720 (37.4%)	572 (29.7%)

Table 13. Experience with Health Risk Assessments

Please report your experience with the following:	Yes	No	Don't know
My practice has a process to submit completed HRAs to the patient's Medicaid Health Plan. (N=2041)	1250 (61.2%)	176 (8.6%)	615 (30.1%)
My practice has a process to identify Healthy Michigan Plan patients who need to complete an HRA. (N=2042)	697 (34.1%)	514 (25.2%)	831 (40.7%)
Please report your experience with the following:	Yes	No	Don't know
I/my practice have been contacted by a Medicaid Health Plan about a patient who needs to complete an HRA. (N=2040)	678 (33.2%)	438 (21.5%)	924 (45.3%)
I/my practice have received a financial bonus from a Medicaid Health Plan for helping patients complete HRAs. (N=2033)	367 (18.1%)	339 (16.7%)	1327 (65.3%)

Table 14. Influence on Completing HRA

How much influence do the following have on completion and submission of the Health Risk Assessment?	A great deal	Some	A little	No	Don't know
Financial incentives for patients (N=2046)	549 (26.8%)	486 (23.8%)	155 (7.6%)	294 (14.4%)	562 (27.5%)
Patients' interest in addressing health risks (N=2046)	437 (21.4%)	618 (30.2%)	374 (18.3%)	181 (8.8%)	436 (21.3%)
Financial incentives for practices (N=2044)	374 (18.3%)	502 (24.6%)	258 (12.6%)	353 (17.3%)	557 (27.3%)

Table 15. Usefulness of HRA

For Healthy Michigan Plan patients who have completed their HRA, how useful has this been for each of the following?	Very useful	Somewhat useful	A little useful	Not at all useful
Discussing health risks with patients (N=1828)	601 (32.9%)	733 (40.1%)	311 (17.0%)	183 (10.0%)
Persuading patients to address their most important health risks (N=1828)	484 (26.5%)	712 (38.9%)	415 (22.7%)	217 (11.9%)
Identifying health risks (N=1833)	471 (25.7%)	769 (42.0%)	369 (20.1%)	224 (12.2%)
Documenting patient behavior change goals (N=1826)	409 (22.4%)	716 (39.2%)	449 (24.6%)	252 (13.8%)
Getting patients to change health behaviors (N=1821)	277 (15.2%)	582 (32.0%)	652 (35.8%)	310 (17.0%)

We hypothesized that PCPs who identify a process in place at their practice for identifying patients who need to complete an HRA, and a process in place for submitting an HRA, would report completing more HRAs and that was confirmed. PCPs reporting greater familiarity with healthy behavior incentives and out of pocket expenses faced by patients also reported completing more HRAs.

PCPs were more likely to report their practice had a process for submitting HRAs if they reported:

- Smaller practice size
- They or their practice consulted with care coordinators, case managers, or community health workers
- They or their practice changed workflow processes for new patients
- Co-location of mental health within primary care
- Medicaid or uninsured predominant payer mix
- They or their practice had received an incentive for completing an HRA
- Their practice was located in Northern, Mid-state, or Detroit regions, compared with the Southern region

PCPs were more likely to report a practice to identify patients who needed to complete an HRA if they reported:

- Co-location of mental health within primary care
- Medicaid or uninsured predominant payer mix
- They or their practice had received an incentive for completing an HRA
- Their practice was located in Northern, Mid-state, or Detroit regions, compared with the Southern region

PCPs reported completing more HRAs if they reported:

- Smaller practice size
- Co-location of mental health within primary care
- Medicaid or uninsured predominant payer mix
- Payment by capitation or salary, compared with fee-for-service
- They or their practice had received an incentive for completing an HRA
- Their practice was located in Northern regions of the state compared with other regions

ER Use and Decision Making

Key findings:

The majority of PCPs surveyed felt that they could influence ER utilization trends for their Medicaid patient population and nearly all accepted responsibility for playing a role in reducing non-urgent ER use. Many reported offering services to avoid non-urgent ER use, such as walk-in appointments, 24-hour telephone triage, weekend and evening appointments, and care coordinators or social work assistance for patients with complex problems, but were less likely to offer transportation services.

PCPs reported that accessibility to pain medication and evaluations without appointments are major drivers of ER use, along with patients' comfort with accessing ER services.

> *People who work day shift… It's easier for them to go to the ER or something for a minor thing because they don't have to take time off work. That's a big deal.*
>
> – Rural physician; Small, private practice

> *I think that a lot of it is cultural. I don't mean ethnic culture. I mean just culture… There are some people who that is just what they understand, and that is how they operate. They've seen people do it for years, and they've done it and they just feel comfortable with that.*
>
> – Urban physician assistant, FQHC

PCPs recommended PCP practice changes, ER practice changes, patient educational initiatives, and patient penalties/incentives when asked about strategies to reduce non-urgent ER use.

How much can PCPs influence non-urgent ER use by their patients?

A great deal	Some	A little	Not at all
608 (29.9%)	886(43.6%)	460(22.6%)	80(3.9%)

To what extent do you think it is your responsibility as a PCP to decrease non-urgent ER use?

Major Responsibility	Some Responsibility	Minimal responsibility	No responsibility
740 (36.5%)	1035 (51.0%)	212 (10.4%)	43 (2.1%)

Table 16. PCP Practice Offerings to Avoid Non-Urgent ER Use

Does your practice offer any of the following to help Healthy Michigan Plan patients avoid non-urgent ER use?	Yes	No	Don't know
Walk-in appointments	1336 (66.5%)	607 (30.2%)	67 (3.3%)
Assistance with arranging transportation to appointments	615(30.6%)	1144 (57.0%)	249 (12.4%)
24-hour telephone triage	1492 (74.0%)	438 (21.7%)	85 (4.2%)
Appointments during evenings and weekends	1122(55.8%)	819(40.7%)	71 (3.5%)
Care coordination/social work assistance for	1134 (56.5%)	672 (33.5%)	202(10.1%)

patients with complex problems			

Table 17. Influence on Non-Urgent ER Use

In your opinion, to what extent do the following factors influence non-urgent ER use?	Major influence	Minor influence	Little or no influence
The ER will provide care without an appointment	1679 (82.7%)	273 (13.4%)	78 (3.8%)
Patients believe the ER provides better quality of care	341 (16.8%)	798 (39.4%)	887 (43.8%)
The ER offers quicker access to specialists	614 (30.3%)	723 (35.7%)	691 (34.1%)
Hospitals encourage use of the ER	377 (18.7%)	577 (28.7%)	1058 (52.6%)
The ER offers access to medications for patients with chronic pain	1030 (50.7%)	646 (31.8%)	355 17.5%)
The ER is where patients are used to getting care	1204 (59.5%)	633 (31.3%)	186 (9.2%)

Nearly three-quarters of PCPs felt that they could have "a great deal/some" influence on non-urgent ER use. This finding was associated with **fewer years in practice** and an **increased number of practice changes,** of which **changing workflow for new patients** and **care coordination or social work assistance** for complex problems seemed to be the more significant drivers of that trend.

Nearly nine-tenths of PCPs surveyed felt that they had "a major/some" responsibility to decrease non-urgent ER use. This sense of responsibility was associated with **fewer years in practice**, and a **greater number of practice changes**. More specifically, **having care coordinators/case managers/community health workers** seemed to drive that trend. **Increasing familiarity with specialists or mental health services available for Healthy Michigan Plan patients** was also associated with increased responsibility to decrease non-urgent ER use.

When asked how to reduce non-urgent ER use (open-ended, write-in question), many respondent suggestions addressed **PCP availability** (e.g., increases in the workforce) and changes in **PCP practice** (e.g., extended hours, same-day appointments, improved follow-up). They also recommended gatekeeper strategies, non-primary care options (e.g., urgent care clinics) and greater use of care coordinators and case managers.

Some PCPs suggested **modifications to ER practice**, such as diversion to PCPs, nearby urgent care sites or reducing payment to hospitals/ER practitioners. Others recommended **limiting pain medication** prescriptions in the ER. A few PCPs suggested that the Emergency Medical Treatment and Labor Act (EMTALA) be changed to allow ER practitioners to more readily divert patients to other settings, along with altering the "litigation culture."

Patient educational initiatives were also recommended, for example to clarify "when to seek care," awareness of available alternative services, enhancing patient "coping" and self-management skills, as well as increased transparency on the costs associated with ER care.

Most commonly, PCPs recommended **patient penalties**. Financial penalties were overwhelmingly co-pays, or point-of care payment for ER visits, particularly for visits that do not result in a hospital admission or for patients deemed "high utilizers." Non-financial penalties included having the patient dismissed from the practice panel, or by the insurer.

Others suggested instituting **financial incentives to encourage patients to contact their PCP** prior to seeking ER care, or suggested both increasing out of pocket costs for ER visits while lowering or eliminating costs for visits to primary or urgent care.

Access

Key findings:

PCPs with Healthy Michigan Plan patients who were previously uninsured reported some or great impact on health, health behavior, health care and function for those patients. The greatest impact was reported for control of chronic conditions, early detection of serious illness, and improved medication adherence.

> *One patient…a 64-year-old gentleman who has lived in Michigan or at least lived in the United States for 40 years and had never pursued primary care. Upon receiving health insurance and upon his daughter's recommendation, he pursued care and that was his first…according to him, his first physical evaluation of any sort in 40 years, and he has just….It wasn't a full health maintenance exam. It was a new patient evaluation, and in the time in that initial evaluation he was found to be hypertensive. Upon subsequent labs, you know, ordered on that visit, he was found to be diabetic and upon routine referral at that initial visit for an eye exam, given his hypertension, he was found to have had…hemianopia, which later was determined to be caused by a prior stroke.*
>
> – Urban physician assistant, FQHC

> *Well, I learned a long time ago if the patient doesn't take the medicine, they don't get better. There are a lot of different reasons they don't take it, but the easy one is that if they don't have insurance to cover it and they don't ever pick it up, then they're not going to take it.…if they have financial barriers to getting that done, they're not going to get it done. So I'd say it has a humungous effect.*
>
> – Rural physician, FQHC

PCPs reported that Healthy Michigan Plan patients, compared to those with private insurance, more often had difficulty accessing specialists, medications, mental health care, dental care, treatment for substance use and counseling for behavior change (all, p<.001).

> *It can still take up to six months to see a psychiatrist unless you get admitted to the hospital… the ones that work for the hospital that don't take Medicaid or Medicare. And then at discharge, you really aren't going to see the other psychiatrist any quicker. It's kind of a mess. But I don't blame Medicaid expansion for that. It was a mess before then.*
>
> – Urban physician; Small, private practice

> *He has a job that I think he gets paid $9/hour to work, and he's like a super hard-working guy….I think his son has like…is 14 years old with…mental disabilities,…..So now we're talking about a man that needs to get a super expensive medication….Although I feel like I'm a great primary care doc, sometimes, you know, those medications and the follow-up need to probably…There needs to be a team….some teamwork between the rheumatologist and the primary care doctor, and we couldn't get him back in*.
>
> – Urban physician, FQHC

Table 18. Impact of Healthy Michigan Plan on Previously Uninsured Patients

Please think about what has changed for your patients who were previously uninsured and are now covered by the Healthy Michigan Plan. Rate the extent to which you think HMP has had an impact on each of the following for these patients:	Great impact	Some impact	Little impact	No impact	Don't know
Better control of chronic conditions	701 (35%)	789 (39.4%)	139 (6.9%)	30 (1.5%)	346 (17.3%)
Early detection of serious illness	674 (33.7%)	748 (37.4%)	153 (7.6%)	40 (2%)	387 (19.3%)
Improved medication adherence	568 (28.3%)	817 (40.8%)	215 (10.7%)	54 (2.7%)	350 (17.5%)
Improved health behaviors	323 (16.1%)	811 (40.4%)	378 (18.9%)	106 (5.3%)	387 (19.3%)
Better ability to work or attend school	263 (13.1%)	661 (33%)	399 (19.9%)	114 (5.7%)	566 (28.3%)
Improved emotional wellbeing	328 (16.4%)	813 (40.6%)	348 (17.4%)	76 (3.8%)	439 (21.9%)
Improved ability to live independently	239 (11.9%)	593 (29.6%)	438 (21.9%)	141 (7%)	591 (29.5%)

Table 19. Reported Frequency of Access Difficulty – Healthy Michigan Plan Patients

	Often	Sometimes	Rarely	Never	Don't know
How often do Healthy Michigan Plan patients have difficulty accessing the following?					
Specialists **+	644 (31.3%)	729 (35.4%)	137 (6.7%)	19 (.9%)	530 (25.7%)
Medications **+	322 (15.6%)	886 (43.1%)	330 (16.0%)	37 (1.8%)	483 (23.5%)
Mental Health Care **+	711 (34.5%)	523 (25.4%)	193 (9.4%)	35 (1.7%)	597 (29.0%)
Dental/Oral Health Care **+	623 (30.2%)	361 (17.5%)	131 (6.4%)	23 (1.1%)	923 (44.8%)
Treatment for substance use disorder **+	594 (28.9%)	446 (21.7%)	151 (7.3%)	31 (1.5%)	836 (40.6%)
Counseling and support for health behavior change **+	536 (26.0%)	543 (26.4)	218 (10.6%)	55 (2.7%)	708 (34.4%)
How often do your privately insured patients have difficulty accessing the following?					
Specialists **+	71 (3.4%)	650 (31.3%)	1009 (48.6%)	273 (13.2%)	71 (3.4%)
Medications **+	137 (6.6%)	1053 (50.8%)	719 (34.7%)	97 (4.6%)	68 (3.3%)
Mental Health Care **+	367 (17.7%)	893 (43.1%)	551 (26.6%)	125 (6.0%)	136 (6.6%)
Dental/Oral Health Care **+	156 (7.5%)	632 (30.5%)	624 (30.1%)	132 (6.4%)	528 (25.5%)
Treatment for substance use disorder **+	305 (14.7%)	799 (38.6%)	525 (25.4%)	98 (4.7%)	344 (16.6%)
Counseling and support for health behavior change **+	256 (12.4%)	802 (38.7%)	649 (31.3%)	144 (6.9%)	221 (10.7%)

**p<.001 paired t-test comparing don't know responses for HMP and privately insured patients

+p<.001 Wilcoxon signed-rank test comparing responses for HMP and privately insured patients

Discussing Costs with Patients

Given the cost-sharing features of Healthy Michigan Plan, we asked PCPs about conversations they may have had with patients about out-of-pocket costs.

Key findings:

About one-fifth of PCPs reported discussing out-of-pocket costs with a Healthy Michigan Plan patient. The patient was more likely than the PCP to bring up the topic. About half the time the discussion resulted in a change of management plans.

> *They don't have that stigma any longer of not being insured and there's not that barrier between us about them worrying about the money, even though we really never made a big deal of it, but they could feel that. I don't know. I think they feel more worth.*
>
> – Rural physician; Small, private practice

Have you ever discussed out-of-pocket medical costs with a Healthy Michigan Plan patient? (N=1988)

Yes	No
445(22.4%)	1543 (77.6%)

Thinking of the most recent time you discussed out-of-pocket medical expenses with a Healthy Michigan Plan patient, who brought up the topic? (N=440)

The Patient	Me	Somebody Else in the Practice	Other
247 (56.1%)	171 (38.9%)	16 (3.6%)	6 (1.4%)

Thinking of the most recent time you discussed out-of-pocket medical expenses with a Healthy Michigan Plan patient, did the conversation result in a change in the management plan for the patient? (N=440)

Yes	No	Don't remember	Blank
248 (55.7)(56.4%)	131 (29.4)(29.8%)	61 (13.7)(13.9%)	5 (1.1)

We hypothesized that PCPs' likelihood of having cost conversations would vary by their PCPs' personal, professional and practice characteristics:

Table 20. Association of PCP personal, professional and practice characteristics with Frequency of Cost Conversations and Change in Clinical Management due to Cost Conversations

	N (%)	
	Cost Conversations†	Change in Management due to Cost Conversation‡
Personal characteristics		
Gender		
Male	227 (20.5%)*	118 (52.7%)
Female	218 (24.7%)	130 (60.2%)
Race		
White	367 (24.3%)**	204 (56.0%)
Black/African American	14 (15.4%)	8 (57.1%)
Asian/Pacific Islander	25 (12.3%)	14 (60.9%)

Other/More than one	18 (17.5%)	10 (55.6%)

Table 20 (continued). Association of PCP personal, professional and practice characteristics with Frequency of Cost Conversations and Change in Clinical Management due to Cost Conversations

	N (%)	
	Cost Conversations†	Change in Management due to Cost Conversation‡
Ethnicity		
Hispanic/Latino	15 (33.3%)	8 (53.3%)
Not Hispanic/Latino	416 (22.0%)	234 (56.9%)
Professional characteristics		
Provider type		
Physician	337 (20.4%)**	180 (54.1%)
Non-physician (NP or PA)	108 (32.2%)	68 (63.6%)
Specialty		
Family medicine	230 (21.6%)**	119 (52.2%)*
Internal medicine	96 (17.8%)	58 (61.7%)
Other physician specialty	11 (21.6%)	3 (27.3%)
Non-physician (NP or PA)	108 (32.2%)	68 (63.6%)
Years in practice		
<10 years	126 (25.1%)	87 (69.6%)*
10-20 years	134 (20.8%)	72 (54.1%)
>20 years	172 (22.8%)	84 (49.7%)
Prior care for underserved patients		
Yes	284 (25.8%)**	161 (57.1%)
No	151 (18.1%)	82 (55.4%)
Practice characteristics		
Practice size		
Small (≤5 providers)	252 (23.2%)	141 (56.4%)
Large (>5 providers)	181 (22.1%)	103 (57.9%)
FQHC practice		
Yes	94 (31.4%)**	58 (61.7%)
No	347 (20.8%)	188 (54.8%)
University/teaching hospital practice		
Yes	48 (18.3%)	27 (57.5%)
No	388 (23.0%)	217 (56.5%)
Hospital-based practice (non-teaching)		
Yes	134 (22.0%)	82 (62.1%)
No	302 (22.5%)	162 (54.2%)
Payer mix		
Medicaid/Uninsured predominant	177 (26.4%)*	104 (58.8%)
Private/Medicare/Other predominant	232 (20.0%)	128 (55.7%)
Practice characteristics		
Urbanicity		
Urban	312 (20.9%)*	168 (54.4%)*
Suburban	42 (22.7%)	20 (47.6%)
Rural	91 (29.3%)	60 (67.4%)
Total	445 (22.4%)	248 (56.4%)

†Percent among total respondents
‡Percent among those respondents who had a cost conversation
*p<0.05
**p<0.001

In multivariable analyses, **we found that PCPs who were white, Hispanic/Latino, non-physician practitioners and with Medicaid or uninsured predominant payer mixes were more likely to have cost conversations with patients. We also found that PCPs who were younger and in rural practices were more likely to report a change in management due to cost conversations with patients.**

Table 21. Multivariable Association of PCP personal, professional and practice characteristics with Likelihood of Cost Conversations, and Likelihood of Change in Clinical Management due to Cost Conversations

	Adjusted Odds Ratio† (95% CI)	
	Odds of Cost Conversation	Odds of Change in Management due to Cost Conversation
Personal characteristics		
Male gender	0.82 (0.63-1.05)	0.91 (0.58-1.41)
Race		
White	[ref]	[ref]
Black/African American	0.52 (0.28-0.96)*	0.92 (0.29-2.93)
Asian/Pacific Islander	0.43 (0.27-0.70)*	1.37 (0.54-3.46)
Other/More than one	0.65 (0.36-1.17)	1.60 (0.52-4.94)
Ethnicity, Hispanic/Latino	2.11 (1.08-4.12)*	0.93 (0.31-2.77)
Professional characteristics		
Provider type, physician (ref=non-physician)	0.71 (0.51-0.99)*	0.96 (0.54-1.73)
Years in practice		
<10 years	[ref]	[ref]
10-20 years	0.81 (0.60-1.09)	0.52 (0.30-0.89)*
>20 years	1.04 (0.77-1.42)	0.47 (0.27-0.82)*
Practice Characteristics		
Payer Mix		
Medicaid/Uninsured predominant	1.31 (1.02-1.69)*	0.95 (0.60-1.51)
Private/Medicare/Other predominant	[ref]	[ref]

Table 21 (continued). Multivariable Association of PCP personal, professional and practice characteristics with Likelihood of Cost Conversations, and Likelihood of Change in Clinical Management due to Cost Conversations

	Adjusted Odds Ratio† (95% CI)	
	Odds of Cost Conversation	Odds of Change in Management due to Cost Conversation
Practice characteristics		
Urbanicity		
Urban	0.82 (0.60-1.11)	0.62 (0.35-1.11)
Suburban	0.70 (0.45-1.11)	0.41 (0.18-0.95)*
Rural	[ref]	[ref]

†Each column represents a different multivariable model
*p<0.05
**p<0.001

Suggestions for Improvement and Impact of the Healthy Michigan Plan

We provided PCPs open-ended opportunities in the survey to provide additional information, including asking them for suggestions to improve and impact of the Healthy Michigan Plan.

Suggestions from PCPs included the following:

- Ways to increase patient responsibility
- Need for increased patient education about health insurance, health behaviors, primary care, appropriate ER use, and medication adherence
- Improve accessibility to and availability of other practitioners (especially specialists including mental health and addiction providers)
- Increase reimbursement to encourage practitioners to participate
- Need for increased provider education and up-to-date information about what is/is not covered, program features, administrative processes, billing for HRA completion, and costs faced by patients
- Need for better coverage for some specific services (e.g., behavioral health, physical therapy)
- Formularies are too limited, lack transparency, and require too much paperwork to obtain authorization for necessary prescription drugs
- Suggested streamlining formularies between Medicaid plans, keeping an updated list of preferred medications and more transparency around medication rejections
- Reduce the complexity of paperwork
- HRA had mixed responses; some saw it as more paperwork or redundant with existing primary care practice, others saw it as worthwhile
- Patient churn on and off and between types of coverage is challenging, especially because patients are often unaware of the change

Impact of the Healthy Michigan Plan:

- Many respondents reported that Healthy Michigan Plan had a positive impact by allowing patients to get much needed care, improving financial stability, providing a sense of dignity, improving mental health, increasing accessibility to care and compliance (especially with medications), helping people to engage in healthy behaviors like quitting smoking, and saving lives
- Some reported a negative impact, saying that it has “opened a flood gate” and there are not enough practitioners, that too many new patients are seeking [pain] medications, and that it even influenced their decision to change careers or retire

IN-DEPTH INTERVIEWS WITH PRIMARY CARE PRACTITIONERS
RESULTS

The results section begins with a brief description and summary table of the characteristics of 19 primary care providers who care for Medicaid/HMP patients, and who participated in in-depth semi-structured telephone interviews between December 2014 and April 2015. The next section provides key findings from those interviews. The main topics appear in boxes, followed by key findings in bold font, a brief summary explanation in regular font, if indicated, and illustrative quotations, in italics.

Characteristics of Primary Care Practitioners Interviewed

Between December 2014 and April 2015, we conducted 19 semi-structured telephone interviews with sixteen physicians (84%) and three non-physician (16%) primary care practitioners. Of the sixteen physicians interviewed, fourteen specialized in family medicine (88%) and two in internal medicine (12%). Five of these providers practiced in the City of Detroit (26%); four practiced in Marquette, Baraga, or Iron County (21%); four practiced in Kent County (21%); three in Midland, Bay, or Saginaw County (16%); and three in Alcona, Alpena, or Oscoda County (16%). PCPs interviewed came from both urban and rural settings, had a range of years in practice, included private practices, hospital-based practices, Federally Qualified Health Centers, rural clinics and free/low-cost clinics.

Table 22. Personal, Professional and Practice Characteristics of PCP Interviewees (N=19)

Personal characteristics		
Gender	N	%
Male	12	63
Female	7	37
Professional characteristics		
Provider type		
Physician	16	84
Non-Physician (NP/PA)	3	16
Specialty		
Family medicine	14	74
Internal medicine	2	11
Nurse practitioner (NP)	1	5
Physician's Assistant (PA)	2	11
Years in practice		
<10 years	5	26
10-20 years	6	32
>20 years	8	42
Practice characteristics		
Presence of non-physician providers in practice		
Yes	16	84
No	3	16
Practice type		
Federally qualified health center (FQHC)	5	26
Large/hospital-based practice	3	16
Free/low-cost clinic	2	11
Practice type		
Small, private practice	7	37
Rural health clinic	2	11

Table 22 (continued). Personal, Professional and Practice Characteristics of PCP Interviewees

Practice characteristics	N	%
Urbanicity		
Urban	12	63
Rural	7	37

Interview results are presented in the following format:
Key Findings
Representative quote(s)

PCP Understanding of Healthy Michigan Plan and its Features

There was significant variation among the PCPs in their understanding of the Healthy Michigan Plan and its features, and therefore their ability to navigate or help patients obtain services.

> *I had a ton of exposure during the development and the implementation of Healthy Michigan because we were trying to get all of our thousands of enrollees [on the county health plan] onto Healthy Michigan. So that would be back when I first heard about it.*
>
> – Urban physician, FQHC

> *Really the only thing I know about the expansion is in early 2014 we started getting a way lot more requests for a new patient visit than we've ever had before. I was just like, "what is going on? We don't get 25 requests for new patients/month." So when it started really climbing, that's when I figured out, "Okay. It's probably due to the Obamacare Medicaid expansion."*
>
> – Urban physician; Small, private practice

> *I'm not aware of a change in how patients can get access to care with regards to transportation since Healthy Michigan has begun. Is there…I don't know…Is there some additional payment available for patients to get to doctors and dentists with Healthy Michigan?*
>
> – Rural physician; Large, hospital-based practice

Many PCPs perceived that the Healthy Michigan Plan cost-sharing requirements may create some misunderstandings among patients but were supportive of patients making financial contributions to their care.

> *The only significant difficulty that I foresee is with the copay issue. I have a concern that patients see this as free for the first six months, and now all of a sudden are confronted with a bill that they don't understand how they got.*
>
> – Urban physician, Free/low-cost clinic

> *We've got it posted in the front where people exit, and I looked at the amounts and thought, "Well, it's pretty fair actually." You know, it's not break the bank copays, but it gets people to think, "Well, yeah, you know, that's less than the cost of a pack of cigarettes."*
>
> – Rural physician, Rural health clinic

> *For the most part, the patients have it all filled out ahead of time … And then the nurse puts in their vitals, their last cholesterol and things like that on that sheet. We look that over and answer a couple of questions on the back.*
>
> – Rural physician, FQHC

The health risk assessments. So, part of my selling point is, "Okay, you're going to get half off on your copays. We've done it. You're set," you know, kind of thing. While that doesn't totally engage them in the process (LAUGHTER), you know, we continue to work on that.

– Urban physician, FQHC

Some of the plans, and I think these might be the Medicare/Medicaid plans, have offered patients like a gift card or something, and that has prompted a lot of patients to really make sure that we fill those forms out, but I don't recall patients really telling me, "Well, I have to pay a low copay because you fill out this form for me."

– Urban physician; Large, hospital-based practice

PCPs found the Healthy Michigan Plan's <u>Health Risk Assessment</u> useful for identifying health risks, disease detection, discussing risks with patients, and setting health goals.

…In the last month, I've signed up two people [for Weight Watchers]…two or three people to that, and one of them is really sticking to it. She's already lost 10 pounds. She really likes it. She's hoping that she can get an extension on it. The other two I haven't really heard back from yet. They just started it, but I personally think that's a great benefit because a lot of people need education on how to properly eat and what a good diet actually is instead of just Popeye's chicken.

– Urban physician; Small, private practice

There were some people that came in with the Healthy Michigan plan and their health risk assessment, although I don't remember anybody that said, "Hey, you have no issues." It was at least, "You need to stop smoking," or "work on your diet or exercise," and "get a flu shot," if not needing management for diabetes or asthma or other things like that.

– Rural physician, FQHC

PCP Decision Making on Acceptance of Medicaid/Healthy Michigan Plan Patients

PCPs described influences on the Medicaid acceptance decision at the provider level (illness burden and psychosocial needs of Medicaid patients), practice level (capacity to see both new and established patients), health system level (availability of specialists and administrative structures), and the policy environment level (reimbursement).

There are days when we'll look at each other and it's like, "I think we've got enough people like that." It's like the person who takes the energy of dealing with six ordinary people.

– Rural physician assistant, Rural health clinic

It has to do with what our capacity is. So looking at schedules, looking at next appointments, are we able to adequately care for the patients that we're currently responsible for.

– Urban physician, Free/low-cost clinic

In terms of referral and specialty care, it is still tricky. So while our ability to care for them has dramatically expanded, our ability to tap into our disjointed healthcare system in terms of specialty care, I think, maybe hasn't changed a whole lot. I think if I lived closer to [medical center] or closer to some other big training centers, that would probably be different. But like private specialists don't really care if they're uninsured or if they have Healthy Michigan.

– Urban physician, FQHC

I think the actual decision as to whether to accept Healthy Michigan patients … is made ... at a higher level... It's at the health system level... I wouldn't really be involved in making that decision, nor would most of my clinic leadership.

– Urban physician; Large, hospital-based practice

I've been hearing about [the Medicaid/Medicare primary care rate bump], but I don't feel like I've paid attention to details..

–Urban physician; Large, hospital-based practice

For our clinic, [reimbursement amount] plays no role in whether we accept more Medicaid patients … we're gonna serve that population and take care of them … We'll do whatever reasonably we can do to get paid for that, but that doesn't make or break the decision whether we're going to do that.

– Urban physician, Free/low-cost clinic

[A]s long as the rural health center plans still pay me adequately, I don't foresee making any changes. If they were to all of a sudden say, "Okay, we're only going to reimburse 40% or 50% of what we used to," that would be enough to put me out of business. So I would think twice about seeing those patients then, but as long as they continue the way they have been for the last six years that I've owned the clinic, I don't see making any changes. It works just fine.

– Rural nurse practitioner, Rural health clinic

Overall Impact of Healthy Michigan Plan on Beneficiaries

Many of the PCPs interviewed had favorable views of the Healthy Michigan Plan and its overall benefits for patients and health systems.

I think…I hate to tell you, but so far everything has been easier. I don't know that I've had anything that's worse. There might be something with drugs as far as ordering stuff, but across the board that's not just Healthy Michigan. I mean they want us to use generics. We're happy to do that. Once in a while, a generic is not going to do it, but I don't think I've had…I can't think of anything that is really negative about it. It's like…People just…I think they're just…They're thankful for it. People aren't overly demanding. They're not coming in acting like, "I deserve this. I want an MRI of my entire body. Nobody's like that, you know? They just…It's like, you know…It's really…It's kind of a nice working together partnership. It's like I usually tell people, "Let's get you caught up." It has become my motto for that. It's like, "We're gonna get you caught up."

– Rural physician assistant, Free/low-cost clinic

Yes. [E]very single day this law has changed my patients' lives…So I get to be in this special niche where I feel like I have a front row seat to the good things that happen as a result of Healthy Michigan….So for example, half the patients I would see pre-Healthy Michigan had essentially nothing in terms of health insurance, right?...I could almost do no labs. I could do very limited health maintenance. I certainly could do no referrals and had a really difficult time getting any type of imaging or substantive workup apart from a physical exam and some in-house kind of labs because people were petrified of the bills that would accumulate.

– Urban physician, FQHC

You know, the Healthy Michigan part has made a big difference…The idea of more people having insurance is good for everyone. Now we'll see long-term in terms of the cost and everything. I know that's a big challenge, but there's no doubt…Like the reimbursement of specifically the hospitals in the city, they're doing much better knowing that a lot of the patients that never had insurance before, do have insurance and that they can get some reimbursement instead of having to, you know, worry about some of the challenges of, you know, unnecessary care.

– Urban physician, FQHC

This program is helping people. It's helping working people, not the totally indigent people who are on disability who are already getting things. These are people…like a parent, a relative of yours that's been working and can't afford the insurance which is ridiculous.

– Urban physician; Small, private practice

Many of these people are working and so they're going to be able to continue working and paying taxes and contributing to society, where if you ignore your diabetes and you ignore your blood pressure, eventually you might end up losing limbs, losing your kidneys. Now you're on disability and, oh look, now you qualify for Medicaid.

– Urban physician; Small, private practice

PCPs noted that their patients were relieved of the stigma and worry associated with not being able to pay for needed care, and able to get needed services they could not previously afford.

They don't have that stigma any longer of not being insured and there's not that barrier between us about them worrying about the money, even though we really never made a big deal of it, but they could feel that. I don't know. I think they feel more worth.

– Rural physician; Small, private practice

Well, I learned a long time ago if the patient doesn't take the medicine, they don't get better. There are a lot of different reasons they don't take it, but the easy one is that if they don't have insurance to cover it and they don't ever pick it up, then they're not going to take it. So I mean I think it plays into every decision where we're ordering a test or recommending a treatment or medication or a referral because if they have financial barriers to getting that done, they're not going to get it done. So I'd say it has a humungous effect.

– Rural physician, FQHC

People are definitely more receptive to the idea of talking about healthcare maintenance items now as opposed to just wanting to deal with the acute issue. It may be because they feel less stressed about the ability to actually be able to get the test done because they understand that it's a…It's a benefit covered under the insurance.

– Urban physician, FQHC

The positive impact of the Healthy Michigan Plan has had a ripple effect in encouraging people to get covered and seek needed care.

Not only are they maybe talking to other people who are then applying and have applied and have gotten the insurance coverage…It just seems like more people are coming, both uninsured and insured because they maybe heard good things about the ease with which they've been able to get care or they've seen how maybe other peoples' circumstances have seemingly changed. I just feel like there's been kind of…a positive ripple effect of people just pursuing care, whether insured or not.

– Urban physician, FQHC

I know a lot of people that didn't have access to healthcare before are getting it now. The ones who were able to get Medicaid that weren't otherwise qualified for it before are starting to get help now, and we're able to find the conditions that they have never been able to get tested for before and treat them for it.

– Urban physician; Small, private practice

Healthy Michigan Plan is Meeting Many Unmet Health Needs

PCPs reported many examples of patients with unmet health care needs, whose health and well-being greatly improved after enrolling in Healthy Michigan Plan. This was particularly true for patients who were previously uninsured and for those with chronic illness (e.g., diabetes, asthma, hypertension) that were often diagnosed after enrolling in Healthy Michigan Plan.

Upon receiving health insurance and upon his daughter's recommendation, he [patient in his early 60s] pursued care and that was his first …according to him, his first physical evaluation of any sort in 40 years, and he has just…It wasn't a full health maintenance exam. It was a new patient evaluation, and in the time in that initial evaluation he was found to be hypertensive. Upon subsequent labs, you know, ordered on that visit, he was found to be diabetic and upon routine referral at that initial visit for an eye exam, given his hypertension, he was found to have had…hemianopia, which later was determined to be caused by a prior stroke.

– Urban physician, FQHC

A lot of neglected… A lot of chronic diseases that have been neglected. Because before, what would suddenly make that person decide to come in and see the doctor and pay out of pocket if they hadn't been doing that for three years? There's nothing to make them come in and take care of it. They wanted to, but they couldn't afford it. They weren't even seeing anybody. Now suddenly, there's this opportunity to get health insurance or to get Medicaid, and so now they are coming to the doctor because they know that they need to get their diabetes under control.

– Urban physician; Small, private practice

*She's only 33 and I had five diagnoses at the end….. it's even double that if you're 70. They waited all this time. They haven't had a doctor; you have to, at least, touch on everything the first time you see them… you have to know what's wrong with them***.**

-Urban physician; Small, private practice

So yesterday I had a patient… The guy's got totally uncontrolled diabetes….He's like 53. He hadn't been to a doctor, he thinks, since his twenties. The only reason he came in . . .because he got this new insurance. He had his little health risk assessment. He's like, "Alright. I'm going in."

-Urban physician, FQHC

PCPs reported an increased ability to provide preventive services and tests that had previously been an unmet need.

I know a lot of people that didn't have access to healthcare before are getting it now. The ones who were able to get Medicaid that weren't otherwise qualified for it before are starting to get help now, and we're able to find the conditions that they have never been able to get tested for before and treat them for it.

- Urban physician; Small, private practice

I think on one level, it's a sense of relief that they don't have to go to the ER for urgent things, that they can come to us first if it's something that we can handle, and then just having a chance to confirm that either they're healthy or that there are issues that they need to work on. I guess from my perspective is that we finally get the chance to do prevention because if someone doesn't have insurance and doesn't see a doctor, then there's no way we can do any kind of prevention. We're just kind of dealing with the end-stage results of whatever's been going on and hasn't been treated. So I mean what I've heard people say is "I just want to stay healthy or find out if I'm healthy," and to me that says a lot.

– Urban physician; Large, hospital-based practice

We're taking care of the comorbidities before they happen. In the long run, the program is going to pay for itself. We're identifying diabetics. Hypertension is rampant.

-Urban physician; Small, private practice

Coverage for dental services, prescription drugs, and mental health services were specifically noted as unmet needs being addressed by the Healthy Michigan Plan. Access to these services were described "as a lifesaver." PCPs reported increased ability to connect people to needed services, though challenges remain, especially in the area of mental health.

I refer a lot for mental health services and counseling, and a lot of these people just don't know about the services out there. So being able to connect people with the appropriate care that they need or could use in the future, I think, has been really valuable.

– Urban physician; Large, hospital-based practice

For thirteen years, getting dental has been like pulling teeth… It's been very difficult for our patient population. Dental is a huge issue. I would say well over half of our folks have significant dental problems that haven't been cared for in years.

– Urban physician; Free/low-cost clinic

[W]*hile it doesn't allow them to access say whatever specialist they want, by all means, they have access to things that I think are appropriate for them, i.e. this particular study, that particular lab, this particular workup…In addition to that, they also now have access to a pharmaceutical formulary which is, you know, light years better than what they had when they were looking at, "Okay, what's the $4 Wal-Mart offer me?"*

– Urban physician; FQHC

PCPs reported challenges finding local specialists for referrals. In some cases, this was because of a general shortage of specialists in the area, but often it was noted that there are too few practitioners willing to accept patients with Healthy Michigan Plan/Medicaid coverage. Some PCPs also reported that their patients had difficulty accessing counseling services for healthy behavior change.

For the most part. It can still take up to six months to see a psychiatrist unless you get admitted to the hospital. But then if you get admitted to the hospital, the private psychiatrist will see you….the ones that work for the hospital that don't take Medicaid or Medicare. And then at discharge, you really aren't going to see the other psychiatrist any quicker. It's kind of a mess. But I don't blame Medicaid expansion for that. It was a mess before then.

– Urban physician; Small, private practice

Dermatology is a huge issue…Yeah, in this county…In this county we have a huge problem because we have no place to send our Medicaid patients. And obviously they can't afford to do it out of pocket.

– Rural nurse practitioner; Rural health center

The specialty offices that don't accept Medicaid, don't accept Healthy Michigan plan Medicaid either…So, I mean, I don't think that's changed with the Healthy Michigan plan.

– Urban physician; Free/low-cost clinic

[I]n terms of referral and specialty care, it is still tricky. So while our ability to care for them has dramatically expanded, our ability to tap into our disjointed healthcare system in terms of specialty care, I think, maybe hasn't changed a whole lot. I think if I lived closer to [medical center] or closer to some other big training centers, that would probably be different. But like private specialists don't really care if they're uninsured or if they have Healthy Michigan.

– Urban physician; FQHC

We have no dermatologists in this county. So when I try to refer one of my HMP patients to a dermatologist [in another county], there are no offices that will take [healthplan] patients.

-Rural nurse practitioner; Rural health center

We have a Medicaid dental clinic here, but it's a long wait to get in. …up here no one accepts Medicaid … They kind of just pull people's teeth out and not do the usual restorative work.

-Rural physician; Small, private-practice

We do have. . . a smoking cessation program in our health system, but they don't take Medicaid patients. ... we do have a weight management program, but they don't take Medicaid.

-Urban physician; Large, hospital-based practice

PCPs noted that connecting patients to mental health services remains particularly challenging.

[W]e've got community mental health services available but they don't have enough money and they're too busy, and the patients suffer because of that. And Medicaid helps that to a modest degree, but there's still not enough providers and still not enough, I guess, reimbursement from Medicaid.

– Urban physician; Free/low-cost clinic

In our area, due to the limited resources, I think it is difficult that there's not enough psychiatrists and counselors around....and there doesn't seem to be any stability with respect to who is a practicing psychiatrist within the community, meaning individuals might have a psychiatrist for a couple of months, and then somebody else new comes on board. So I do think it's an area that is not being handled well.

– Rural physician; Small, private practice

PCPs noted that barriers to care, such as transportation, are reduced but remain.

You've solved the insurance problem, but then there are certain other parts of their life that makes it hard for them to deal with the healthcare system, and that is they may not follow up with appointments, they may not go to appointments, they may not be so good at communicating their history, they may not follow through with getting medications even if they have insurance. It's kind of like a whole host of behavioral parts to it. So, solving the insurance issue is a really important part, but then really many of these people almost like need a case manager to help make sure all the other little pieces come together because just leaving them on their own, they won't necessarily get the care.

– Urban physician; Small, private practice

Transportation has always been an issue with our patients. We've provided transportation for our uninsured patients, and we know that about one-third of our patients wouldn't have been able to get here or to their specialty appointments without that. Now fortunately [Healthy Michigan Plan health plan] does provide transportation. There's two barriers to their transportation. One is the amount of time patients have to call ahead to get it, which is understandable. But for our patients, sometimes difficult. And the fact that it tends to run late. In some circumstances, it's not a real predictable timeframe. So that's been a challenge. I know I've had one patient who's been so frustrated. We referred her to counseling. She made two counselling appointments, and transportation didn't pick her up for either.

– Urban physician; Free/low-cost clinic

That's a great question. That's a great question. Transportation is huge. That's a huge, huge issue that sort of is under the radar for most people. That's a huge issue for my patients. People just don't have cars, and they don't have family or friends with cars. If you don't have insurance, you are stuck. I just had a guy…I had two guys yesterday who I hadn't seen in, I don't know, maybe six months. Both of them. "I just can't get in to see you, doc." "I can't get in to see you." I said to them yesterday, "Well how did you get in to see me today?" "Oh, I just called my insurance." Fantastic!

– Rural physician; FQHC

ER Use

PCPs discussed a number of factors influencing high rates of ER use including culture or habit, sense of urgency for care and need for afterhours care. Some PCPs noted that some Healthy Michigan Plan beneficiaries use the ER because it's convenient. Even for those practices with extended hours, their office may not be open at convenient time for patients, and their schedules may not coincide with when health issues arise.

I mean those people who use the ER…sometimes it's just the culture. That's just how they've been …they…I don't want to say "conditioned," but maybe long-term circumstances or habit or what have you…They just tend to utilize the ER as a means of…almost like a secondary or a primary care clinic.

– Urban physician assistant, FQHC

You know, to some degree, it is convenience. You know, we have a few days where we're open to 6:00 or 7:00, but not every day, and we're not open on Saturdays or Sundays…People who work day shift… It's easier for them to go to the ER or something for a minor thing because they don't have to take time off work. That's a big deal.

– Rural physician; Small, private practice

Yeah, I know what you mean. The question is it somehow more convenient or timely or something to go to the ER or come to the office? And I think sometimes people have that perception, but they always wait for 3 hours in the ER. They're never in and out in 20 minutes, you know.

– Urban physician, FQHC

The families up here that I know have always done that do it because…Like the one lady, for example, might be sitting and watching television at 6:00, and she gets a little twinge in her abdomen. Because she has an anxiety condition, she talks herself into the fact that she's got colon cancer, and she goes to the ER in about a 20-minute time frame.

– Rural nurse practitioner, Rural health clinic

PCPs also discussed ways to reduce ER use such as educating patients on appropriate use, providing other sources of afterhours care (e.g., urgent care), and imposing a financial penalization or higher cost sharing for inappropriate ER use.

You know, I mean I think it still comes to education and availability…continuing to try to educate patients on, you know, why it is important to kind of…appropriately pursue care. So, you know, kind of having a conversation with patients about…why it's in their best interest to come to their primary care office, though it may take a little longer to do so than to go to the ER, and also making sure that we have available appointments so a patient doesn't feel, you know, as if they have no other alternative. So, you know, having office hours that…evening office hours…having a fair amount of those and getting appropriate…appropriately trained triage staff to be able to adequately address patients' acute care needs and questions when they call in.

– Urban Physician Assistant, FQHC

If you go to the ER and you're not admitted to the hospital, you're charged a significant amount…That tends to deter people, and I think that's the only way things are going to change and whether the ER's have a triage person that can determine this is an ER-appropriate problem and send people elsewhere, but I think it…There has to be some financial consequences …Even if it's a small amount. I know you're dealing with economically disadvantaged people, but even a small amount of money tends to sometimes affect behaviors.

– Rural physician; Small, private practice

I think certainly accessibility because I'm sure part of it has to do with accessibility. So possibly providing extended hours, weekend hours…Clearly the health system does have access, extended hours, weekend hours…They're not really well-located for MY patients in the sense that my patients live in downtown [city], are in the [city] area specifically, and they don't necessarily have access to some of these facilities which tend to be near [city], but not necessarily in [city]. So I think that maybe setting up that kind of an urgent care close to the hospital, right here. If it means co-locating it next to the ER so we can send the urgent care-type patients there; that would be certainly something that we can do.

– Urban physician; Large, hospital-based practice

PCPs noted that the hospitals play a role in rates of ER use.

The hospital is not incentivized to send those people away because they're paying customers. They want to support having a busy ER. There are some places that actively deter people from going to the emergency room where they'll do a medical screen and exam and say, "No. Your problem is not acute. You don't need to be seen in the emergency room today. Go back and make an appointment with your primary care doctor."

– Rural physician, FQHC

Actually I think it's 29 [minutes] right now, and then in mid and Northern Michigan, there are… billboards that tell you exactly what your wait time is right now in their ER. So it will say 8 minutes or 10 minutes or whatever their wait time is.

– Urban physician, Free/low-cost clinic

Impact of Healthy Michigan Plan on PCP Practice

PCPs reported utilizing a variety of practice innovations including co-locating mental health care, case management, community health workers, same-day appointments, extended hours and use of midlevel practitioners.

At our office, we have two behavioral health specialists. I think they're both MSWs. So they do counseling and group therapy and so our clinic is kind of special. We're able to route a lot of people to them.

– Rural physician, FQHC

I think our office has become much more accommodating with phone calls for same-day appointments. So we've done a better job at looking at schedules, at planning for this… for these kinds of patients that fall into the acute care category. So we're able to do that a lot more readily. We're a large clinic than we used to be. We've got more providers, and that certainly makes a difference also. So there's multiple reasons for it.

– Rural physician; Large, hospital-based practice

Yeah. We have a number of people working as caseworkers now. That's been a big change in the last year. I should probably mention that…We're part of MIPIC, and I guess with the start of My Pick, we got financial support for a number of caseworkers, and then we sort of steal their time for basically

any insurance that needs some management. We're having a lot of…We're getting a lot of help with case managers for people coming out of hospitals to coordinate care there.

– Rural physician, FQHC

So, one of the pieces that we are developing now is using our navigator to reach out to those patients. As we see new people assigned to us and we don't see an appointment on the schedule, reaching out to them, helping them get into care.

– Urban physician, Free/low-cost clinic

That [co-location] has been very helpful especially to our Medicaid patients …we can get those people in quickly and get treatment, which was otherwise very difficult. …now it's less of a barrier for them to get behavioral health services.

-Rural physician; Small, private practice

PCPs noted an increase in administrative burden as a result of the Healthy Michigan Plan because of increased paperwork and need for more communication. PCPs reported that pre-authorizations, multiple formularies, patient churn in and out of insurance and (sometimes) HRAs presented challenges for their practice.

Yes. Much more work for the staff. Not much more, but, of course, it's [HRA] more work for the staff because of the long requirements and things have to be dated the same day as this thing or that thing. Yeah, it's much more of a pain in the neck for them. And I understand that we get some $25…some malarkey for doing it, and the patient gets some discount on something.

– Urban physician, Free/low-cost clinic

But this insurance wouldn't let us order a stress test. They felt that we needed to do a separate stress ECG and then order a separate 2D echo. So that was one scenario where, you know, I actually had to do a physician-to-physician contact because I didn't think it made sense, but that was the only way they would cover it. So I had to order two separate tests where one could have probably given me the answer I was seeking.

– Urban physician; Large, hospital-based practice

For me, the bigger issue, I think, for us is that, you know, there are certain insurances that we do accept even in the Healthy Michigan plan, and some we do and some we don't. So what will end up happening is maybe they had an appointment to see me, and they come in and then, of course, we don't accept that one. So then they…I would say for the most part they're not too happy about that. Then they'll get sent to talk with one of the insurance people, and they'll find a way to fix it if it is fixable.

– Urban physician, FQHC

So we've also had an influx of or an increase in the number of medical prior authorizations that have created basically a headache for us because there's no standardization amongst the Medicaid plans…Yeah, and they're flip-flopping fairly regularly with respect to…This drug might be covered for a period of time, and then a short while later, they don't cover that drug. So we've got to go through the process for another medication. That requires more staff time. It doesn't necessarily benefit patient care.

– Rural physician; Small, private practice

PCPs noted their practices were considerably busier since implementation of the Healthy Michigan Plan.

So our plan is to continue accepting more…We're open to those three Medicaids right now… straight Medicaid, Meridian and Priority. So we see new patients every day with those, and that's…That's

what our game plan is at least for the time being. We're not…We're not overwhelmed enough with the patients that we can't do that.

– Urban physician, Free/low-cost clinic

Some PCPs hired new staff to increase their capacity to handle the increase in demand.

So we had to hire…create a position for somebody to basically find out who takes Medicaid and arrange for those referrals, as well as process those prior authorizations for various tests. So it did require us to hire somebody or create a position for somebody to handle that…So, nonetheless that's an increase cost to us.

– Rural physician; Small, private practice

We're going to be able to hire a full-time social worker…. if we didn't have Medicaid expansion, there's no way we'd have the dollars to do that.

- Urban physician, FQHC

For some PCPs, wait times also increased.

We accept all comers. Period. Doors are open. Come on in. But I have to add a comment to that or a clarification…a qualification to that…There are so many patients now that are in the system that even for routine follow-up stuff, we can't get them in." So what's happened is…The results of this great expansion and people now trying to come get primary care…She [site manager] *said to me this week, "We'll probably have to close your panel, although I don't think we're allowed to close your panel per FQHC guidelines."*

– Urban physician, FQHC

Some PCPs noted that the Healthy Michigan Plan has an impact on their relationships with patients.

So I do think by requiring one to come in…it [an initial appointment] helps to facilitate the beginning, hopefully in most cases, of a relationship between the provider and the patient. It helps assign…It helps align them together hopefully with some mutual goals in the interest of the patient. So, yes, I do think bringing them in and kind of making that a requirement is helpful. I think it's just helpful because it works to establish that relationship.

– Urban physician, FQHC

Part of my concern is it's going to decrease trust. From the standpoint that before our patients were getting free care, [so] they knew that our only incentive for caring for them was their best interest. That incentive hasn't changed. The revenue that we get from Healthy Michigan is great, but…it's not even enough to pay our staff. It's not going to change what the providers have in any way, but that may not be the perception our patients have. Especially as people talk about, you know, "Well, if your doctor says no to this, it's because they get more money if they don't refer." And before when we

didn't refer, patients understood it was either we couldn't get it or it wasn't in their best interest or whatever.

– Urban physician, Free/low-cost clinic

Some PCPs noted that reimbursement rates are an important consideration depending on the type/structure of their practice.

Well, we're a rural health clinic. So that means we're reimbursed for Medicaid patients. We get a flat amount for them irrespective of the complexity of the visit, and it's more favorable than if we were just taking straight Medicaid. So right now we can afford to see Medicaid patients as being part of

the rural health clinic initiative, but if we weren't and the reimbursement for primary care reverted back to the old way of doing things with Medicaid, we would probably have to change how we handle things with respect to taking new Medicaid patients and how many Medicaid patients we take. So I know the current Medicaid reimbursement scheme is par with Medicare in Michigan.

– Rural physician; Rural health clinic

You're talking about government reimbursing at the Medicare rates. That was 2013 and 2014 that did that…So far they haven't approved to do that in 2015 or 2016, and the rates that they pay for…the plans pay for Medicaid patients are substandard…you know, are markedly below any other insurances in this country. So they definitely are underpaying primary care providers. There's no two ways about that.

– Urban physician; Small, private practice

So, it hasn't affected our practice because as an FQHC we're reimbursed differently than . . . Medicaid reimburses a hospital practice or a private practice. Because we have to see all comers including all uninsured, and we can't cherry pick…I shouldn't say "cherry pick." We can't self-select what patients we see and won't see…We get "x" dollars for every Medicaid visits. We get "x" dollars for every whatever, with the assumption that we'll see everybody.

– Urban physician, FQHC

It's not affected our practice directly, but it seems that especially in a couple of the counties around us, that the number of private providers who are accepting Medicaid has actually, if anything, gone down, and so what we're finding are patients coming out of other practices, especially private practices with no cost base reimbursement, coming to us or asking to get in line to be with us.

– Rural physician, FQHC

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Report on the 2016 Healthy Michigan Voices Enrollee Survey

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EXECUTIVE SUMMARY

The University of Michigan Institute for Healthcare Policy & Innovation (IHPI) is conducting the evaluation of the Healthy Michigan Plan (HMP) as required by the Centers for Medicare & Medicaid Services (CMS) through a contract with the Michigan Department of Health and Human Services (MDHHS). This report presents selected findings from the responses to the Healthy Michigan Voices (HMV) enrollee survey conducted January-October 2016.

Methods

Sampling for the Healthy Michigan Voices enrollee survey was performed monthly, beginning in January 2016. At time of sample selection, beneficiaries must have had:

- At least 12 months total HMP enrollment in fee for service (FFS) or managed care (MC)
- HMP enrollment (FFS or MC) in 10 of past 12 months
- Have HMP-MC enrollment in 9 of past 12 months
- HMP-MC in the month sampled
- Age between 19 years and 64 years 8 months
- Complete address, phone number, and federal poverty level (FPL) fields in the Data Warehouse
- Michigan address
- Preferred language of English, Arabic, or Spanish

Exclusion in one month of sampling did NOT prohibit inclusion in a subsequent month.

The sampling plan was based on four grouped prosperity regions in the state (Upper Peninsula/North West/North East; West/East Central/East; South Central/South West/South East; Detroit) and three FPL categories (0-35%; 36-99%; ≥100%). In total, 4,090 HMP enrollees participated in the HMV survey, and the weighted response rate for the 2016 Healthy Michigan Voices enrollee survey was 53.7%.

Many items on the survey were drawn from large national surveys. When established measures were not available, items specific to HMP (e.g., items about Health Risk Assessments, understanding of HMP) were developed based on findings from 67 semi-structured interviews with HMP beneficiaries conducted by the evaluation team. New items underwent cognitive testing and pre-testing for timing and flow before being included in the survey instrument. Responses were recorded in a computer-assisted telephone interviewing (CATI) system.

The evaluation team calculated descriptive statistics for responses to all questions with weights calculated and applied to adjust for the probability of selection, nonresponse bias, and other factors. Statistical analyses of bivariate and multivariate relationships were also performed.

Results

Insurance Coverage Prior to HMP

- 57.9% did not have insurance at any time in the year before enrolling in HMP.

Current Health Status/Change in Health with HMP

- 47.8% said their physical health had gotten better since enrolling in HMP.
- 38.2% said their mental and emotional health had gotten better since enrolling in HMP.
- 39.5% said their dental health had gotten better since enrolling in HMP.

Chronic Health Conditions

- 69.2% reported they had a chronic health condition, with 60.8% reporting at least one physical health condition and 32.1% reporting at least one mental health condition.
- 30.6% reported that they had a chronic health condition that was newly diagnosed since enrolling in HMP.
- 18.4% reported they had a functional limitation.

Health Risk Assessment (HRA)

- 49.3% self-reported completing an HRA. While higher than the completion rate in the MDHHS Data Warehouse, this may be due to enrollees completing the patient portion only, recall bias, or misidentifying completion of other forms as completing the HRA.
- 45.9% of those who said they completed an HRA did so because a primary care provider (PCP) suggested it; 33% did so because they received the form in the mail; 12.6% completed it over the phone at time of enrollment.
- Only 0.1% said they completed the HRA to save money on copays and contributions.
- Most of those who reported completing the HRA felt it was valuable for improving their health (83.7%) and was helpful for their PCP to understand their health needs (89.7%). 80.7% of those who said they completed an HRA chose to work on a health behavior.

Health Behaviors and Health Education

- 37.7% of beneficiaries reported smoking or using tobacco in the last 30 days, and 75.2% of these people said they wanted to quit. Of these, 90.7% were working on cutting back or quitting right now.

Regular Source of Care and Primary Care Utilization Prior to HMP

- 73.8% said that in the year before enrolling in HMP they had a place they usually went for health care. Of those, 16.8% said that place was an urgent care center and 16.2% reported the emergency room (ER), while 65.1% reported a doctor's office or clinic.
- 20.6% had not had a primary care visit in five or more years before enrolling in HMP.

Regular Source of Care and Primary Care Utilization with HMP

- 92.2% reported that in the year since enrolling in HMP they had a place they usually went for health care. Of those, 5.8% said that place was an urgent care center and 1.7% reported the emergency room, while 75.2% reported a doctor's office or clinic.
- 85.2% of those who reported having a PCP had a visit with their PCP in the last year. 83.9% of these said it was very easy or easy to get an appointment with their PCP.
- Beneficiaries who were older, white, female, reported worse health, and had any chronic condition were more likely than other beneficiaries to have seen a PCP in the past 12 months.
- Those who reported seeing a PCP in the preceding 12 months were more likely to report improved access to preventive care, completing an HRA, being counseled about health behaviors and being diagnosed with a chronic condition since enrollment.

Foregone Care Prior to and with HMP

- 33% of beneficiaries reported not getting care they needed in the year before enrollment in HMP; 77.5% attributed this to cost concerns. In the year preceding the survey (i.e., since enrolling in HMP), 15.6% reported foregone care; 25.4% attributed that to cost concerns.
- 83.3% agreed or strongly agreed that without HMP they would not be able to go to a doctor.

Changes in Access to Care

- Few beneficiaries (less than 5%) reported their ability to access primary care, specialty care, mental health care, substance use treatment, prescription medication, cancer screening, prevention of health problems and birth control/family planning had worsened since enrolling in HMP; 6.2% reported access to dental care worsened.

Emergency Room Use with HMP

- 28.0% of those who visited the ER in the past year said they called their usual provider's office first. 64% said they were more likely to contact their usual doctor's office before going to the ER than before they had HMP.
- Respondents who used the ER were more likely than those who did not use the ER to report their health as fair/poor (40.1% vs. 23.2%) and to report chronic physical or mental health conditions (79.4% vs. 62.8%).

Impact of HMP on Employment, Education and Ability to Work

- 48.9% reported they were employed/self-employed, 27.6% were out of work, 11.3% were unable to work, and 2.5% were retired.
- HMP enrollees were more likely to be employed if their health status was excellent, very good, or good vs. fair or poor (56.1% vs. 32.3%) or if they had no chronic conditions (59.8% vs. 44.1%).

- Compared to employed enrollees, enrollees who were out of work or unable to work were more likely to be older, male, lower income, veterans, in fair/poor health, and with chronic physical or mental health conditions or limitations.
- Employed respondents missed a mean of 7.2 work days in the past year due to illness. 68.4% said this was the same as before HMP, 17.2% said less and 12.3% said more.
- Among employed respondents, over two-thirds (69.4%) reported that getting HMP insurance helped them to do a better job at work.
- For the 27.6% of respondents who were out of work, 54.5% strongly agreed/agreed that HMP made them better able to look for a job.
- For the 12.8% of respondents who had changed jobs in the past 12 months, 36.9% strongly agreed/agreed that having HMP insurance helped them get a better job.

Knowledge and Understanding of HMP Coverage

- The majority of respondents knew that HMP covers routine dental visits (77.2%), eyeglasses (60.4%), and counseling for mental or emotional problems (56%). Only one-fifth (21.2%) knew that HMP covers name brand as well as generic medications.

Challenges Using HMP Coverage

- Few (15.5%) survey respondents reported that they had questions or problems using their HMP coverage. Among those who did, about half (47.7%) reported getting help or advice, and most (74.2%) of those said that they got an answer or solution.

Out-of-Pocket Healthcare Spending Prior to and with HMP

- 44.7% said they had problems paying medical bills in the year before HMP. Of those, 67.1% said they or their family was contacted by a collections agency.
- 85.9% said that since enrolling in HMP their problems paying medical bills got better.

Perspectives on Cost-Sharing

- 87.6% strongly agreed or agreed that the amount they pay overall for HMP seems fair.
- 88.8% strongly agreed or agreed that the amount they pay for HMP is affordable.

Knowledge and Understanding of HMP Cost-Sharing Requirements

- Only 26.4% were aware that contributions are charged monthly regardless of health care use. Just 14.4% of respondents were aware that they could not be disenrolled from HMP for not paying their bill. Only 28.1% were aware that they could get a reduction in the amount they have to pay if they complete an HRA. 75.6% of respondents were aware that some kinds of visits, tests, and medicines have no copays.

MI Health Account Statement

- 68.2% said they received a MI Health Account statement. 88.3% strongly agreed/agreed they carefully review each statement to see how much they owe. 88.4% strongly agreed/agreed the statements help them be more aware of the cost of health care.

Information Seeking Behaviors

- 71.6% reported being somewhat or very likely to find out how much they might have to pay for a health service before going to get the service.

Perceived Discrimination

- Most respondents did not report feeling judged or treated unfairly by medical staff in the past 12 months because of their race or ethnic background (96.4%) or because of how well they spoke English (97.4%); but 11.6% of respondents felt judged or treated unfairly by medical staff in the past 12 months because of their ability to pay for care or the type of health coverage they had.

Social Interactions

- 67.6% of respondents said that they get together socially with friends or relatives who live outside their home at least once a week; 79.8% said that they amount they engage in social interactions is about the same as before they enrolled in HMP.

Reproductive Health

- Among reproductive age female respondents, 38.4% did not know whether there was a change in their access to family planning services, while 35.5% reported better access and 24.8% reported about the same access. Those with inconsistent health insurance or uninsurance prior to HMP were significantly more likely to report improved access.

Impact on Those with Chronic Health Conditions

- Prior to HMP, 77.2% of those with a chronic physical or mental health condition had a regular source of care, 64.7% of whom said that source of care was a doctor's office or clinic. After HMP, 95.2% had a regular source of care, and 93.1% said it was a doctor's office or clinic.
- In the year prior to HMP enrollment, 58.3% of those with a chronic physical or mental health condition did not have insurance, only 42.1% had seen a PCP, and 51.7% had problems paying medical bills.
- Since HMP enrollment, 89.6% of those with a chronic physical or mental health condition reported seeing a PCP, 64.6% reported their ability to fill prescriptions improved, and 86.3% reported their ability to pay medical bills had improved.
- Respondents with a chronic physical or mental health condition reported overall improvements in their physical (51.9%) and mental health (42.4%) after enrolling in HMP; 7.5% and 6.1% reported their physical and mental health status had worsened.

Impact on Those with Chronic Mood Disorder and Substance Use Disorder

- Since enrollment in HMP, 48.9% of respondents with a self-reported mood disorder (MD) and 50.5% with a self-reported substance use disorder (SUD) reported that their mental health had gotten better.
- Most respondents with a MD reported that having HMP has led to a better life (91.9% strongly agreed/agreed) as did respondents with a SUD (95.8% strongly agreed/agreed).

- Prior to HMP, 37% of respondents who self-reported a SUD used the emergency room as a regular source of care; after at least one year of HMP the emergency room as a regular source of care dropped to 3.6%.

Conclusions

- More than half of respondents, including more than half of those with chronic conditions, did not have insurance at any time in the year before enrolling in HMP. Foregone care, usually due to cost, lessened considerably after enrollment. Most respondents said that without HMP they would not be able to go to the doctor. **HMP does not appear to have replaced employment-based insurance and has greatly improved access to care for underserved persons.**
- The percentage of enrollees who had a place they usually went for health care increased with HMP to over 90%, and naming the ER as a regular source of care declined significantly after enrolling in HMP (from 16.2% to 1.7%). **An emphasis on primary care and disease prevention shifts care-seeking away from acute care settings.**
- A significant majority said since enrolling in HMP their problems paying medical bills had gotten better. Most respondents agreed that **the amount they pay overall for HMP seems fair and is affordable, although monthly contributions affected perceptions of affordability**.
- There were some areas in which **beneficiary understanding of coverage** (e.g., dental, vision and family planning) **and cost-sharing requirements needs to improve**.
- About half of respondents reported completing an HRA, bearing in mind the limits to self-reported data. **Most respondents addressed health risks for reasons other than financial incentives.**
- HMP enrollees with mood disorder or substance use disorder reported improved health, improved access to services and treatment, and were less likely to name the emergency room or urgent care as a regular source of care. Those with substance use disorder still report using the emergency room more often than those with other chronic illnesses.
- Many HMP enrollees reported improved functioning, ability to work, and job seeking after obtaining health insurance through Medicaid expansion. **HMP may help its beneficiaries maintain or obtain employment.**
- Chronic health conditions were common among enrollees in Michigan's Medicaid expansion program, even though most enrollees were under 50 years old. Almost half of these conditions were newly diagnosed after enrolling in HMP. **Enrollees with chronic conditions reported improved access to care and medication, all crucial to successfully managing these conditions and avoiding future disabling complications.** Despite the relatively short term of their enrollment in HMP, almost half of respondents said their physical health had gotten better and nearly 40% said their emotional and mental health and dental health had gotten better since enrolling in HMP, **attesting to the health impact of Medicaid expansion**.

INTRODUCTION

The University of Michigan Institute for Healthcare Policy & Innovation (IHPI) is conducting the evaluation of the Healthy Michigan Plan (HMP) as required by the Centers for Medicare & Medicaid Services (CMS) through a contract with the Michigan Department of Health and Human Services (MDHHS). This report presents findings from responses of the Healthy Michigan Voices (HMV) enrollee survey. From January through October 2016, 4,090 beneficiaries completed the Heathy Michigan Voices survey of current HMP beneficiaries. This is an update to the interim report submitted to CMS in September 2016. Findings from the 2016 Healthy Michigan Voices survey of those who have disenrolled from the Healthy Michigan Plan will be available in late 2017.

METHODS

Sampling for the Healthy Michigan Voices survey was performed monthly, beginning in January 2016. At the time of sample selection, beneficiaries must have had:

- At least 12 months total HMP enrollment in fee for service (FFS) or managed care (MC)
- HMP enrollment (FFS or MC) in 10 of past 12 months
- Have HMP-MC enrollment in 9 of past 12 months
- HMP-MC in the month sampled
- Age between 19 years and 64 years 8 months
- Complete address, phone number, and federal poverty level (FPL) fields in the Data Warehouse
- Michigan address
- Preferred language of English, Arabic, or Spanish

Exclusion in one month of sampling did not prohibit inclusion in a subsequent month. Each month's sample was drawn to reflect the target sampling plan, proportional to the characteristics of Healthy Michigan Plan beneficiaries as a whole.

The sampling plan was based on four grouped prosperity regions in the state (Upper Peninsula/North West/North East; West/East Central/East; South Central/South West/South East; Detroit) and three FPL categories (0-35%; 36-99%; ≥100%)

Sampling Plan

	Prosperity Region				
	UP/NW/NE	W/EC/E	SC/SW/SE	DET	Total
Federal Poverty Level					
0-35%	7.0%	12.0%	8.0%	12.8%	39.9%
36-99%	6.0%	10.5%	7.0%	11.2%	34.8%
≥100%	4.9%	7.5%	5.0%	8.0%	25.5%

The 4,090 respondents included in this first report of selected findings closely mirror the sampling plan:

Characteristics of the 4,090 HMV Survey Respondents

	Prosperity Region				
	UP/NW/NE	W/EC/E	SC/SW/SE	DET	Total
Federal Poverty Level					
0-35%	288	503	323	486	1,600
	7.0%	12.3%	7.9%	11.9%	39.1%
36-99%	246	467	309	428	1,450
	6.0%	11.4%	7.6%	10.5%	35.5%
≥100%	212	295	205	328	1,040
	5.2%	7.2%	5.0%	8.0%	25.4%
Total N complete	746	1,265	837	1,242	4,090
Total % complete	18.2%	30.9%	20.5%	30.4%	100.00%

HMP beneficiaries selected for the HMV beneficiary survey sample were mailed an introductory packet that contained a letter explaining the project, a brochure about the project, and a postage-paid postcard that could be used to indicate preferred time/day for interview. A toll-free number was provided for beneficiaries who wished to call in at their convenience; otherwise, Healthy Michigan Voices interviewers placed phone calls to sampled beneficiaries between the hours of 9 am and 9 pm. Surveys were conducted in English, Arabic and Spanish; beneficiaries who could not speak one of those languages were excluded from participation.

Survey Design

The survey included measures of demographics, health, access, insurance status and acute care decision making. Many measures were established measures drawn from national surveys, including the National Health and Nutrition Exam Survey (NHANES)[1], the Health Tracking Household Survey (HTHS)[2], the National Health Interview Survey (NHIS)[3], the Behavioral Risk Factor Surveillance System (BRFSS, and MiBRFSS), the Short Form Health Survey (SF-12)[4], the Food Attitudes and Behaviors Survey, the Consumer Assessment of Healthcare Providers and Systems (CAHPS)[5], the Employee Benefit Research Institute Consumer Engagement in Healthcare Survey (CEHCS)[6], the Health Tracking Household Survey, the Commonwealth Fund Health Quality Survey, and the U.S. Census. New items and scales for which established measures were not available, or which were specific to HMP (e.g., items about Health Risk

[1] NHANES (National Health and Nutrition Exam Survey, CDC)
[2] HTHS (Health Tracking Household Survey)
[3] NHIS (National Health Interview Survey, CDC)
[4] SF-12 (Short Form Health Survey, RAND)
[5] CAHPS (Consumer Assessment of Healthcare Providers and Systems)
[6] Consumer Engagement in Health Care Survey (EBRI: CEHCS)

Assessments, understanding of HMP), were developed based on findings from 67 semi-structured interviews with HMP beneficiaries conducted by the evaluation team. New items underwent cognitive testing, and pre-testing for timing and flow before being included in the survey instrument.

Responses were recorded in a computer-assisted telephone interviewing (CATI) system programmed with the HMV survey.

Survey Response Characteristics

Overall, 9,350 Healthy Michigan Program enrollees were sampled throughout the data collection period. Seven cases with non-mailable addresses were excluded from the population; 100 cases were never mailed or called because data collection goals were achieved; 16 cases were never called because we did not have language-specific interviewers available. Thus, 123 of the original 9,350 were never contacted by phone.

Pre-notification letters were sent to the remaining 9,227 cases, which included a postcard to identify best time/number to call or refusal to participate. Phone calls were made to enrollees who did not refuse by postcard. Some numbers did not work, hence, no contact was established; some numbers worked but no contact was ever established, not allowing us to ascertain eligibility; and other numbers worked and contact was established.
We summarize the results briefly as follows:

Table 1. Call Results to Sampled Individuals

Description	n	Call Result
Total sample	9,350	
Nonmailable (e.g., bad address)	7	n/a
Not included – response goals achieved	100	n/a
Not called	16	n/a
Total sample contact attempted	9,227	
Contact never established		
1) Phone number not working	885	Nonworking number
2) Working but no contact made (e.g., left voicemail but never spoke with a person)	1,360	Unknown eligibility (UN)
Contact established		
3) Enrollee verified not at that number	583	Ineligible
4) Out of state	30	Ineligible
5) Deceased	3	Ineligible
6) Non-HMV language	36	Ineligible
7) Jail/Treatment facility	2	Ineligible
8) Refusal (by mail/phone)	945	Refusal (R)

9) Noncontact with enrollee (Spoke with a person other than enrollee) Other nonresponse (Spoke with an enrollee but did not participate for reasons other than clear refusal)	1,247	Noncontact (NC), Other (O)
10) Full completion	4,090	Interview (I)[7]
11) Partial completion	46*	Partial Interview (P)

*Eighteen cases were originally considered full completion but later recoded to partial completion after the weights were calculated because they had more than 20% of items missing.

There are many ways to calculate response rates as outlined by the American Association for Public Opinion Research (AAPOR, 2016[8]). Response rate formula 3 defined below is one of the common formulas used, particularly for telephone surveys.

$$RR3 = \frac{I}{(I+P)+(R+NC+O)+e\times UN}$$

where e is an estimate eligibility rate for the cases for which we cannot ascertain eligibility and the rest are noted in the table above. One way to estimate e is to use our call results among those we established contacts. As shown above, categories 3) through 7) are deemed ineligible, making 8) through 11) eligible among all contacted. Hence,

$$e = \frac{945+1237+4090+46}{9350-7-100-16-885-1360} = 90.6(\%)$$

By applying e as estimated above, we obtain the following response rate:

$$RR3 = \frac{4090}{(4090+46)+(945+1247)+.906\times 1360} = 54.1(\%)$$

The weighted response rate was calculated to ascertain the response rate that is not subject to the sample design. We used the selection weight (w_1 in the weighting steps document) to the RR3 formula and used weights applicable for known eligibility cases (w_3 in the weighting steps document) to e, the estimated eligibility rate. The results are as follows:

$$weighted\ e = 89.9(\%)$$

$$Weighted\ RR3 = 53.7(\%)$$

Thus, the weighted response rate for the 2016 Healthy Michigan Voices enrollee survey was 53.7%.

[7] NOTE: There was one case that responded to HMV but whose data were over-written due to system issues. This case was considered as a respondent in the response rate calculation but there were no survey data for this case.
[8] The American Association for Public Opinion Research. 2016. Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys. 9th edition. AAPOR. Access from http://www.aapor.org/AAPOR_Main/media/publications/Standard-Definitions20169theditionfinal.pdf

Analyses

We calculated descriptive statistics for responses to all questions in the survey and these are highlighted in the tables within the body of this report. Weights were calculated and applied to data to adjust for the probability of selection (see Selection Weight, below), nonresponse bias (see Nonresponse Adjustment) and other adjustments (Nonworking Number adjustment, Unknown Eligibility adjustment, Known Eligibility adjustment). **As a result, please note that the proportions included in this report reflect how the results we observed would apply to the eligible population of HMP enrollees** (based on inclusion and exclusion criteria described on page 9). The number of individuals who responded to each survey question is noted in the tables in the report. When N is less than 4,090, this indicates that either some respondents missed that question or the question was part of a skip pattern and was therefore only asked of a subset of respondents according to their previous responses.

For analyses of bivariate and multivariate relationships, the types of analysis, models, variables included and how defined are described in text within this report and are included in the tables in the Appendix of this report. The specific tests are described in the table legends.

In a small number of cases (46), beneficiaries asked to end the survey early or did not follow the intended skip patterns, and their responses were excluded from this analysis. In cases where respondents skipped or refused to answer specific questions, those observations are not included in the analysis for those questions.

Selection Weight

The Healthy Michigan Voices survey sample was drawn each month from January through October 2016 from the HMP enrolled population using stratification which combines FPL and prosperity region. The same stratification sample design determined at the outset of the project was used every month. In each month, the eligible population was defined as HMP enrollees in the Data Warehouse who met the eligibility criteria listed on page 9.
Starting in the second month of sampling, beneficiaries sampled in the previous month(s) were excluded from the population.

Reflecting the sample design, the first step used an inverse of sampling probability and calculated selection weights for sample unit *i* in sampling month *m* in sampling stratum *h* as follows:

$$w_{1,hmi} = \frac{N_{hm}}{n_{hm}}$$

where N_{mh} is the population size and n_{mh} is the sample size.

We made adjustment for nonworking numbers, ineligible cases, unknown eligibility cases and nonresponse (noncontacts and refusal combined) separately as follows.

Nonworking Number Adjustment

Nonworking numbers were considered out of our target population. These numbers were considered out of scope and removed from the sample. We used the following adjustment, $f_{2,hmi}$, factor for this.

$$f_{2,hmi} = \begin{cases} 0, & if\ i\ was\ not\ a\ working\ number \\ \dfrac{\sum_i w_{1,hmi}}{\sum_i I\_WR_i \times w_{1,hmi}}, & if\ i\ was\ a\ working\ number \end{cases}$$

where I_WR_i was a 1/0 indicator for working number status (1: working number, 0: nonworking number). Essentially, $f_{2,hmi}$ removed the nonworking numbers from the scope and weighted up working numbers proportionally within each sampling stratum and month. The resulting weight was:

$$w_{2,hmi} = f_{2,hmi} \times w_{1,hmi}$$

Unknown Eligibility Adjustment

Besides the nonworking numbers, there were working numbers that were never contacted. With these cases, HMV eligibility could not be ascertained. Moreover, the eligibility rate may have differed systematically across strata and some other observed characteristics in the HMP enrollee data. Thus, a new adjustment factor was applied to the weight from the previous stage:

$$f_{3,hmi} = \begin{cases} 0, & if\ eligibility\ is\ unknown\ for\ i \\ \dfrac{\sum_i w_{2,hmi}}{\sum_i I\_UE_i \times w_{2,hmi}}, & if\ eligibility\ is\ known\ for\ i \end{cases}$$

where I_UE_i was a 1/0 indicator for unknown eligibility status (1: known eligibility; 0: unknown eligibility. The resulting weight was:

$$w_{3,hmi} = f_{3,hmi} \times w_{2,hmi}$$

Known Eligibility Adjustment

Among those who were contacted, some may not have been eligible for HMV for various reasons related to the eligibility criteria in Section 1. These cases fell outside of the target population and, hence, were removed through the following:

$$f_{4,hmi} = \begin{cases} 0, & if\ i\ is\ ineligible \\ \dfrac{\sum_i w_{3,hmi}}{\sum_i I\_EL_i \times w_{3,hmi}}, & if\ i\ is\ eligible \end{cases}$$

where I_EL_i was a 1/0 indicator for eligibility status (1: eligible; 0: ineligible). The resulting weight was:

$$w_{4,hmi} = f_{4,hmi} \times w_{3,hmi}$$

Nonresponse Adjustment

Those who are contacted and eligible were retained after the previous step. This did not necessarily mean a direct contact had been made with the enrollee. With some numbers, contact with the sample enrollee was never established. With the remainder, when an interview was solicited, some may have refused or declined participation for various reasons. These were all considered as nonresponse. Overall, there were 6,327 eligible cases; among them, 4,090 were respondents (64.6%).[9]

From the HMV sample frame data, we considered the following characteristics for nonresponse analysis as they were available for both respondents and nonrespondents:

- Sex
- Age (19-34; 35-49; 50-64 years old)
- Race/ethnicity (Hispanic; Non-Hispanic White; Non-Hispanic Black; Non-Hispanic other)
- First HMP month (2 years or more ago; less than 2 years ago)

Additionally, we had the following sampling information available for both respondents and nonrespondents:

- Stratum (FPL x Region)
- FPL
- Region
- Sampling month

Table 2 includes the number of eligible cases by characteristics listed above and the proportion of respondents among eligible cases. Younger and male enrollees were less likely to respond than their counterparts. Based on race/ethnicity, non-Hispanic Black enrollees were most likely to respond, and those in the non-Hispanic other group were least likely to do so. While the proportion of respondents was similar across income levels, among the four regions, Detroit had the lowest proportion. Among 12 strata, UP/NW/NE with 100%+ FPL at 69.5% and W/EC/E with 36-99% FPL at 69.2% had the highest proportion of respondents. Detroit with 36-99% FPL had the lowest proportion at 58.9%. No clear pattern was observed by sampling month. Nonresponse did not occur identically across characteristics as seen in Table 2, which required an adjustment. Following Lee and Valliant (2008)[10], a logistic regression model was used to predict response while controlling for differences in characteristics between respondents and nonrespondents. The predictors included age, sex, race/ethnicity, first month on HMP, sampling strata, sampling month and the interaction between sampling strata and sampling month. The adjustment factor, $f_{5,i}$, was the inverse of response propensity predicted from the logistic regression. The resulting weight was:

$$w_{5,imh} = w_{4,mhi} \times f_{5,i}$$

[9] There was one case that responded to HMV but whose data were over-written due to system issues. This case was considered as a respondent in the response rate calculation but dropped in the weighting as there were no survey data for this case.

[10] Lee S, Valliant R. 2008. Weighting telephone samples using propensity scores. Advances in Telephone Survey Methodology. 170-183.

Table 2. Proportion of Respondents Among Eligible Cases by Sample Characteristics (for Non-Response Adjustments for Weighting Purpose)

Characteristics	Eligible (n)	Respondents (%)	Characteristics	Eligible (n)	Respondents (%)
Total	6,327	64.9	**Sampling Stratum**		
Age			1. UP/NW/NE, 0-35%	443	65.2
19-35 years old	2,304	60.2	2. UP/NW/NE, 36-99%	385	63.9
36-49 years old	1,755	64.4	3. UP/NW/NE, 100%+	305	69.5
50-64 years old	2,268	70.1	4. W/EC/E, 0-35%	742	68.1
Sex			5. W/EC/E, 36-99%	676	69.2
Female	3,562	67.8	6. W/EC/E, 100%+	464	63.8
Male	2,765	61.2	7. SC/SW/SE, 0-35%	481	67.6
Race/Ethnicity			8. SC/SW/SE, 36-99%	468	66.2
Hispanic	174	64.4	9. SC/SW/SE, 100%+	315	65.1
Non-Hispanic White	4,396	64.4	10. DET, 0-35%	799	61.3
Non-Hispanic Black	1,121	68.8	11. DET, 36-99%	733	58.9
Non-Hispanic Other	636	61.6	12. DET, 100%+	516	63.8
First month on HMP			**Sampling Month**		
Less than 2 yrs ago	3,518	62.6	1	422	61.8
2 yrs or more ago	2,809	67.8	2	576	64.9
FPL			3	698	66.5
0-35%	2,465	65.3	4	735	65.4
36-99%	2,262	64.4	5	701	66.9
100%+	1,600	65.1	6	680	67.8
Region			7	866	68.8
UP/NW/NE	1,133	65.9	8	658	63.2
W/EC/E	1,882	67.4	9	654	57.6
SC/SW/SE	1,264	66.5	10	337	61.7
DET	2,048	61.1			

Post-stratification

The target population of the HMV survey is HMP enrollees ever eligible for HMV (as defined in Section 1) between January and October 2016. There were 384,262 such persons. From the sample frame data we had information about the characteristics of this population. Table 3 compares the population and the sample weighted by nonresponse adjustment weight ($w_{5,imh}$) with respect to age, sex, race/ethnicity, first month enrolled in HMP, sampling stratum, FPL and region. Our weighted sample matched the population reasonably well across most characteristics, except for age, sex and first month on HMP. Compared to the population, our sample overrepresented beneficiaries who were older, females or who enrolled in HMP during the first 3 months of HMP. Hence, this known discrepancy was handled through post-stratification. All the characteristics in Table 3 were controlled for in the post-stratification

using an iterative proportional fitting method (Deville et al., 1993)[11]. This process forced the sample to match the population with respect to the controlled characteristics.
Post-stratification may force the weights to be extreme. These extreme weights increase the variability of estimates and, in turn, lower statistical power. In order to minimize the effect of extreme weights, these weights are trimmed. To address this issue we used the Individual and Global Cap Value (IGCV) method introduced by Izrael et al. (2009)[12]. This method sets thresholds for minimum and maximum adjustment factors in relation to the individual weights and to all weights globally. Specifically, our procedure set the global high cap at 7, the global low cap at 0.12, the individual high cap at 5 and the individual low cap at 0.2. The trimmed weights were normalized to the population total of 384,262. The resulting weight is $w_{6,imh}$. Table 3 includes the sample characteristics weighted by $w_{6,imh}$. When using the post-stratified weight, the sample matched perfectly. However, compared to when using the nonresponse adjustment weight, there was a slight increase in standard error due to variability in weights introduced by post-stratification.

[11] Deville JC, Särndal CE, Sautory O. 1993. Generalized raking procedures in survey sampling. *Journal of the American Statistical Association*. 88(423):1013-20.
[12] Izrael D, Battaglia MP, Frankel MR. 2009. Extreme survey weight adjustment as a component of sample balancing (aka raking). In Proceedings from the Thirty-Fourth Annual SAS Users Group International Conference.

Table 3. Comparison of Eligible HMP Population and HMV Sample

Characteristics	Population		Sample				
				Weighted by w_5		Weighted by w_6	
	N	%	n	%	SE	%	SE
Total	384,262		4,090				
Age							
19-35 years old	163,071	42.4	1,380	36.9	0.9	42.3	1.0
36-49 years old	113,660	29.6	1,125	28.1	0.8	29.6	0.9
50-64 years old	107,531	28.0	1,585	34.9	0.9	28.1	0.8
Sex							
Female	197,883	51.5	2,409	54.1	0.9	51.6	1.0
Male	186,379	48.5	1,681	45.9	0.9	48.4	1.0
Race/Ethnicity							
Non-Hispanic White	232,688	60.6	2,784	63.1	0.9	60.4	1.0
Non-Hispanic Black	91,208	23.7	807	23.2	0.8	25.8	0.9
Other	60,366	15.7	499	13.7	0.7	13.8	0.7
First month on HMP							
4-6, 2014	158,983	41.4	2,146	49.7	0.9	41.5	0.9
7-12, 2014	89,945	23.4	1,111	27.6	0.8	23.4	0.8
2015	135,334	35.2	833	22.7	0.8	35.2	1.1
Strata							
1. UP/NW/NE, 0-35%	13,282	3.5	288	3.6	0.2	3.5	0.1
2. UP/NW/NE, 36-99%	11,835	3.1	246	3.3	0.2	3.1	0.1
3. UP/NW/NE, 100%+	9,291	2.4	212	2.6	0.2	2.4	0.0
4. W/EC/E, 0-35%	52,224	13.6	503	13.4	0.6	13.6	0.3
5. W/EC/E, 36-99%	33,157	8.6	467	8.8	0.4	8.6	0.2
6. W/EC/E, 100%+	24,248	6.3	295	6.5	0.4	6.3	0.2
7. SC/SW/SE, 0-35%	34,675	9.0	323	8.7	0.5	9.0	0.3
8. SC/SW/SE, 36-99%	20,909	5.4	309	5.5	0.3	5.5	0.2

9. SC/SW/SE, 100%+	15,569	4.1	205	4.0	0.3	4.1	0.2
10. DET, 0-35%	99,024	25.8	486	25.0	1.0	25.7	0.5
11. DET, 36-99%	43,569	11.3	428	11.7	0.6	11.2	0.4
12. DET, 100%+	26,479	6.9	328	6.9	0.4	6.9	0.2
FPL							
0-35%	199,205	51.8	1,600	50.7	0.9	51.8	0.5
36-99%	109,470	28.5	1,450	29.3	0.8	28.4	0.4
100%+	75,587	19.7	1,040	20.0	0.6	19.8	0.3
Region							
UP/NW/NE	34,408	9.0	746	9.4	0.4	9.0	0.2
W/EC/E	109,629	28.5	1,265	28.8	0.8	28.6	0.4
SC/SW/SE	71,153	18.5	837	18.2	0.6	18.6	0.4
DET	169,072	44.0	1,242	43.6	1.0	43.8	0.5

RESULTS

Demographic Characteristics of Respondents

After weighting, demographic characteristics of respondents closely match characteristics of the eligible HMP population as a whole (see Table 3, above).

Table 4. Demographic Characteristics

	%	95% CI
Gender (n=4,090)		
F (n=2,409)	51.6	[49.6,53.5]
M (n=1,681)	48.4	[46.5,50.4]
Age (n=4,090)		
19-34 (n=1,303)	40.0	[38.0,42.0]
35-50 (n=1,301)	34.0	[32.1,35.9]
51-64 (n=1,486)	26.0	[24.5,27.6]
Race (n=4,039)		
White (n=2,784)	61.2	[59.3,63.0]
Black or African American (n=807)	26.1	[24.3,27.9]
Other (n=306)	8.8	[7.7,10.0]
More than one (n=142)	4.0	[3.3,4.9]

Hispanic/Latino (n=4,056)		
Yes (n=188)	5.2	[4.4,6.2]
No (n=3,856)	94.3	[93.3,95.2]
Don't know (n=12)	0.5	[0.2,0.9]
Arab, Chaldean, Middle Eastern (n=4,055)		
Yes (n=204)	6.2	[5.3,7.2]
No (n=3,842)	93.6	[92.5,94.5]
Don't know (n=9)	0.3	[0.1,0.6]
Region (n=4,090)		
Upper Peninsula/Northwest/Northeast (n=746)	9.0	[8.6,9.4]
West/East Central/East (n=1,265)	28.6	[27.8,29.4]
South Central/Southwest/Southeast (n=837)	18.6	[17.8,19.3]
Detroit Metro (n=1,242)	43.8	[42.8,44.9]
FPL (n=4,090)		
0-35% (n=1,600)	51.8	[50.8,52.8]
36-99% (n=1,450)	28.4	[27.6,29.3]
≥100% (n=1,040)	19.8	[19.1,20.4]
Medicaid Health Plan (n=4,088)		
Aetna (n=58)	1.7	[1.2,2.3]
Blue Cross (n=356)	11.6	[10.2,13.1]
Harbor (n=18)	0.7	[0.4,1.3]
McLaren (n=633)	13.0	[11.9,14.2]
Meridian (n=1,265)	29.8	[28.1,31.6]
Midwest (n=3)	0.1	[0.0,0.2]
Molina (n=701)	18.0	[16.5,19.5]
Priority (n=268)	5.9	[5.2,6.7]
Total Health Care (n=85)	2.8	[2.2,3.7]
United (n=443)	13.2	[11.8,14.7]
Upper Peninsula Health Plan (n=258)	3.2	[2.8,3.6]
Employment Status (n=4,075)		
Employed or self-employed (n=2,079)	48.8	[47.0,50.7]
Out of work ≥1 year (n=707)	19.7	[18.1,21.3]
Out of work <1 year (n=258)	7.9	[6.8,9.1]
Homemaker (n=217)	4.5	[3.8,5.3]
Student (n=161)	5.2	[4.3,6.2]
Retired (n=167)	2.5	[2.1,3.0]
Unable to work (n=479)	11.3	[10.1,12.5]
Don't know (n=7)	0.2	[0.1,0.4]
Veteran (n=4,086)		
Yes (n=125)	3.4	[2.7,4.2]
No (n=3,958)	96.5	[95.7,97.2]
Don't know (n=3)	0.1	[0.0,0.5]

Marital Status (n=4,073)		
Married (n=1,008)	20.4	[19.0,21.8]
Partnered (n=185)	4.3	[3.6,5.1]
Divorced (n=865)	18.2	[16.8,19.6]
Widowed (n=147)	2.8	[2.3,3.4]
Separated (n=119)	2.8	[2.3,3.4]
Never Married (n=1,745)	51.6	[49.6,53.5]
Don't know (n=4)	0.1	[0.0,0.2]
Any chronic health condition present (n=4,090)		
Yes (n=2,986)	69.2	[67.3,71.0]
No (n=1,104)	30.8	[29.0,32.7]
At least one physical health condition present (n=4,090)		
Yes (n=2,689)	60.8	[58.8,62.8]
No (n=1,401)	39.2	[37.2,41.2]
At least one mental health condition present (n=4,090)		
Yes (n=1,351)	32.1	[30.3,33.9]
No (n=2,739)	67.9	[66.1,69.7]
Other household enrollee (n=4,082)		
Yes (n=1,592)	35.7	[34.0,37.5]
No (n=2,289)	58.0	[56.1,59.8]
Don't know (n=201)	6.3	[5.3,7.6]

Insurance Coverage Prior to HMP

More than half (57.9%) of survey respondents did not have health insurance at any time in the 12 months prior to HMP enrollment. Of those who reported having health insurance at some point during the 12 months prior to HMP enrollment, the majority (73.8%) had health insurance for all 12 months. Thus, less than one-third (30.2%) of all respondents reported that they had insurance for all 12 months prior to enrolling in HMP. Approximately half (50.8%) of survey respondents who reported having health insurance at any time in the 12 months prior to HMP enrollment had Medicaid, MiChild, or health coverage through another state health program, while a quarter (26.2%) had private insurance through a job or union. Among those who reported private insurance they purchased themselves or someone else purchased (10.2%), approximately one-third (31.5%) purchased the insurance on the healthcare.gov website, and 61.8% of those respondents who purchased health insurance on the healthcare.gov website reported receiving a subsidy.

	%	95% CI
At any time during the 12 months BEFORE you enrolled in the Healthy Michigan Plan, did you have any type of health insurance? (n=4,087)		
Yes (n=1,667)	40.7	[38.8,42.6]
No (n=2,374)	57.9	[55.9,59.8]
Don't know (n=46)	1.4	[1.0,2.1]

[If Yes] Did you have health insurance for all 12 months, 6-11 months, less than 6 months, or not at all? (n=1,667)		
All 12 months (n=1,235)	73.8	[71.1,76.5]
6-11 months (n=245)	15.2	[13.0,17.6]
Less than 6 months (n=129)	7.6	[6.2,9.3]
Don't know (n=58)	3.4	[2.5,4.7]
What type of health insurance did you have?* (n=1,622)		
Medicaid, MiChild, or other state program (n=834)	50.8	[47.7,53.9]
Private insurance provided through a job or union (n=409)	26.2	[23.6,29.0]
Private insurance purchased by you or someone else (n=157)	10.2	[8.3,12.6]
County health plan (n=127)	6.3	[5.2,7.7]
Veterans Health or VA care (n=21)	1.4	[0.8,2.3]
CHAMPUS, TRICARE, other military coverage (n=3)	0.3	[0.1,1.2]
Medicare (n=5)	0.3	[0.1,0.7]
Indian Health Service (n=3)	0.1	[0.0,0.3]
Other (n=83)	5.6	[4.3,7.3]
Don't know (n=23)	1.2	[0.8,1.9]
[If private insurance purchased by you or someone else] Was this insurance purchased on the HealthCare.gov exchange? (n=152)		
Yes (n=59)	31.5	[22.6,41.9]
No (n=75)	55.4	[44.1,66.2]
Don't know (n=18)	13.1	[7.6,21.7]
[If Yes] Did you receive a subsidy? (n=59)		
Yes (n=37)	61.8	[43.9,76.9]
No (n=18)	29.0	[18.1,43.1]
Don't know (n=4)	9.3	[2.2,31.3]

**Respondents were able to provide more than one response for this question; As a result, percentages may exceed 100%.*

Impact of Prior Year Insurance Status on Improvements in Foregone Care, Access and Health

Respondents who were uninsured all 12 months in the year prior to enrolling in HMP were more likely than those who were insured all 12 months, and those who were insured part of the year, to report foregoing care during that year, and more likely to report foregoing care due to cost concerns (See Appendix Table 1).

Those who were insured all 12 months prior to enrolling in HMP were less likely to report improvements in access to care or improvements in physical, mental or oral health (See Appendix Table 1).

Those who were insured all 12 months prior to HMP agreed less that HMP had reduced stress and they worried less about something bad happening to their health (See Appendix Table 1).

Current Health Status/Change in Health with HMP

More than one-third of respondents rated their health as either excellent or very good (36.3%). Since enrolling in the Healthy Michigan Plan, most respondents reported their physical health had improved (47.8%) or stayed the same (46.1%), their mental health had improved (38.2%) or stayed the same (56.8%) and their dental health had improved (39.5%) or stayed the same (45.5%). About one-third (31.7%) of survey respondents reported losing weight in the past year.

	Mean or %	95% CI
In general, would you say your health is... (n=4,088)		
Excellent (n=337)	9.5	[8.4,10.8]
Very good (n=1,041)	26.8	[25.0,28.7]
Good (n=1,448)	33.8	[32.0,35.7]
Fair (n=931)	22.2	[20.7,23.8]
Poor (n=324)	7.5	[6.6,8.6]
Don't know (n=7)	0.1	[0.0,0.4]
For how many days in the past 30 days was your physical health not good? (n=4,033)		
<14 of past 30 days (n=3,055)	77.2	[75.5,78.7]
≥14 of past 30 days (n=978)	22.8	[21.3,24.5]
For how many days in the past 30 days was your physical health not good? (n=4,033)	Mean 6.8	[6.4,7.2]
Overall, since you enrolled in the Healthy Michigan Plan, would you say your physical health has gotten better, stayed the same, OR gotten worse? (n=4,086)		
Gotten better (n=1,961)	47.8	[45.8,49.8]
Stayed the same (n=1,851)	46.1	[44.2,48.1]
Gotten worse (n=256)	5.5	[4.8,6.4]
Don't know (n=18)	0.5	[0.3,1.0]
For how many days in the past 30 days was your mental health not good? (n=4,002)		
<14 of past 30 days (n=3,226)	80.1	[78.5,81.7]
≥14 of past 30 days (n=776)	19.9	[18.3,21.5]
For how many days in the past 30 days was your mental health not good? (n=4,002)	Mean 6.0	[5.6,6.4]
Overall, since you enrolled in Healthy Michigan Plan, would you say your mental and emotional health has gotten better, stayed the same, OR gotten worse? (n=4,080)		
Gotten better (n=1,550)	38.2	[36.3,40.1]
Stayed the same (n=2,318)	56.8	[54.8,58.7]
Gotten worse (n=186)	4.6	[3.9,5.5]
Don't know (n=26)	0.5	[0.3,0.7]

During the past 30 days, for how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation? (n=4,079)		
0-13 days (n=3,277)	80.6	[79.1,82.1]
14-30 days (n=749)	18.2	[16.8,19.8]
Don't know (n=53)	1.1	[0.8,1.6]
During the past 30 days, for how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation? (n=4,026) [Note: Same as above but excludes "Don't know"]		
<14 of past 30 days (n=3,277)	81.6	[80.0,83.0]
≥14 of past 30 days (n=749)	18.4	[17.0,20.0]
During the past 30 days, for how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation? (n=4,026)	Mean 5.3	[4.9,5.7]
Since you enrolled in the Healthy Michigan Plan, has the health of your teeth and gums gotten better, stayed the same, OR gotten worse? (n=4,084)		
Gotten better (n=1,641)	39.5	[37.6,41.5]
Stayed the same (n=1,809)	45.5	[43.5,47.5]
Gotten worse (n=443)	10.4	[9.3,11.6]
Don't know (n=191)	4.6	[3.9,5.5]
Compared to 12 months ago, how would you describe your weight? (n=4,084)		
Lost weight (n=1,300)	31.7	[29.9,33.6]
Gained weight (n=1,036)	26.4	[24.7,28.2]
Stayed about the same (n=1,732)	41.5	[39.6,43.4]
Don't know (n=16)	0.4	[0.2,0.7]

Chronic Health Conditions

More than two-thirds (69.2%) reported any chronic health condition with 60.8% reporting at least one physical health condition and 32.1% reporting at least one mental health condition. About one-fourth (23.7%) reported having both a physical health condition and a mental health condition. Nearly one-third (30.3%) reported that they had a chronic health condition that was newly diagnosed since enrolling in HMP. Almost one-fifth (18.4%) of respondents reported a functional limitation.

	Col %	95% CI
At least one physical health condition present (n=4,090)		
Yes (n=2,689)	60.8	[58.8,62.8]
No (n=1,401)	39.2	[37.2,41.2]
At least one mental health condition present (n=4,090)		
Yes (n=1,351)	32.1	[30.3,33.9]
No (n=2,739)	67.9	[66.1,69.7]

Any chronic health condition present (n=4,090)		
Yes (n=2,986)	69.2	[67.3,71.0]
No (n=1,104)	30.8	[29.0,32.7]
Any physical health condition AND any mental health condition		
Yes (n=1,054)	23.7	[22.2,25.3]
No (n=3,036)	76.3	[74.7,77.8]
Any new diagnoses since HMP enrollment (n=4,090)		
Yes (n=1,318)	30.6	[28.8,32.4]
No (n=2,772)	69.4	[67.6,71.2]
Functional limitations (n=4,026)		
Yes (n=749)	18.4	[17.0,20.0]
No (n=3,277)	81.6	[80.0,83.0]

The most common chronic conditions reported were hypertension (31.3%), mood disorder (30.4%), and other health conditions (29.2%). Respondents frequently found out about these chronic conditions after enrollment in HMP.

	%	95% CI
Has a doctor or other health professional every told you that you had any of the following?		
Hypertension (n=4,089)		
Yes (n=1,411)	31.3	[29.6,33.1]
No (n=2,661)	68.2	[66.4,69.9]
Don't know (n=17)	0.5	[0.3,0.9]
[If Yes] Did you find out you had [Hypertension] before or after you enrolled in the Healthy Michigan Plan? (n=1,411)		
Before (n=960)	66.6	[63.4,69.7]
After (n=441)	32.4	[29.4,35.6]
Don't know (n=10)	0.9	[0.4,2.0]
Heart disease (n=4,089)		
Yes (n=426)	9.7	[8.6,10.9]
No (n=3,645)	90.0	[88.8,91.1]
Don't know (n=18)	0.3	[0.2,0.5]
[If Yes] Did you find out you had [Heart disease] before or after you enrolled in the Healthy Michigan Plan? (n=426)		
Before (n=290)	65.6	[59.3,71.4]
After (n=135)	34.3	[28.5,40.6]
Don't know (n=1)	0.1	[0.0,0.8]
Diabetes (n=4,089)		
Yes (n=499)	10.8	[9.7,12.0]
No (n=3,574)	88.8	[87.6,89.9]
Don't know (n=16)	0.4	[0.2,0.7]

[If Yes] Did you find out you had [Diabetes] before or after you enrolled in the Healthy Michigan Plan? (n=499)		
Before (n=331)	63.8	[58.1,69.1]
After (n=163)	35.4	[30.1,41.1]
Don't know (n=5)	0.8	[0.3,2.4]
Cancer (non-skin) (n=4,089)		
Yes (n=203)	3.7	[3.2,4.4]
No (n=3,876)	96.0	[95.3,96.6]
Don't know (n=10)	0.3	[0.1,0.6]
[If Yes] Did you find out you had [Cancer (non-skin)] before or after you enrolled in the Healthy Michigan Plan? (n=203)		
Before (n=130)	60.3	[51.8,68.3]
After (n=72)	39.2	[31.3,47.8]
Don't know (n=1)	0.5	[0.1,3.2]
Mood disorder (n=4,084)		
Yes (n=1,288)	30.4	[28.7,32.2]
No (n=2,786)	69.2	[67.4,71.0]
Don't know (n=10)	0.4	[0.2,0.8]
[If Yes] Did you find out you had [Mood disorder] before or after you enrolled in the Healthy Michigan Plan? (n=1,288)		
Before (n=941)	70.9	[67.5,74.0]
After (n=342)	28.8	[25.7,32.2]
Don't know (n=5)	0.3	[0.1,0.9]
Stroke (n=4,089)		
Yes (n=88)	1.9	[1.5,2.5]
No (n=3,997)	97.9	[97.3,98.4]
Don't know (n=4)	0.2	[0.0,0.5]
[If Yes] Did you find out you had [Stroke] before or after you enrolled in the Healthy Michigan Plan? (n=88)		
Before (n=53)	59.8	[46.7,71.7]
After (n=35)	40.2	[28.3,53.3]
Don't know (n=0)	0.0	
Asthma (n=4,088)		
Yes (n=725)	17.1	[15.7,18.6]
No (n=3,353)	82.7	[81.2,84.1]
Don't know (n=10)	0.2	[0.1,0.4]
[If Yes] Did you find out you had [Asthma] before or after you enrolled in the Healthy Michigan Plan? (n=725)		
Before (n=637)	86.6	[83.0,89.5]
After (n=84)	12.9	[10.0,16.4]
Don't know (n=4)	0.6	[0.2,2.0]

Chronic bronchitis, COPD, emphysema (n=4,089)		
Yes (n=479)	10.5	[9.4,11.7]
No (n=3,594)	89.1	[87.9,90.2]
Don't know (n=16)	0.4	[0.2,0.8]
[If Yes] Did you find out you had [Chronic bronchitis, COPD, emphysema] before or after you enrolled in the Healthy Michigan Plan? (n=479)		
Before (n=304)	65.0	[59.5,70.2]
After (n=173)	34.8	[29.6,40.3]
Don't know (n=2)	0.2	[0.0,0.8]
Substance use disorder (n=4,088)		
Yes (n=165)	4.1	[3.4,5.0]
No (n=3,916)	95.7	[94.8,96.4]
Don't know (n=7)	0.2	[0.1,0.5]
[If Yes] Did you find out you had [Substance use disorder] before or after you enrolled in the Healthy Michigan Plan? (n=165)		
Before (n=148)	88.9	[81.6,93.5]
After (n=15)	9.5	[5.3,16.3]
Don't know (n=2)	1.6	[0.4,7.1]
Other chronic condition (n=4,087)		
Yes (n=1,317)	29.2	[27.5,30.9]
No (n=2,759)	70.5	[68.8,72.2]
Don't know (n=11)	0.3	[0.1,0.5]
[If Yes] Did you find out you had [Other chronic condition] before or after you enrolled in the Healthy Michigan Plan? (n=1,317)		
Before (n=829)	63.8	[60.6,67.0]
After (n=451)	33.6	[30.5,36.8]
Don't know (n=37)	2.6	[1.7,3.9]

Health Risk Assessment (HRA)

Approximately half (49.3%) of survey respondents reported that they remembered completing the HRA. This is higher than the completion rate obtained using data from the MDHHS Data Warehouse. One potential explanation for this discrepancy between the self-reported rate and the State reported rate is that some respondents may have completed only the patient portion of the HRA but reported HRA completion in the survey; without also turning in the provider portion of the HRA such partial completions would be marked incomplete in the Data Warehouse. Other potential reasons include recall bias or misunderstanding about the HRA as a special form developed for Healthy Michigan Plan enrollees (e.g., some respondents may be unable to differentiate between the HRA and other health questionnaires they had completed). Among those who reported completing the HRA, the most common reasons for completion were that their primary care provider (PCP) suggested it (45.9%), they got it in the mail (33%),

and/or that they completed it during enrollment on the phone (12.6%). Among respondents who reported getting the HRA in the mail, 71.9% said they took the form to their PCP.

	%	95% CI
Do you remember completing the Health Risk Assessment? (n=4,089)		
Yes (n=2,102)	49.3	[47.3,51.2]
No (n=1,681)	42.7	[40.8,44.7]
Don't know (n=306)	8.0	[6.9,9.2]
[If Yes] What led you to complete it?* (n=2,102)		
PCP suggested (n=996)	45.9	[43.2,48.7]
Got it in the mail (n=693)	33.0	[30.4,35.6]
At enrollment on the phone (n=253)	12.6	[10.9,14.6]
Health plan suggested (n=149)	7.3	[6.0,8.9]
To stay on top of my health (n=64)	2.9	[2.1,3.9]
Gift card/money/reward (n=57)	2.5	[1.8,3.4]
To save money on copays/cost-sharing (n=2)	0.1	[0.0,0.3]
Other (n=50)	2.7	[1.8,4.0]
Don't know (n=79)	3.9	[3.0,5.2]
[If 'Got it in the mail'] Did you take the form to your primary care provider? (n=622)		
Yes (n=481)	71.9	[66.5,76.7]
No (n=106)	22.4	[17.8,27.7]
Don't know (n=35)	5.7	[3.7,8.8]

**Respondents were able to provide more than one response for this question. As a result, percentages may exceed 100%.*

A majority of those who reported completing the HRA felt that the HRA was valuable for improving their health (83.7%) and was helpful for their PCP to understand their health needs (89.7%). About one-third (31.5%) of those who said they completed the HRA felt that the HRA was not that helpful because they already knew what they needed to do to be healthy.

	%	95% CI
I think doing the Health Risk Assessment was valuable for me to improve my health. (n=2,100)		
Strongly agree (n=399)	19.0	[16.8,21.3]
Agree (n=1,354)	64.7	[62.0,67.4]
Neutral (n=222)	10.2	[8.7,12.1]
Disagree (n=104)	4.8	[3.8,6.1]
Strongly disagree (n=10)	0.6	[0.3,1.2]
Don't know (n=11)	0.6	[0.3,1.5]

I think doing the Health Risk Assessment was helpful for my primary care provider to understand my health needs. (n=2,099)		
Strongly agree (n=515)	24.9	[22.6,27.4]
Agree (n=1,369)	64.8	[62.1,67.4]
Neutral (n=121)	6.1	[4.9,7.6]
Disagree (n=62)	2.4	[1.8,3.4]
Strongly disagree (n=8)	0.4	[0.2,0.8]
Don't know (n=24)	1.3	[0.8,2.2]
I know what I need to do to be healthy, so the Health Risk Assessment wasn't that helpful. (n=2,100)		
Strongly agree (n=92)	4.5	[3.5,5.7]
Agree (n=567)	27.0	[24.7,29.5]
Neutral (n=308)	16.8	[14.7,19.2]
Disagree (n=1,024)	46.2	[43.5,48.9]
Strongly disagree (n=87)	4.2	[3.2,5.6]
Don't know (n=22)	1.2	[0.7,2.1]

Among those who reported completing the HRA, 80.7% reported choosing to work on at least one health behavior. The most common behaviors that respondents reported selecting were related to nutrition/diet (57.2%) and exercise/activity (52.6%). Among respondents who chose to work on a health behavior, 61.3% said their health care provider or health plan helped them work on this behavior. Some (8%) said there was help they wanted that they did not get.

	%	95% CI
After going through the Health Risk Assessment, or at a primary care visit, did you choose to work on a healthy behavior or do something good for your health? (n=2,100)		
Yes (n=1,690)	80.7	[78.5,82.8]
No (n=393)	18.6	[16.6,20.9]
Don't know (n=17)	0.6	[0.3,1.1]
[If Yes] What did you choose to do?* (n=1,690)		
Nutrition/diet (n=947)	57.2	[54.2,60.2]
Exercise/activity (n=915)	52.6	[49.5,55.7]
Reduce/quit tobacco use (n=317)	18.4	[16.2,20.9]
Lose weight (n=191)	10.1	[8.5,11.9]
Reduce/quit alcohol consumption (n=55)	3.4	[2.5,4.8]
Take medicine regularly (n=32)	2.3	[1.5,3.5]
Monitor my blood pressure/blood sugar (n=33)	1.5	[1.0,2.2]
Flu shot (n=20)	0.9	[0.5,1.4]
Follow-up appointment for chronic disease (n=11)	0.6	[0.3,1.1]
Go to the dentist (n=7)	0.4	[0.2,1.1]
Treatment for substance use disorder (n=3)	0.2	[0.0,0.5]
Other (n=98)	5.4	[4.3,6.8]
Don't know (n=11)	0.8	[0.4,1.7]

Did your health care provider or health plan help you work on this healthy behavior? (n=1,677)		
Yes (n=1,088)	61.3	[58.2,64.4]
No (n=382)	26.3	[23.5,29.3]
NA (n=200)	11.9	[10.1,14.0]
Don't know (n=7)	0.4	[0.2,1.0]
[If Yes or No] Was there help that you wanted that you didn't get? (n=1,470)		
Yes (n=131)	8.0	[6.6,9.7]
No (n=1,313)	90.0	[88.0,91.7]
NA (n=18)	1.2	[0.6,2.3]
Don't know (n=8)	0.8	[0.3,2.0]

**Respondents were able to provide more than one response for this question; As a result, percentages may exceed 100%.*

Forty percent of survey respondents agreed that information about healthy behavior rewards led them do something they might not have done otherwise. A quarter (26.1%) disagreed, and one-fifth (21.3%) said they did not know.

	%	95% CI
Information about the healthy behavior rewards that I can earn has led me to do something I might not have done otherwise. (n=4,084)		
Strongly agree (n=204)	5.2	[4.4,6.3]
Agree (n=1,431)	35.4	[33.5,37.3]
Neutral (n=487)	12.0	[10.8,13.3]
Disagree (n=969)	24.1	[22.4,25.8]
Strongly disagree (n=75)	2.0	[1.5,2.6]
Don't know (n=918)	21.3	[19.8,22.9]

Health Behaviors and Health Education

More than one-third (36.7%) of survey respondents reported getting a flu shot last fall or winter. Almost one-third (31.9%) of survey respondents reported exercising every day for at least 20 minutes, 48.8% of respondents reported drinking sugary drinks two or fewer days per week, and 37.5% of respondents reported eating three or more servings of fruits or vegetables every day.

	%	95% CI
Did you get a flu shot last fall or winter? (n=4,090)		
Yes (n=1,592)	36.7	[34.8,38.6]
No (n=2,463)	62.4	[60.4,64.3]
Don't know (n=35)	0.9	[0.6,1.5]

In the last 7 days, how many days did you exercise for at least 20 minutes? (n=4,089)		
Every day (n=1,392)	31.9	[30.1,33.7]
3-6 days (n=1,334)	33.5	[31.6,35.4]
1-2 days (n=606)	15.9	[14.4,17.4]
0 days (n=746)	18.4	[17.0,20.0]
Don't know (n=11)	0.3	[0.1,0.6]
In the last 7 days, how many days did you drink sugary drinks, like soda or pop, sweetened fruit drinks, sports drinks, or energy drinks? (n=4,088)		
Every day (n=1,281)	32.4	[30.6,34.3]
3-6 days (n=688)	18.7	[17.2,20.4]
1-2 days (n=886)	21.4	[19.8,23.0]
0 days (n=1,231)	27.4	[25.8,29.2]
Don't know (n=2)	0.1	[0.0,0.3]
In the last 7 days, how many days did you eat 3 or more servings of fruits or vegetables in a day? (n=4,087)		
Every day (n=1,609)	37.5	[35.6,39.4]
3-6 days (n=1,374)	33.6	[31.8,35.5]
1-2 days (n=603)	16.4	[15.0,18.0]
0 days (n=476)	11.8	[10.5,13.1]
Don't know (n=25)	0.7	[0.4,1.1]

About half of respondents reported talking with a health professional about exercise (48.6%) and diet and nutrition (49.8%) in the past 12 months. Among those who reported binge drinking behavior in the past seven days, 30.3% reported talking to a health professional about safe alcohol use.

	%	95% CI
In the last 12 months, has a doctor, nurse, or other health professional talked with you about exercise? (n=4,090)		
Yes (n=2,091)	48.6	[46.7,50.6]
No (n=1,983)	50.9	[48.9,52.9]
Don't know (n=16)	0.4	[0.2,1.0]
In the last 12 months, has a doctor, nurse, or other health professional talked with you about diet and nutrition? (n=4,089)		
Yes (n=2,107)	49.8	[47.8,51.8]
No (n=1,966)	49.7	[47.7,51.7]
Don't know (n=16)	0.5	[0.2,1.1]
In the last 7 days, on how many days did you have 5 or more alcoholic drinks (males) or 4 or more alcoholic drinks (females)? (n=4,087)		
Every day (n=43)	1.1	[0.8,1.6]
3-6 days (n=145)	4.0	[3.3,4.9]
1-2 days (n=556)	14.5	[13.1,16.0]
0 days (n=3,341)	80.3	[78.7,81.9]
Don't know (n=2)	0.1	[0.0,0.4]

[If response other than 0 days] In the last 12 months, has a doctor, nurse, or other health professional talked with you about safe alcohol use? (n=747)		
Yes (n=234)	30.3	[26.3,34.6]
No (n=511)	69.6	[65.2,73.6]
Don't know (n=2)	0.1	[0.0,0.6]

More than one-third (37.7%) of survey respondents reported smoking or using tobacco in the past thirty days. Among those who smoked or used tobacco in the past thirty days, 75.2% reported wanting to quit. Of those who said they would like to quit smoking or using tobacco, 90.7% reported working on cutting back or quitting right now. Among those currently working on quitting or reducing tobacco use, over half (54%) of respondents reported receiving advice or assistance from a health professional or health plan on how to quit in the past 12 months.

	%	95% CI
In the last 30 days, have you smoked or used tobacco? (n=4,089)		
Yes (n=1,533)	37.7	[35.9,39.7]
No (n=2,556)	62.3	[60.3,64.1]
[If Yes] Do you want to quit smoking or using tobacco? (n=1,530)		
Yes (n=1,186)	75.2	[72.0,78.1]
No (n=319)	23.3	[20.4,26.4]
Don't know (n=25)	1.5	[0.9,2.5]
[If Yes] Are you working on cutting back or quitting right now? (n=1,186)		
Yes (n=1,059)	90.7	[88.7,92.4]
No (n=124)	9.1	[7.4,11.1]
Don't know (n=3)	0.2	[0.1,0.8]
In the past 12 months, did you receive any advice or assistance from a health professional or your health plan on how to quit smoking? (n=1,531)		
Yes (n=877)	54.0	[50.8,57.3]
No (n=644)	45.4	[42.2,48.7]
Don't know (n=10)	0.5	[0.3,1.1]

Few (5.9%) survey respondents reported using drugs or medications in the past 30 days to affect mood or aid in relaxation. Among those who reported using drugs or medications for mood or to aid in relaxation, 52.9% used these drugs or medications almost every day. More than one-third (37.1%) of respondents who used these drugs sometimes or every day reported speaking with a health professional about the use of these drugs or medications.

	%	95% CI
In the last 30 days, have you used drugs or medications to affect your mood or help you relax? This includes prescription drugs taken differently than how you were told to take them, as well as street drugs. (n=4,086)		
Yes (n=222)	5.9	[5.1,7.0]
No (n=3,862)	94.0	[92.9,94.9]
Don't know (n=2)	0.1	[0.0,0.3]

[If Yes] How often? Would you say Almost every day, Sometimes, Rarely, or Never? (n=222)		
Almost every day (n=115)	52.9	[44.4,61.2]
Sometimes (n=64)	28.6	[21.6,36.9]
Rarely (n=41)	17.6	[12.0,25.0]
Never (n=2)	0.9	[0.2,3.8]
[If 'Sometimes' or 'Almost every day'] In the last 12 months, has a doctor, nurse, or other health professional talked with you about your use of these drugs or medications? (n=179)		
Yes (n=77)	37.1	[29.2,45.7]
No (n=102)	62.9	[54.3,70.8]

Regular Source of Care and Primary Care Utilization Prior to HMP

In the 12 months prior to HMP enrollment, about three-quarters (73.8%) of survey respondents reported having a place they would usually go for a checkup, when they felt sick, or when they wanted advice about their health and 24% of survey respondents reported not having a regular source of care. Among respondents who reported having a place that they would go for health care in the 12 months prior to HMP enrollment, a doctor's office (47.9%) was the most common place reported, while 16.2% reported the emergency room as their usual place for care. Many (40.1%) survey respondents had not had a primary care visit in the year before HMP enrollment and more than one-fifth (20.6%) had not had a primary care visit in five years or more.

	%	95% CI
In the 12 months before enrolling in the Healthy Michigan Plan, was there a place that you usually would go to for a checkup, when you felt sick, or when you wanted advice about your health? (n=4,084)		
Yes (n=3,051)	73.8	[72.0,75.5]
No (n=955)	24.0	[22.4,25.8]
NA (n=73)	2.1	[1.5,2.8]
Don't know (n=5)	0.1	[0.1,0.4]
[If Yes] What kind of place was it? (n=3,051)		
Doctor's office (n=1,498)	47.9	[45.7,50.2]
Clinic (n=557)	17.2	[15.5,18.9]
Urgent care/walk-in (n=529)	16.8	[15.2,18.6]
Emergency room (n=409)	16.2	[14.6,18.1]
Other place (n=56)	1.8	[1.3,2.4]
Don't know (n=2)	0.1	[0.0,0.2]
Before you enrolled in the Healthy Michigan Plan, about how long had it been since you had a primary care visit? (n=4,086)		
Less than 1 year before HMP (n=1,647)	40.1	[38.2,42.1]
1 to 5 years (n=1,577)	37.8	[35.9,39.7]
More that 5 years (n=813)	20.6	[19.0,22.2]
Don't know (n=49)	1.5	[1.0,2.1]

Regular Source of Care and Primary Care Utilization with HMP

Most (92.2%) survey respondents indicated that in the past 12 months of HMP enrollment there is a place they usually go when they need a checkup, feel sick, or want advice about their health. A doctor's office (75.2%) was the most common place respondents went to for health care in the 12 months enrolled in HMP and just 1.7% reported the emergency room. Among those who usually go to a doctor's office or clinic for health care, 60.6% reported that this is not the same place they went prior to HMP enrollment. Among respondents who reported going to a doctor's office or clinic for their health care, most (96.7%) respondents said this was their primary care provider (PCP) through their HMP coverage. Among the respondents who chose urgent care or the emergency room as their usual place for care while enrolled in HMP, 32.4% said they did not have a PCP through HMP. Among those respondents who used urgent care or the emergency room as their usual place of care and who had a PCP through HMP, about half (49.1%) chose their provider and about half (49.4%) said their plan assigned one.

	%	95% CI
In the last 12 months, is there a place you usually go when you need a checkup, feel sick, or want advice about your health? (n=4,088)		
Yes (n=3,850)	92.2	[90.8,93.4]
No (n=194)	6.2	[5.2,7.4]
NA (n=44)	1.6	[1.0,2.4]
[If Yes] What kind of a place was it? (n=3,850)		
Doctor's office (n=2,934)	75.2	[73.4,77.0]
Clinic (n=640)	16.5	[15.0,18.1]
Urgent care/walk-in (n=181)	5.8	[4.8,6.9]
Emergency room (n=65)	1.7	[1.3,2.2]
Other place (n=29)	0.8	[0.5,1.2]
Don't know (n=1)	0.0	[0.0,0.2]
[If Doctor's Office or Clinic] Is this the same place where you went before you enrolled in Healthy Michigan? (n=3,551)		
Yes (n=1,438)	39.3	[37.3,41.4]
No (n=2,111)	60.6	[58.5,62.6]
Don't know (n=2)	0.1	[0.0,0.3]
[If Doctor's Office or Clinic] And is this your primary care provider for your Healthy Michigan Plan Coverage? (n=3,552)		
Yes (n=3,438)	96.7	[95.8,97.4]
No (n=103)	3.1	[2.4,3.9]
Don't know (n=11)	0.2	[0.1,0.5]
[If the place they usually go for care is NOT their PCP --OR-- usual source of care is urgent care/walk-in clinic or the ER] Do you have a primary care provider through your Healthy Michigan Plan coverage? (n=652)		
Yes (n=418)	63.6	[58.7,68.3]
No (n=208)	32.4	[27.9,37.3]
Don't know (n=26)	3.9	[2.5,6.2]

[If Yes] Did you choose your primary care provider or did your plan assign you to one? (n=216)		
Chose my PCP (n=103)	49.1	[40.3,58.0]
Plan assigned my PCP (n=109)	49.4	[40.5,58.3]
Don't know (n=4)	1.5	[0.5,4.5]

The majority (85.2%) of respondents who reported having a PCP indicated that they saw their PCP in the past 12 months. For survey respondents who reported not seeing their PCP in the previous 12 months while enrolled in HMP, the most common reason given was that they were healthy and did not need to see a provider. Most (91.1%) respondents who had seen their PCP reported talking about things they can do to be healthy and prevent medical problems. Among those who had seen their PCP, 83.9% said it was easy or very easy to get an appointment to see their PCP. For those who said it was difficult or very difficult to schedule an appointment, the most common reason for this difficulty was not getting an appointment soon enough.

	%	95% CI
Have you seen your primary care provider in the past 12 months? (n=3,851)		
Yes (n=3,386)	85.2	[83.5,86.7]
No (n=453)	14.5	[13.0,16.2]
Don't know (n=12)	0.3	[0.2,0.6]
[If Yes] Did you and the primary care provider talk about things you can do to be healthy and prevent medical problems? (n=3,386)		
Yes (n=3,131)	91.1	[89.6,92.3]
No (n=243)	8.5	[7.3,9.9]
Don't know (n=12)	0.4	[0.2,0.9]
In the last 12 months, how easy or difficult was it to get an appointment to see your primary care provider? (n=3,386)		
Very easy (n=1,432)	41.9	[39.8,44.0]
Easy (n=1,443)	42.0	[39.9,44.1]
Neutral (n=274)	8.9	[7.7,10.3]
Difficult (n=166)	4.8	[4.0,5.8]
Very Difficult (n=69)	2.3	[1.7,3.1]
Don't know (n=2)	0.1	[0.0,0.4]
[If Difficult or Very Difficult] What made it difficult? (n=235)		
Couldn't get an appointment soon enough (n=195)	84.0	[77.8,88.8]
Inconvenient hours (n=46)	18.5	[13.3,25.2]
Couldn't get through on the telephone (n=21)	7.7	[4.6,12.7]
Transportation (n=12)	3.7	[1.9,6.9]
Other (n=15)	9.0	[4.8,16.4]

[If No - Have not seen PCP in past 12 months] Why not?* (n=452)		
Healthy/didn't need to see doctor (n=274)	63.4	[57.6,68.8]
Couldn't get appointment (n=37)	7.0	[4.8,10.0]
Transportation difficulties/too far (n=23)	5.5	[3.3,9.1]
See a specialist instead (n=19)	4.2	[2.2,7.6]
Don't like my PCP/staff (n=18)	3.9	[2.3,6.5]
Inconvenient hours (n=10)	3.0	[1.3,6.8]
Don't like doctors in general (n=8)	1.5	[0.6,3.4]
Other (n=149)	30.6	[25.6,36.3]
Don't know (n=3)	0.5	[0.1,1.5]

**Respondents were able to provide more than one response for this question; As a result, percentages may exceed 100%.*

Primary Care Utilization and Experience

Beneficiaries who were older, white, female, reported worse health, and had any chronic condition were more likely than other beneficiaries to have seen a PCP in the past 12 months. Ethnicity, employment, income and marital status were not associated with likelihood of PCP visit in past 12 months (See Appendix Table 2).

Respondents who reported a PCP visit within the previous 12 months, compared to those who did not, were more likely to report improvement in access to specialty care, help with staying healthy, and cancer screening. Respondents who reported a PCP visit within the previous 12 months, compared to those who did not, were more likely to report completing an HRA, being counseled about exercise, nutrition, tobacco cessation (for those who used tobacco) and being counseled about safe alcohol use (for those who reported unsafe alcohol intake). Respondents who reported a PCP visit within the previous 12 months, compared to those who did not, were more likely to report being diagnosed with a chronic condition since enrollment in HMP (See Appendix Table 3).

Foregone Care Prior to HMP

One-third (33%) of respondents reported not getting the health care they needed in the 12 months prior to HMP enrollment. The most common reasons for not getting the care they needed prior to HMP were being worried about the cost (77.5%) and not having health insurance (67.4%).

	%	95% CI
In the 12 months before enrolling in the Healthy Michigan Plan, was there any time when you didn't get the health care services you needed? (n=4,084)		
Yes (n=1,409)	33.0	[31.2,34.8]
No (n=2,638)	65.9	[64.0,67.7]
Don't know (n=37)	1.1	[0.8,1.7]

[If Yes] Why didn't you get the care you needed?* (n=1,409)		
You were worried about the cost (n=1,121)	77.5	[74.5,80.2]
You did not have health insurance (n=927)	67.4	[64.2,70.4]
Your health plan wouldn't pay for the treatment (n=105)	7.9	[6.3,9.8]
The doctor or hospital wouldn't accept your health insurance (n=60)	4.0	[3.0,5.4]
You couldn't get an appointment soon enough (n=54)	3.5	[2.6,4.8]
You didn't have transportation (n=36)	2.7	[1.9,4.0]
Other (n=99)	7.3	[5.7,9.4]
Don't know (n=6)	0.5	[0.2,2.0]
Other (write-in): Respondent did not have a doctor (n=24)	1.2	[0.8,1.9]
Other (write-in): Respondent was not satisfied with the care they received (n=19)	1.1	[0.6,1.9]

**Respondents were able to provide more than one response for this question; As a result, percentages may exceed 100%.*

Foregone Care with HMP

Over one-fifth (22%) of survey respondents reported that there was a time when they needed help or advice when their usual clinic or doctor's office was closed. Among these respondents, 46.8% said they tried to contact their provider's office after they were closed to get help or advice. Among those who tried to contact their provider's office after it was closed, 56.5% said they were able to talk to someone. Among respondents who did not contact their provider's office when they needed help or advice, the main reason for not contacting them was because the office was closed.

	%	95% CI
In the last 12 months was there a time when you needed help or advice when your usual clinic or doctor's office was closed? (n=4,063)		
Yes (n=916)	22.0	[20.4,23.6]
No (n=3,132)	77.6	[76.0,79.1]
Don't know (n=15)	0.4	[0.2,0.9]
[If Yes] In the most recent case, did you try to contact your provider's office after they were closed to get help or advice? (n=916)		
Yes (n=429)	46.8	[42.8,50.7]
No (n=484)	52.7	[48.7,56.7]
[If Yes] Were you able to talk to someone? (n=428)		
Yes (n=243)	56.5	[50.6,62.2]
No (n=184)	43.0	[37.3,48.9]
Don't know (n=1)	0.5	[0.1,3.2]

[If No-Did not try to contact provider's office] Why didn't you try to contact your provider's office?* (n=488)		
It was closed (n=347)	69.5	[64.2,74.3]
I felt it was an emergency and went to ER/ called 911 (n=78)	15.6	[12.1,19.9]
Decided to wait to see if condition resolved (n=31)	6.5	[4.3,9.8]
Unsure how to contact provider (n=3)	1.2	[0.3,4.5]
Other (n=99)	21.8	[17.5,26.9]
Don't know (n=9)	1.8	[0.8,3.6]

**Respondents were able to provide more than one response for this question; As a result, percentages may exceed 100%.*

Among all survey respondents, 15.6% said that in the past 12 months there was a time when they did not get the medical or dental care they needed. The most common reasons for not getting the care they needed with HMP were because their health plan would not pay for the treatment (39.6%) and being worried about the cost (25.4%). Those who cited a reason other than the options supplied for not getting the medical or dental care they needed often reported that dental procedures such as crowns and root canals are not covered and indicated that it was difficult to find a dentist who accepted their insurance. Among respondents who did not get needed care because they could not afford it, 63.2% reported dental care as the type of care they wanted.

	%	95% CI
In the last 12 months, was there any time when you didn't get the medical or dental care you needed? (n=4,084)		
Yes (n=629)	15.6	[14.3,17.1]
No (n=3,433)	84.0	[82.5,85.3]
Don't know (n=22)	0.4	[0.2,0.6]
[If Yes] Why didn't you get the care you needed?* (n=629)		
Your health plan wouldn’t pay for the treatment (n=251)	39.6	[34.9,44.5]
You were worried about the cost (n=155)	25.4	[21.3,29.9]
The doctor or hospital wouldn’t accept your health insurance (n=141)	23.9	[19.8,28.5]
You couldn’t get an appointment soon enough (n=73)	11.5	[8.7,14.9]
You did not have health insurance (n=41)	8.5	[5.8,12.4]
You didn’t have transportation (n=30)	6.1	[3.9,9.4]
Other (n=199)	29.8	[25.6,34.4]

[If Yes - 'Your health plan wouldn't pay for the treatment', 'You were worried about the cost', 'The doctor or hospital wouldn't accept your health insurance', OR 'You did not have health insurance'] Was there any time in the last 12 months when you needed or wanted any of the following but could not afford it?* (n=393)		
Dental care (including check-ups) (n=252)	63.2	[57.0,69.0]
To see a specialist (n=79)	21.7	[16.8,27.5]
Prescription medication [not over the counter] (n=72)	19.9	[15.3,25.5]
A checkup, physical or wellness visit (n=47)	13.3	[9.6,18.2]
Mental health care or counseling (n=30)	8.9	[5.8,13.3]
Substance use treatment services (n=2)	0.7	[0.2,2.6]
Other (n=49)	13.0	[9.2,17.9]
NONE (n=28)	5.6	[3.8,8.3]
Don't know (n=1)	0.2	[0.0,1.7]

**Respondents were able to provide more than one response for this question; As a result, percentages may exceed 100%.*

Changes in Access to Care

Many respondents reported greater ability to get prescription medications (59.3%), primary care (57.8%), help staying healthy or preventing health problems (52%), dental care (46.1%), specialist care (44.4%), mental health care (27.5%), and cancer screening (25.7%) after enrolling in HMP compared to before they had HMP coverage. About half (46.7%) of respondents did not know if their ability to get mental health care through HMP was better, worse, or about the same as compared to before enrolling in HMP, though only 2.5% reported that it was worse. The majority (80.7%) of respondents did not know if their ability to get substance use treatment services through HMP was better, worse, or about the same compared to before enrolling in HMP though only 0.2% reported that it was worse. While most (58.6%) respondents did not know if their ability to get cancer screening though HMP was better, worse, or about the same compared to before HMP, 25.7% said it was better. The majority (71%) of respondents also said they did not know if their ability to get birth control/family planning services through HMP is better, worse, or the about the same compared to before HMP.

	%	95% CI
Would you say that your ability to get primary care through the Healthy Michigan Plan is better, worse, or about the same, compared to before? (n=4,085)		
Better (n=2,381)	57.8	[55.8,59.7]
Worse (n=93)	2.4	[1.9,3.1]
About the same (n=1,483)	35.9	[34.0,37.8]
Don't know (n=128)	3.9	[3.1,4.9]

Would you say that your ability to get specialist care through the Healthy Michigan Plan is better, worse, or about the same, compared to before? (n=4,085)		
Better (n=1,901)	44.4	[42.5,46.4]
Worse (n=177)	4.2	[3.5,5.1]
About the same (n=911)	22.6	[21.0,24.3]
Don't know (n=1,096)	28.7	[26.9,30.6]
Would you say that your ability to get dental care through the Healthy Michigan Plan is better, worse, or about the same, compared to before? (n=4,084)		
Better (n=1,930)	46.1	[44.1,48.0]
Worse (n=255)	6.2	[5.4,7.3]
About the same (n=1,138)	29.3	[27.5,31.2]
Don't know (n=761)	18.4	[16.9,19.9]
Would you say that your ability to get mental health care through the Healthy Michigan Plan is better, worse, or about the same, compared to before? (n=4,084)		
Better (n=1,077)	27.5	[25.8,29.3]
Worse (n=97)	2.5	[1.9,3.2]
About the same (n=923)	23.3	[21.6,25.0]
Don't know (n=1,987)	46.7	[44.8,48.7]
Would you say that your ability to get substance use treatment services through the Healthy Michigan Plan is better, worse, or about the same, compared to before? (n=4,083)		
Better (n=341)	9.8	[8.6,11.1]
Worse (n=9)	0.2	[0.1,0.4]
About the same (n=319)	9.3	[8.1,10.6]
Don't know (n=3,414)	80.7	[79.0,82.3]
Would you say that your ability to get prescription medications through the Healthy Michigan Plan is better, worse, or about the same, compared to before? (n=4,085)		
Better (n=2,497)	59.3	[57.4,61.3]
Worse (n=121)	3.1	[2.5,3.9]
About the same (n=1,017)	25.9	[24.2,27.7]
Don't know (n=450)	11.6	[10.4,13.0]
Would you say that your ability to get cancer screening through the Healthy Michigan Plan is better, worse, or about the same, compared to before? (n=4,084)		
Better (n=1,156)	25.7	[24.1,27.5]
Worse (n=26)	0.6	[0.4,1.0]
About the same (n=627)	15.0	[13.7,16.5]
Don't know (n=2,275)	58.6	[56.7,60.5]

Would you say that your ability to get help with staying healthy or preventing health problems through the Healthy Michigan Plan is better, worse, or about the same, compared to before? (n=4,084)		
Better (n=2,142)	52.0	[50.0,53.9]
Worse (n=48)	1.1	[0.8,1.5]
About the same (n=1,338)	32.5	[30.7,34.3]
Don't know (n=556)	14.5	[13.2,16.0]
Would you say that your ability to get birth control/family planning services through the Healthy Michigan Plan is better, worse, or about the same, compared to before? (n=4,082)		
Better (n=568)	16.1	[14.6,17.7]
Worse (n=16)	0.5	[0.3,0.8]
About the same (n=472)	12.4	[11.1,13.8]
Don't know (n=3,026)	71.0	[69.1,72.8]

Emergency Room Use with HMP

Over one-third (37.6%) of survey respondents reported going to a hospital emergency room (ER) for care in the past 12 months. Of those who went to the ER in the past 12 months, 83.8% felt that the problem needed to be handled in the ER. Over one-quarter (28.0%) of respondents with an ER visit in the past 12 months said they tried to contact their usual provider's office to get help or advice before going to the ER. Among those who tried to contact their provider, 76.6% reported talking to someone. Among those who talked to someone from their provider's office before going to the ER, the most common reason for going to the ER was because the provider said to go (75.7%).

	%	95% CI
During the past 12 months, did you go to a hospital emergency room about your own health (whether or not you were admitted overnight)? (n=4,090)		
Yes (n=1,456)	37.6	[35.7,39.6]
No (n=2,611)	61.8	[59.8,63.7]
Don't know (n=23)	0.6	[0.3,1.0]
[If Yes] Thinking about the last time you were at the emergency room, did you think your problem needed to be handled in the emergency room? (n=1,455)		
Yes (n=1,249)	83.8	[81.1,86.2]
No (n=186)	14.9	[12.6,17.6]
Don't know (n=20)	1.2	[0.8,2.0]
Thinking about the last time you were at the emergency room, did you try to contact your usual provider's office to get help or advice before going to the emergency room? (n=1,456)		
Yes (n=424)	28.0	[25.2,30.9]
No (n=1,025)	71.7	[68.7,74.5]
Don't know (n=7)	0.3	[0.1,0.8]

[If Yes] Did you talk to someone? (n=424)		
Yes (n=319)	76.6	[71.3,81.2]
No (n=105)	23.4	[18.8,28.7]
[If Yes] Why did you end up going to the ER?* (n=319)		
Provider said to go to the ER (n=250)	75.7	[68.9,81.5]
Symptoms didn't improve or got worse (n=36)	14.3	[9.6,20.9]
You could get an appointment soon enough (n=33)	8.0	[5.4,11.8]
Provider advice wasn't helpful (n=12)	3.0	[1.6,5.5]
No response from the provider (n=5)	2.1	[0.7,6.2]
Other (n=51)	16.5	[11.9,22.5]
Don't know (n=2)	0.3	[0.1,1.2]

**Respondents were able to provide more than one response for this question; As a result, percentages may exceed 100%.*

Among respondents who did not try to contact their provider before going to the ER: 20% arrived to the ER by ambulance, 74.8% went to the ER because it was the closest place to receive care, 18.5% went because they get most of their care at the ER, 64.3% felt the problem was too serious for a doctor's office or clinic, 63.6% reported their usual clinic was closed, and 25.4% said they needed to get care at a time that would not make them to miss school or work.

	%	95% CI
[If No - Did not try to contact usual provider's office before going to the ER] Which of these were true of this particular ER visit? (n=978)		
You arrived by ambulance or other emergency vehicle		
Yes (n=191)	20.0	[17.0,23.3]
No (n=787)	80.0	[76.7,83.0]
You went to the ER because it´s your closest place to receive care		
Yes (n=724)	74.8	[71.4,78.0]
No (n=245)	24.3	[21.2,27.7]
You went to the ER because you get most of your care at the emergency room		
Yes (n=156)	18.5	[15.5,22.0]
No (n=818)	80.8	[77.4,83.9]
Don't know (n=4)	0.6	[0.2,1.8]
The problem was too serious for a doctor's office or clinic		
Yes (n=657)	64.3	[60.3,68.1]
No (n=294)	32.9	[29.2,36.8]
Don't know (n=27)	2.8	[1.6,4.9]
Your doctor´s office or clinic was not open		
Yes (n=628)	63.6	[59.8,67.3]
No (n=297)	30.8	[27.3,34.5]
Don't know (n=52)	5.6	[3.9,7.8]

You needed to get care at a time that would not make you miss work or school		
Yes (n=240)	25.4	[22.1,29.1]
No (n=721)	72.7	[68.9,76.1]
Don't know (n=17)	1.9	[1.1,3.4]

About two-thirds (64.0%) of all respondents said they are more likely to contact their usual provider before going to the ER compared to before HMP.

	%	95% CI
In general, compared to before you had the Healthy Michigan Plan, are you more likely, less likely, or about as likely to contact your usual doctor's office before going to the emergency room? (n=4,081)		
More likely (n=2,722)	64.0	[62.1,65.9]
Less likely (n=289)	8.3	[7.2,9.6]
About as likely (n=910)	23.5	[21.8,25.2]
Don't know (n=160)	4.2	[3.4,5.0]

**Respondents were able to provide more than one response for this question; As a result, percentages may exceed 100%.*

Impact of HMP on Acute Care Seeking

Respondents who used the ER were more likely than those who did not use the ER to report their health as fair/poor (40.1% vs. 23.2%) and less likely to report excellent/very good health (59.9% vs. 76.8%) (See Appendix Table 4). Respondents who used the ER reported chronic physical or mental health conditions more often than those who did not use the ER (79.4% vs. 62.8%) (See Appendix Table 5).

Impact of HMP on Employment, Education and Ability to Work

While most (78.3%) respondents who were students indicated that the number of days they missed school in the past year was about the same compared to the 12 months before HMP enrollment, 16.5% reported that they missed fewer days in the past year compared to the 12 months before. Among employed or self-employed respondents, 69.4% felt that getting health coverage through HMP helped them do a better job at work. Among respondents who were employed or self-employed, 27.6% reported changing jobs in the past 12 months. Among those who changed jobs in the past 12 months, 36.9% felt that having health coverage through HMP helped them get a better job. For those out of work for less than or more than a year, 54.5% of respondents felt that having HMP made them better able to look for a job.

	Mean or %	95% CI
[If a student] In the past 12 months, about how many days did you miss school because of illness or injury (do not include maternity leave)? (n=159)	Mean 2.9	[1.5,4.3]
Compared to the 12 months before this time, was this more, less, or about the same? (n=160)		
More (n=8)	4.4	[2.0,9.7]
Less (n=27)	16.5	[10.2,25.5]
About the same (n=124)	78.3	[69.1,85.4]
Don't know (n=1)	0.8	[0.1,5.3]
[If employed/self-employed or out of work for less than a year] In the past 12 months, about how many days did you miss work at a job or business because of illness or injury (do not include maternity leave)? (n=2,309)	Mean 7.5	[6.1,9.0]
Compared to the 12 months before this time, was this more, less, or about the same? (n=2,331)		
More (n=299)	12.7	[11.1,14.4]
Less (n=384)	16.6	[14.7,18.6]
About the same (n=1,611)	68.7	[66.2,71.0]
Don't know (n=37)	2.1	[1.3,3.2]
[If employed or self-employed] Has getting health insurance through the Healthy Michigan Plan helped you do a better job at work? (n=2,077)		
Yes (n=1,431)	69.4	[66.8,71.8]
No (n=549)	25.9	[23.6,28.4]
Don't know (n=97)	4.7	[3.7,6.0]
Have you changed jobs in the last 12 months? (n=1,979)		
Yes (n=447)	27.6	[24.9,30.4]
No (n=1,531)	72.3	[69.5,75.0]
Don't know (n=1)	0.1	[0.0,0.6]
[If Yes] Having health insurance through the Healthy Michigan Plan helped me get a better job. (n=447)		
Strongly agree (n=33)	7.7	[5.0,11.6]
Agree (n=123)	29.2	[23.6,35.4]
Neutral (n=103)	21.5	[17.1,26.7]
Disagree (n=150)	33.5	[27.8,39.6]
Strongly disagree (n=30)	6.4	[4.2,9.6]
Don't know (n=8)	1.8	[0.8,4.0]

[If out of work for less than or more than a year] Having healthy insurance through the Healthy Michigan Plan has made me better able to look for a job. (n=957)		
Strongly agree (n=158)	16.2	[13.5,19.3]
Agree (n=389)	38.3	[34.6,42.2]
Neutral (n=185)	19.3	[16.1,22.9]
Disagree (n=143)	17.2	[14.0,20.8]
Strongly disagree (n=35)	3.5	[2.4,5.2]
Don't know (n=47)	5.5	[3.9,7.7]
[If homemaker, retired, or unable to work] In the past 12 months, about how many days were you unable to do your activities because of illness or injury? (n=809)	Mean 135.4	[122.2,148.6]
Compared to the 12 months before this time, was this more, less, or about the same? (n=859)		
More (n=151)	18.6	[15.4,22.2]
Less (n=131)	16.8	[13.7,20.6]
About the same (n=551)	61.2	[56.8,65.3]
Don't know (n=26)	3.4	[2.1,5.5]

Compared to employed enrollees, enrollees who were out of work or unable to work were more likely to be older (27.5% of out of work enrollees and 42.1% unable to work enrollees vs. 20.0% of employed enrollees were aged 51-64), male (57.2% of out of work enrollees and 53.9% of unable to work enrollees vs. 45.5% of employed enrolles were male), lower income (79.1% of out of work enrollees and 73.8% of unable to work enrollees vs. 33.7% of employed enrollees had incomes that were 0-35% FPL), veterans (3.9% of out of work enrollees and 5.9% of unable to work enrollees vs. 2.3% of employed enrollees), in fair/poor health (33.7% of out of work enrollees and 73.4% of unable to work enrollees vs. 19.6% of employed enrollees), and with chronic physical or mental health conditions (65.1% of out of work enrollees and 87.5% of unable to work enrollees vs. 53.8% of employed enrollees had physical health conditions; 35.3% of out of work enrollees and 61.7% of unable to work enrollees vs. 25.2% of employed enrollees had mental health conditions) or limitations (24.4% of out of work enrollees and 68.8% of unable to work enrollees vs. 13.3% of employed enrollees had physical impariments; 25.0% of out of work enrollees and 48.4% of unable to work enrollees vs. 11.6% of employed enrollees had mental impairments) (See Appendix Table 9).

HMP enrollees were more likely to be employed if their health status was excellent, very good, or good vs. fair or poor (56.1% vs. 32.3%) or if they had no chronic conditions (59.8% vs. 44.1%) (See Appendix Tables 11 and 12). Employed respondents missed a mean of 7.2 work days in the past year due to illness. 68.4% said this was about the same as before HMP, 17.2% said less and 12.3% said more (See Appendix Table 13).

Enrollees were 1.7 times more likely to report being out of work if aged 51-64, 1.8 times as likely if male, 1.9 times as likely if African-American, 1.5 times as likely if in fair/poor health, 1.5 times as likely if with mental health conditions, or functional limitations (1.4 times as likely if

with physical limitation; 2.0 times as likely if with mental limitation). Enrollees were more likely to report being unable to work if older (2.3 times more likely for 35-50-year-olds, 4.2 times more likely for 51-64-year-olds), 1.9 times as likely if male, 3.5 times as likely if in fair/poor health, 1.7 times as likely if with with chronic physical health conditions, 2.6 times as likely if with chronic mental health condition, or functional limitations (5.1 times as likely if they reported a physical limitation; 2.3 times as likely if they reported a mental limitation) (See Appendix Table 14).

Employed enrollees with improved physical or mental health since HMP enrollment were 4.1 times more likely to report that HMP helped them to do a better job at work (See Appendix Table 15). Enrollees who were out of work with improved physical or mental health since HMP enrollment were 2.8 times more likely to report that HMP made them better able to look for a job. Enrollees who had a recent job change and improved physical or mental health since HMP enrollment were 3.2 times more likely to report that HMP helped them get a better job (See Appendix Table 16).

Impact of HMP on Access to Dental Care and Oral Health

Better access to dental care since HMP was reported by 46.1% of respondents, with students and younger respondents less likely to report better access (See Appendix Table 18). Improved oral health of their teeth and gums was reported by 39.5% of respondents, with students and younger respondents most likely to report no change in their oral health (See Appendix Table 20).

Survey respondents who were aware of their HMP dental coverage were significantly more likely to report improved access to dental care and improved oral health since HMP compared to those who were unaware (See Appendix Table 21). Among survey respondents who reported foregoing needed medical or dental care due to cost since HMP, 63.2% reported foregoing dental care. Foregone care varied by both employment status and region (See Appendix Table 19).

Among those who reported better access to dental care, 51.2% strongly agreed or agreed that HMP helped them to get a better job, 61.5% strongly agreed or agreed that HMP helped them to look for a job; and 77.8% reported doing a better job at work; all of these were significantly greater than responses for those who reported no change or worse access to dental care. Among those who reported better access to dental care, 67.9% reported improved oral health, significantly greater than those who reported no change or worse access to dental care. There was no significant impact of better access to dental care with HMP on ER use in the past year (See Appendix Table 22).

Perspectives on HMP Coverage

The majority of survey respondents agreed that it is very important for them personally to have health insurance (97.4%), that they do not worry as much about something bad happening to

their health since HMP enrollment (69%), that having HMP has taken a lot of stress off of them (87.9%), that without HMP they would not be able to go to the doctor (83.3%), and that having HMP has helped them live a better life (89.2%).

	%	95% CI
It is very important for me personally to have health insurance. (n=4,084)		
Strongly agree (n=1,892)	44.6	[42.6,46.5]
Agree (n=2,101)	52.8	[50.8,54.8]
Neutral (n=43)	1.3	[0.9,2.0]
Disagree (n=43)	1.2	[0.8,1.8]
Strongly disagree (n=4)	0.1	[0.0,0.3]
Don't know (n=1)	0.0	[0.0,0.1]
I don't worry as much about something bad happening to my health since enrolling in the Healthy Michigan Plan. (n=4,081)		
Strongly agree (n=700)	17.0	[15.6,18.5]
Agree (n=2,142)	52.0	[50.0,54.0]
Neutral (n=352)	8.8	[7.8,9.9]
Disagree (n=764)	18.8	[17.3,20.3]
Strongly disagree (n=78)	2.2	[1.6,2.8]
Don't know (n=45)	1.3	[0.9,1.9]
Having the Healthy Michigan Plan has taken a lot of stress off me. (n=4,087)		
Strongly agree (n=1,147)	26.0	[24.4,27.7]
Agree (n=2,495)	61.9	[60.0,63.7]
Neutral (n=220)	6.5	[5.5,7.6]
Disagree (n=195)	4.7	[4.0,5.6]
Strongly disagree (n=15)	0.4	[0.2,0.7]
Don't know (n=15)	0.5	[0.3,0.9]
Without the Healthy Michigan Plan, I wouldn't be able to go to the doctor. (n=4,085)		
Strongly agree (n=1,212)	28.2	[26.5,29.9]
Agree (n=2,211)	55.1	[53.2,57.1]
Neutral (n=166)	4.1	[3.4,5.0]
Disagree (n=450)	11.2	[10.0,12.5]
Strongly disagree (n=31)	1.0	[0.7,1.5]
Don't know (n=15)	0.4	[0.2,0.7]
Having the Healthy Michigan Plan has helped me live a better life. (n=4,083)		
Strongly agree (n=1,067)	25.0	[23.4,26.8]
Agree (n=2,609)	64.2	[62.3,66.1]
Neutral (n=255)	6.9	[6.0,8.0]
Disagree (n=119)	3.0	[2.4,3.7]
Strongly disagree (n=13)	0.3	[0.2,0.5]
Don't know (n=20)	0.6	[0.3,1.1]

Knowledge and Understanding of HMP Coverage

There were some gaps in knowledge among survey respondents about the health care services covered by HMP. The majority of respondents knew that HMP covers routine dental visits (77.2%), eyeglasses (60.4%), and counseling for mental or emotional problems (56%). Only one-fifth (21.2%) were aware that HMP covers name brand as well as generic medications.

	%	95% CI
My Healthy Michigan Plan covers routine dental visits. (n=4,086)		
Yes (n=3,170)	77.2	[75.4,78.8]
No (n=175)	3.9	[3.3,4.7]
Don't know (n=741)	18.9	[17.3,20.6]
My Healthy Michigan Plan covers eyeglasses. (n=4,086)		
Yes (n=2,590)	60.4	[58.5,62.4]
No (n=314)	7.8	[6.8,9.0]
Don't know (n=1,182)	31.8	[29.9,33.7]
My Healthy Michigan Plan covers counseling for mental or emotional problems. (n=4,086)		
Yes (n=2,318)	56.0	[54.0,57.9]
No (n=104)	3.1	[2.4,3.9]
Don't know (n=1,664)	40.9	[39.0,42.9]
Only generic medicines are covered by my Healthy Michigan Plan. (n=4,085)		
Yes (n=1,451)	35.8	[33.9,37.7]
No (n=892)	21.2	[19.7,22.9]
Don't know (n=1,742)	43.0	[41.0,44.9]

The majority (83.2%) of respondents reported rarely or never needing help reading instructions, pamphlets, or other written material from a doctor, pharmacy or health plan.

	%	95% CI
How often do you need to have someone help you read instructions, pamphlets, or other written materials from a doctor, pharmacy, or health plan? (n=4,088)		
Never (n=3,031)	72.6	[70.8,74.3]
Rarely (n=413)	10.6	[9.5,12.0]
Sometimes (n=390)	10.6	[9.4,11.9]
Often (n=94)	2.4	[1.8,3.1]
Always (n=157)	3.7	[3.1,4.5]
Don't know (n=3)	0.0	[0.0,0.1]

Challenges Using HMP Coverage

Few (15.5%) survey respondents reported that they had questions or problems using their HMP coverage. Among those who had questions or problems, about half (47.7%) reported getting

help or advice. The most commonly reported sources of help were from a health plan hotline, someone at the doctor's office, and an option outside of the provided responses. Among those who reported an option other than the ones provided, common responses were getting help from a case worker or someone at the pharmacy. Most (74.2%) of those who reported receiving help said that they got an answer or solution to their question.

	%	95% CI
Have you had any questions or problems using your Healthy Michigan Plan insurance? (n=4,089)		
Yes (n=632)	15.5	[14.2,17.0]
No (n=3,449)	84.3	[82.8,85.7]
Don't know (n=8)	0.2	[0.1,0.3]
[If Yes] Did anyone give you help or advice? (n=632)		
Yes (n=324)	47.7	[42.8,52.5]
No (n=302)	51.2	[46.4,56.1]
Don't know (n=6)	1.1	[0.4,3.2]
[If Yes] Who helped you?* (n=324)		
Health Plan Hotline (n=100)	32.2	[26.3,38.8]
Someone at my doctor's office (n=83)	22.4	[17.6,28.2]
HMP Beneficiary Hotline (n=46)	14.7	[10.6,20.0]
Helpline (n=39)	13.9	[9.4,20.1]
Friend/Relative (n=9)	2.8	[1.4,5.5]
Community health worker (n=6)	1.4	[0.5,3.6]
Other (n=96)	29.8	[24.2,36.1]
Don't know (n=5)	2.1	[0.8,5.9]
Did you get an answer or solution to your question(s)? (n=324)		
Yes (n=238)	74.2	[68.0,79.5]
No (n=83)	24.7	[19.4,30.8]
Don't know (n=3)	1.1	[0.4,3.5]

**Respondents were able to provide more than one response for this question; As a result, percentages may exceed 100%.*

Out-of-Pocket Healthcare Spending Prior to HMP

In the 12 months prior to HMP enrollment, almost one-quarter (23.3%) of respondents spent more than $500 out of pocket for their own medical and dental care. In the 12 months prior to HMP enrollment, 44.7% of respondents reported having problems paying medical bills. Of those who reported having problems paying their medical bills, 67.1% reported being contacted by a collections agency and 30.7% thought about filing for bankruptcy. Among those who thought about it, 21.4% filed for bankruptcy.

	%	95% CI
During the 12 months BEFORE you were enrolled in HMP, about how much did you spend out-of-pocket for your own medical and dental care? (n=4,082)		
Less than $50 (n=1,696)	42.4	[40.4,44.3]
$51-100 (n=376)	8.9	[7.9,10.1]
$101-500 (n=954)	22.8	[21.2,24.6]
$501-2,000 (n=605)	14.3	[13.0,15.7]
$2,001-3,000 (n=153)	4.0	[3.3,5.0]
$3,001-5,000 (n=119)	2.7	[2.2,3.4]
More than $5,000 (n=91)	2.3	[1.8,3.0]
Don't know (n=88)	2.5	[1.9,3.3]
In the 12 months before enrolling in the Healthy Michigan Plan, did you have problems paying medical bills? (n=4,085)		
Yes (n=1,869)	44.7	[42.7,46.6]
No (n=2,196)	54.9	[52.9,56.8]
Don't know (n=20)	0.4	[0.3,0.7]
[If Yes] Because of these problems paying medical bills, have you or your family been contacted by a collections agency? (n=1,869)		
Yes (n=1,235)	67.1	[64.4,69.8]
No (n=618)	31.8	[29.2,34.6]
Don't know (n=16)	1.0	[0.5,2.0]
Because of these problems paying medical bills, have you or your family thought about filing for bankruptcy? (n=1,869)		
Yes (n=559)	30.7	[28.1,33.5]
No (n=1,304)	68.9	[66.2,71.6]
Don't know (n=6)	0.3	[0.1,0.8]
[If Yes] Did you file for bankruptcy? (n=559)		
Yes (n=128)	21.4	[17.6,25.9]
No (n=429)	77.7	[73.1,81.8]
Don't know (n=2)	0.8	[0.2,4.4]

Out-of-Pocket Healthcare Spending with HMP

In the past 12 months, the majority (63.2%) of respondents reported spending less than $50 out-of-pocket for their own medical or dental care. Among survey respondents who previously had problems paying their medical bills (in the 12 months prior to HMP), most (85.9%) felt that their problems paying medical bills have gotten better since enrolling in HMP.

	%	95% CI
During the last 12 months, about how much did you spend out-of-pocket for your own medical and dental care? (n=4,076)		
Less than $50 (n=2,540)	63.2	[61.3,65.1]
$51-100 (n=503)	11.8	[10.6,13.1]
$101-500 (n=705)	17.2	[15.7,18.8]
$501-2,000 (n=210)	4.7	[4.0,5.6]
$2,001-3,000 (n=33)	0.8	[0.5,1.3]
$3,001-5,000 (n=15)	0.3	[0.1,0.6]
More than $5,000 (n=10)	0.3	[0.1,0.6]
Don't know (n=60)	1.6	[1.2,2.3]
[If Yes - Had problems paying medical bills in the 12 months before HMP] Since enrolling in Healthy Michigan, have your problems paying medical bills gotten worse, stayed the same, or gotten better? (n=1,869)		
Gotten better (n=1,629)	85.9	[83.7,87.9]
Stayed the same (n=176)	10.6	[8.9,12.6]
Gotten worse (n=51)	2.6	[1.9,3.7]
Don't know (n=13)	0.9	[0.4,1.8]

Perspectives on Cost-Sharing

The majority (87.6%) of survey respondents agreed that the amount they have to pay for HMP coverage seems fair. Most (88.8%) respondents agreed that the amount they pay for HMP coverage is affordable. Almost three-quarters (72.1%) of respondents agreed that they would rather take some responsibility to pay something for their health care than not pay anything.

	%	95% CI
The amount I have to pay overall for the Healthy Michigan Plan seems fair. (n=4,082)		
Strongly agree (n=1,065)	24.8	[23.2,26.5]
Agree (n=2,568)	62.8	[60.9,64.7]
Neutral (n=145)	4.2	[3.4,5.2]
Disagree (n=153)	4.0	[3.3,4.8]
Strongly disagree (n=28)	0.8	[0.5,1.3]
Don't know (n=123)	3.4	[2.7,4.2]
The amount I pay for the Healthy Michigan Plan is affordable. (n=4,084)		
Strongly agree (n=1,073)	25.1	[23.4,26.8]
Agree (n=2,606)	63.7	[61.8,65.6]
Neutral (n=132)	3.9	[3.2,4.9]
Disagree (n=139)	3.5	[2.9,4.3]
Strongly disagree (n=28)	0.7	[0.4,1.2]
Don't know (n=106)	3.0	[2.4,3.8]

I'd rather take some responsibility to pay something for my health care than not pay anything. (n=4,073)		
Strongly agree (n=653)	14.8	[13.5,16.2]
Agree (n=2,396)	57.3	[55.3,59.2]
Neutral (n=326)	8.7	[7.6,10.0]
Disagree (n=541)	14.6	[13.2,16.0]
Strongly disagree (n=77)	2.1	[1.6,2.8]
Don't know (n=80)	2.5	[1.9,3.3]

Knowledge and Understanding of HMP Cost-Sharing Requirements

Only one-quarter (26.4%) of respondents were aware that contributions are charged monthly regardless of health care use. Approximately one-fifth (20.7%) of respondents were aware that there is a limit or maximum on the amount they might have to pay. Few (14.4%) respondents were aware that they could not be disenrolled from HMP for not paying their bill. Just over one-quarter (28.1%) of respondents were aware that they could get a reduction in the amount they have to pay if they complete a health risk assessment. The majority (75.6%) of respondents were aware that some kinds of visits, tests, and medicines have no copays.

	%	95% CI
Contributions are what I am charged every month for Healthy Michigan Plan coverage even if I do not use any health care. (n=4,081)		
Yes (n=1,149)	26.4	[24.7,28.1]
No (n=986)	23.4	[21.8,25.1]
Don't know (n=1,946)	50.2	[48.3,52.2]
There is no limit or maximum on the amount I might have to pay in copays or contributions. (n=4,083)		
Yes (n=856)	20.7	[19.2,22.3]
No (n=952)	23.0	[21.4,24.7]
Don't know (n=2,275)	56.3	[54.3,58.2]
I could be dropped from the Healthy Michigan Plan for not paying my bill. (n=4,084)		
Yes (n=1,371)	34.2	[32.3,36.1]
No (n=571)	14.4	[13.0,15.8]
Don't know (n=2,142)	51.5	[49.5,53.5]
I may get a reduction in the amount I might have to pay if I complete a health risk assessment. (n=4,081)		
Yes (n=1,161)	28.1	[26.3,30.0]
No (n=438)	10.7	[9.6,12.0]
Don't know (n=2,482)	61.1	[59.2,63.1]
Some kinds of visits, tests, and medicines have no copays. (n=4,084)		
Yes (n=3,176)	75.6	[73.8,77.3]
No (n=161)	4.6	[3.8,5.5]
Don't know (n=747)	19.8	[18.2,21.5]

MI Health Account

The majority (68.2%) of respondents reported that they received a MI Health Account statement.

	%	95% CI
Have you received a bill or statement from the state that showed the services you received and how much you owe for the Healthy Michigan Plan? It's called your MI Health Account Statement. (n=4,090)		
Yes (n=3,011)	68.2	[66.3,70.1]
No (n=951)	28.5	[26.6,30.4]
Don't know (n=128)	3.3	[2.7,4.1]

Among respondents who reported receiving a MI Health Account statement, 88.3% agreed that they carefully review each statement to see how much they owe, 88.4% agreed that the statements help them be more aware of the cost of health care, 30.8% agreed that the information in the statement led them to change some of their health care decisions.

	%	95% CI
I carefully review each MI Health Account statement to see how much I owe. (n=3,005)		
Strongly agree (n=765)	25.3	[23.4,27.4]
Agree (n=1,910)	63.0	[60.8,65.1]
Neutral (n=97)	3.5	[2.8,4.5]
Disagree (n=193)	6.9	[5.8,8.1]
Strongly disagree (n=30)	0.9	[0.6,1.5]
Don't know (n=10)	0.3	[0.2,0.6]
The MI Health Account statements help me be more aware of the cost of health care. (n=3,005)		
Strongly agree (n=654)	22.0	[20.2,24.0]
Agree (n=1,981)	66.4	[64.2,68.5]
Neutral (n=134)	4.4	[3.6,5.4]
Disagree (n=185)	5.6	[4.7,6.7]
Strongly disagree (n=21)	0.5	[0.3,0.8]
Don't know (n=30)	1.0	[0.6,1.5]
Information I saw in a MI Health Account statement led me to change some of my decisions about health care. (n=3,006)		
Strongly agree (n=134)	5.2	[4.2,6.3]
Agree (n=749)	25.6	[23.7,27.6]
Neutral (n=420)	14.9	[13.2,16.7]
Disagree (n=1,513)	48.0	[45.8,50.3]
Strongly disagree (n=104)	3.3	[2.6,4.2]
Don't know (n=86)	3.0	[2.3,4.0]

Information Seeking Behaviors

More than half (58.9%) of all survey respondents agreed that the amount they might have to pay for prescriptions influences their decisions about filling prescriptions.

	%	95% CI
The amount I might have to pay for my prescriptions influences my decisions about filling prescriptions. (n=4,084)		
Strongly agree (n=625)	15.7	[14.3,17.2]
Agree (n=1,736)	43.2	[41.2,45.2]
Neutral (n=282)	7.0	[6.0,8.0]
Disagree (n=1,162)	28.0	[26.3,29.8]
Strongly disagree (n=154)	3.5	[2.9,4.2]
Don't know (n=125)	2.8	[2.2,3.5]

Among all respondents, 71.6% reported being somewhat or very likely to find out how much they might have to pay for a health service before going to get it, 67.9% reported being somewhat or very likely to talk with their doctor about how much different health care options would cost them, 75.3% reported that they were somewhat or very likely to ask their doctor to recommend a less costly prescription drug, and 78.1% reported that they were somewhat or very likely to check reviews or ratings of quality before choosing a doctor or hospital.

	%	95% CI
Find out how much you might have to pay for a health service before you go to get it. (n=4,076)		
Very likely (n=1,816)	45.0	[43.0,46.9]
Somewhat likely (n=1,096)	26.6	[24.9,28.4]
Somewhat unlikely (n=490)	12.1	[10.9,13.4]
Very unlikely (n=589)	14.4	[13.1,15.8]
Don't know (n=85)	2.0	[1.5,2.6]
Talk with your doctor about how much different health care options would cost you. (n=4,076)		
Very likely (n=1,611)	40.8	[38.9,42.8]
Somewhat likely (n=1,135)	27.1	[25.4,28.8]
Somewhat unlikely (n=551)	13.8	[12.4,15.2]
Very unlikely (n=682)	15.9	[14.5,17.3]
Don't know (n=97)	2.4	[1.9,3.1]
Ask your doctor to recommend a less costly prescription drug. (n=4,074)		
Very likely (n=2,153)	50.9	[48.9,52.8]
Somewhat likely (n=990)	24.4	[22.7,26.1]
Somewhat unlikely (n=331)	9.7	[8.4,11.0]
Very unlikely (n=496)	12.8	[11.5,14.1]
Don't know (n=104)	2.4	[1.9,3.0]

Check reviews or ratings of quality before choosing a doctor or hospital. (n=4,074)		
Very likely (n=2,169)	53.8	[51.8,55.7]
Somewhat likely (n=973)	24.3	[22.7,26.1]
Somewhat unlikely (n=344)	8.3	[7.3,9.5]
Very unlikely (n=473)	11.0	[9.9,12.3]
Don't know (n=115)	2.5	[2.0,3.1]

Impact of HMP Premium Contributions on Cost-Conscious Behaviors

Beneficiaries with incomes 100 to 133% of the FPL, and therefore subject to monthly contributions, were no more likely then beneficiaries with incomes 36 to 99% of the FPL who are not subject to monthly premium contributions to agree they carefully review their MI Health Account statements (86.0% vs. 88.7%), inquire about costs of services before getting them (70.4% vs. 72.9%), talk to providers about costs of health services (67.8 vs. 68.6%), or ask for less costly medications (77.0% vs.78.2%) (See Appendix Table 24).

Beneficiaries with incomes 100 to 133% of the FPL were less likely than beneficiaries with incomes 36 to 99% of the FPL without monthly premium contributions to agree their health care payments were affordable (84.9% vs. 90.8%; P = 0.001), but were no more likely to report foregoing needed care due to cost in the previous 12 months of HMP enrollment (10.4% vs. 12.0%) (See Appendix Table 25).

Perceived Discrimination

Most respondents did not report feeling judged or treated unfairly by medical staff in the past 12 months because of their race or ethnic background (96.4%) or because of how well they spoke English (97.4%); however, 11.6% of respondents felt judged or treated unfairly by medical staff in the past 12 months because of their ability to pay for care or the type of health coverage they had.

	%	95% CI
In the last 12 months, have you ever felt that the doctor or medical staff judged you unfairly or treated you with disrespect because of your race or ethnic background. (n=4,076)		
Yes (n=114)	2.9	[2.3,3.6]
No (n=3,928)	96.4	[95.6,97.0]
Don't know (n=34)	0.8	[0.5,1.1]
In the last 12 months, have you ever felt that the doctor or medical staff judged you unfairly or treated you with disrespect because of how well you speak English. (n=4,075)		
Yes (n=64)	1.7	[1.3,2.3]
No (n=3,975)	97.4	[96.6,97.9]
Don't know (n=36)	0.9	[0.6,1.5]

In the last 12 months, have you ever felt that the doctor or medical staff judged you unfairly or treated you with disrespect because of your ability to pay for care or the type of health insurance you have. (n=4,077)		
Yes (n=465)	11.6	[10.4,12.9]
No (n=3,551)	87.0	[85.7,88.3]
Don't know (n=61)	1.4	[1.1,1.9]

Respondents who reported using the emergency room in the past year were more likely than those who did not use the emergency room to report being judged/treated unfairly by race (4.7% vs 1.7%), and ability to pay (15.5% vs. 9.2%) (See Appendix Tables 6 and 7).

Social Interactions

Two-thirds (67.6%) of respondents said that they get together socially with friends or relatives who live outside their home at least once a week. Most (79.8%) respondents reported that the amount they are involved with their family, friends, and/or community is about the same as before they enrolled in HMP.

	%	95% CI
How often do you get together socially with friends or relatives who live outside your home? (n=4,076)		
Every day (n=543)	14.0	[12.7,15.5]
Every few days (n=999)	23.7	[22.0,25.3]
Every week (n=1,217)	29.9	[28.1,31.7]
Every month (n=850)	21.0	[19.4,22.6]
Once a year or less (n=437)	10.9	[9.7,12.2]
Don't know (n=30)	0.6	[0.4,1.0]
Since enrolling in the Healthy Michigan Plan are you involved with your family, friends or community more, less, or about the same? (n=4,077)		
More (n=590)	15.1	[13.7,16.6]
Less (n=184)	4.4	[3.7,5.3]
About the same (n=3,284)	79.8	[78.2,81.4]
Don't know (n=19)	0.6	[0.4,1.1]

Selected Sub-Population Analyses

Reproductive Health

Among reproductive age women respondents age 19-45, 38.4% “did not know” whether there was a change in their access to family planning services, while 35.5% reported better access, 24.8% reported about the same access, and 1.4% reported worse access. Reproductive age women with inconsistent health insurance or that were uninsured in the year prior to HMP coverage were significantly more likely to report improved access to family planning services compared to those who were fully insured in the prior year (See Appendix Table 27).

Impact on Those with Chronic Health Conditions

A total of 68.1% of respondents reported that they had any chronic disease or mood disorder. More than half (59.9%) of respondents reported at least one chronic physical condition (ranging from 9.7% for heart disease to 31.3% for hypertension), 30.9% reported a chronic mental health condition (depression, anxiety, or bipolar disorder), and 22.6% reported both a physical and mental health chronic condition. Forty-four percent (44%) of those reporting a chronic condition reported they were newly diagnosed since enrolling in HMP. About one-third (30.6%) of all respondents were diagnosed with a new chronic physical condition or mood disorder since enrolling in HMP. This ranged from 32.4-35.4% of those with common physical health conditions (hypertension, heart disease, diabetes, COPD), 40.2% of those with stroke, and 28.8% of those with mood disorder.

	%	95% CI
Physical Chronic Disease[13] (n=4,090)		
Yes (n=2,640)	59.9	[57.9,61.8]
No (n=1,450)	40.1	[38.2,42.1]
Mood Disorder or Mental Health Condition (n=4,090)		
Yes (n=1,301)	30.9	[29.1,32.7]
No (n=2,789)	69.1	[67.3,70.9]
Any Chronic Disease or Mood Disorder (n=4,090)		
Yes (n=2,939)	68.1	[66.2,70.0]
No (n=1,151)	31.9	[30.0,33.8]
[If Any Chronic Disease or Mood Disorder] Any New Diagnoses since HMP Enrollment (n=2,939)		
Yes (n=1,297)	44.0	[41.7,46.3]
No (n=1,642)	56.0	[53.7,58.3]
Physical Chronic Disease and Mood or Mental Disorder (n=4,090)		
Yes (n=1,002)	22.6	[21.1,24.2]
No (n=3,088)	77.4	[75.8,78.9]
Any New Diagnoses since HMP Enrollment (n=4,090)		
Yes (n=1,318)	30.6	[28.8,32.4]
No (n=2,772)	69.4	[67.6,71.2]
Functional Limitations (n=4,026)		
Yes (n=749)	18.4	[17.0,20.0]
No (n=3,277)	81.6	[80.0,83.0]

Among those with a chronic physical or mental health condition in the year prior to HMP enrollment, 58.3% did not have insurance, only 42.1% had seen a primary care provider, and 51.7% had problems paying medical bills (See Appendix Table 30). Since HMP enrollment, 89.6% of those with a chronic physical or mental health condition reported seeing a primary

[13] For these analyses, chronic illness does not include cancer.

care doctor, 64.6% reported their ability to fill prescription medications improved, and 86.3% reported their ability to pay medical bills had improved (See Appendix Tables 31 and 32). Prior to HMP 77.2% of those with a chronic physical or mental health condition had a regular source of care, 64.7% of whom said that source of care was a doctor's office or clinic. After HMP, 95.2% had a regular source of care, and 93.1% said it was a doctor's office or clinic (See Appendix Table 32).

Respondents with a chronic physical or mental health condition reported overall improvements in their physical (51.9%) and mental health (42.4%) status after enrolling in HMP, while 7.5% and 6.1% reported their physical and mental health status had worsened (See Appendix Table 31).

During HMP coverage, 18.4% of those with a chronic physical or mental health condition reported not getting medical or dental care they needed, with perceived health plan non-coverage (38.5%), cost (25.7%) and insurance not accepted (23.7%) the most common reasons (See Appendix Table 32).

Impact on Those with Mood Disorder and Substance Use Disorder

Nearly half (46.2%) of respondents who said they had a mood disorder stated that they had better access to mental health care, however, 20.3% did not know (See Appendix Table 39). Nearly half (48.3%) of respondents with SUD stated that they had better access to treatment, however 33.6% did not know. Most respondents without a self-reported SUD (82.8%) did not know how having HMP impacted their ability to get substance use treatment services (See Appendix Table 40). Since enrollment in HMP, 48.9% of respondents with a self-reported mood disorder (MD) and 50.7% with a self-reported substance use disorder (SUD) reported that their mental health had gotten better (See Appendix Table 41).

Respondents with a mood disorder reported that having HMP has led to a better life (92% strongly agreed or agreed) with more social connection and involvement with family and friends (21% stated more) and at higher rates than all HMP beneficiaries (12.6%). For respondents with a SUD, 95.8% strongly agreed or agreed that having HMP led to a better life and reported HMP led to more social connection and involvement with family and friends (23.2%) at higher rates than among respondents without a substance use disorder at 14.8% (See Appendix Tables 42 and 43).

Prior to HMP, 37% respondents who self-reported a SUD used the emergency room as a regular source of care, while after having HMP coverage, the percentage of those with a self-reported SUD who said they used the emergency room as a regular source of care dropped to 3.6% (See Appendix Tables 34 and 36). However, in the last 12 months (on HMP) those with a mood disorder and those with SUD were more likely to go to the ER than those without a mood disorder or SUD (50.5% MD v. 31.9% without a MD; 60.4% SUD v. 36.6% without a SUD) (See Appendix Table 37).

Respondents with SUD chose the ER due to proximity over other reasons (87.6% with a SUD v. 73.9% without a SUD) (See Appendix Table 44). For ER visits in general, respondents with a SUD have a higher odds of going to the emergency room (odds ratio 2.4) compared to all HMP beneficiaries (See Appendix Table 38).

CONCLUSIONS

- More than half of respondents, including more than half of those with chronic conditions, did not have insurance at any time in the year before enrolling in HMP. More than one-third of respondents reported not getting the care they needed in the year before enrolling in HMP and most respondents reported that their ability to get care had improved since enrolling in HMP. Foregone care, usually due to cost, lessened considerably after enrollment. Over half of respondents reported better access to primary care, help with staying healthy, and cancer screening. **HMP does not appear to have replaced employment-based insurance and has greatly improved access to care for most enrollees.**
- The percentage of enrollees who had a place they usually went for health care increased with HMP to over 90%, and naming the emergency room as a regular source of care declined significantly after enrolling in HMP (from 16.2% to 1.7%). For unscheduled health needs, some HMP beneficiaries sought advice from their regular source of care prior to seeking care, and the majority were referred to the emergency room. Those who used the emergency room had a higher chronic disease burden, and poorer health status. **The HMP emphasis on primary care and disease prevention appears to have shifted much care-seeking from acute care settings to primary care settings.**
- A significant majority of respondents agreed or strongly agreed that without HMP they would not be able to go to the doctor, that HMP helped them live a better life, and since enrolling in HMP their problems paying medical bills had gotten better. Premium contributions did not seem to have initially increased engagement in cost-conscious behaviors or to have increased foregone care due to cost, but did affect the perceived affordability of HMP. **Most respondents agreed that the amount they pay overall for HMP seems fair and is affordable, although enrollees subject to monthly contributions were somewhat less likely to perceive HMP as being affordable**.
- There were some areas in which beneficiaries showed a limited knowledge of HMP and its covered benefits (e.g., dental, vision and family planning) and misunderstanding about the cost-sharing requirements under HMP. A small number of respondents reported questions or problems using their HMP coverage. **These areas provide opportunities to improve beneficiaries' understanding of their coverage.**
- About half of respondents reported completing an HRA, bearing in mind the limits to self-reported data. Most HMP enrollees who completed the HRA believed it was beneficial. They rarely reported completing it because of incentives to reduce their cost-sharing. Most respondents who completed the HRA reported receiving help from their PCP or health plan on a healthy behavior. **Most respondents who recalled completing an HRA found this beneficial and received support to engage in a healthy behavior.**

- Dental coverage for HMP beneficiaries improved access to dental care and improved oral health for many, although many beneficiaries were unaware of dental coverage and were were less likely to report improved access and oral health. **Increasing beneficiary awareness of coverage for dental services has the potential to improve oral and overall health.**
- Many HMP enrollees reported improved functioning, ability to work, and job seeking after obtaining health insurance through Medicaid expansion. HMP enrollees who reported improved physical or mental health since HMP were more likely to report that HMP helped them to do a better job at work, made them better able to look for a job, and helped them get a better job. While many HMP enrollees attributed improvements in employment and ability to work to improved physical, mental and dental health due to covered services, some had ongoing barriers to employment. **HMP may influence beneficiaries' ability to obtain or maintain employment.**
- About half of reproductive-aged women HMP beneficiaries did not know whether there was a change in their access to family planning services compared to before HMP coverage. Those who previously had no or inconsistent health insurance, compared to those with consistent health insurance, reported improved access to family planning services. **Improved dissemination of the family planning services covered by HMP could help beneficiaries better meet their reproductive health needs.**
- Chronic health conditions were common among enrollees in Michigan's Medicaid expansion program, even though most respondents were under 50 years old. Almost half of these conditions were newly diagnosed after enrolling in HMP. Prior to HMP enrollment, a majority of enrollees with chronic illness lacked health insurance and could not access needed care. In particular, HMP enrollees with mood disorder or substance use disorder reported improved health, improved access to services and treatment, and were less likely to name the emergency room or urgent care as a regular source of care. **Enrollees with chronic conditions reported improved access to care and medications, all crucial to successfully managing these conditions and avoiding future disabling complications.**
- Overall, since enrolling in HMP almost half of respondents said their physical health had gotten better, and nearly 40% said their emotional and mental health and their dental health had improved. **These improvements underscore the impact of HMP on enrollees' health and well-being in addition to its effects on their ability to access needed care.**

APPENDIX

Impact of Prior Year Insurance Status on Improvements in Foregone Care, Access, and Health

Table 1. Insurance Status Prior to HMP: Impact on Outcomes

Outcomes[1]	All	Uninsured all 12 months [REF] (n=2,374)	Insured part of 12 months (n=374)	Insured all 12 months (n=1,235)
	Mean or %	% [95% CI]	% [95% CI]	% [95% CI]
Foregone care in 12 months prior to HMP enrollment	33.0	42.2 [39.7,44.7]	31.2 ** [25.7,36.8]	17.3 *** [14.8,19.8]
Foregone care due to cost in 12 months prior to HMP enrollment[2]	25.9	34.4 [31.9,36.8]	24.3 ** [19.2,29.4]	10.6 *** [8.6,12.6]
Improved access to prescription medicines	59.3	67.9 [65.4,70.3]	62.1 [55.9,68.4]	43.0 *** [39.6,46.5]
Improved access to primary care	57.8	68.7 [66.2,71.2]	57.4 ** [51.0,63.8]	37.9 *** [34.3,41.4]
Improved access to help with staying healthy	52.0	60.3 [57.8,62.8]	55.4 [49.0,61.7]	36.2 *** [32.8,39.6]
Improved access to dental care	46.1	54.1 [51.5,56.7]	48.0 [41.6,54.3]	32.3 *** [28.9,35.7]
Improved access to specialist care	44.4	51.8 [49.3,54.4]	44.1 * [37.8,50.4]	31.6 *** [28.2,34.9]
Improved access to mental health care	27.5	32.0 [29.6,34.4]	26.4 [20.4,32.3]	18.5 *** [15.7,21.3]
Improved access to cancer screening	25.7	31.3 [28.9,33.6]	23.4 * [18.2,28.7]	17.2 *** [14.8,19.6]
Improved physical health	47.8	54.3 [51.8,56.9]	50.6 [44.0,57.2]	34.6 *** [31.1,38.0]
Improved mental health	38.2	42.2 [39.6,44.7]	36.3 [30.0,42.7]	30.9 *** [27.3,34.4]
Improved oral health	39.5	44.4 [41.8,47.0]	40.1 [34.0,46.1]	31.5 *** [28.2,34.9]
I don't worry so much…[mean score, 0-4]	Mean 2.64	2.73 [2.67,2.78]	2.71 [2.56,2.86]	2.49 *** [2.41,2.57]
Having HMP has taken a lot of stress off me [mean score, 0-4]	Mean 3.09	3.16 [3.12,3.19]	3.17 [3.09,3.24]	2.99 *** [2.94,3.05]

NOTE: * denotes $P < 0.05$, ** denotes $P < 0.01$, and *** denotes $P < 0.001$.

[1]Results are adjusted for sex, age, income (0-33%FPL, 33-100%, 100-133%) race/ethnicity (NHW, AA, Hispanic, Arab/Chaldean, Others), urbanicity, health status and presence of any chronic condition.

[2]Going without health care because 'you were worried about the cost,' 'you did not have health insurance,' 'the doctor or hospital wouldn't accept your health insurance,' or 'your health plan wouldn't pay for the treatment.'

Primary Care Utilization and Experience

Table 2. Healthy Michigan Plan Beneficiary Characteristics, by PCP Visit in the Past 12 Months

	PCP visit in the past 12 months				
	Yes		No		*P*-value[1]
	Row %	95% CI	Row %	95% CI	
All[2] (n=4,090)	79.3	[77.5,80.9]	20.7	[19.1,22.5]	
Age					<0.001
19-34 (n=1,303)	72.1	[68.8,75.1]	27.9	[24.9,31.2]	
35-50 (n=1,301)	81.0	[78.0,83.7]	19.0	[16.3,22.0]	
51-64 (n=1,486)	88.1	[85.8,90.0]	11.9	[10.0,14.2]	
Gender					<0.001
Male (n=1,681)	73.6	[70.6,76.4]	26.4	[23.6,29.4]	
Female (n=2,409)	84.6	[82.7,86.4]	15.4	[13.6,17.3]	
FPL					0.364
0-35% (n=1,600)	78.7	[75.9,81.3]	21.3	[18.7,24.1]	
36-99% (n=1,450)	81.0	[78.3,83.5]	19.0	[16.5,21.7]	
≥100% (n=1,040)	78.2	[74.9,81.2]	21.8	[18.8,25.1]	
Race					<0.001
White (n=2,784)	82.5	[80.5,84.4]	17.5	[15.6,19.5]	
Black or African American (n=807)	74.4	[70.2,78.3]	25.6	[21.7,29.8]	
Other (n=306)	73.9	[67.4,79.5]	26.1	[20.5,32.6]	
More than one (n=142)	73.4	[62.5,82.0]	26.6	[18.0,37.5]	
Hispanic/Latino					0.331
Yes (n=188)	74.4	[66.4,81.0]	25.6	[19.0,33.6]	
No (n=3,856)	79.5	[77.7,81.3]	20.5	[18.7,22.3]	
DK (n=12)	68.2	[30.8,91.2]	31.8	[8.8,69.2]	
Arab, Chaldean, Middle Eastern					0.387
Yes (n=204)	82.4	[74.6,88.2]	17.6	[11.8,25.4]	
No (n=3,842)	79.0	[77.2,80.8]	21.0	[19.2,22.8]	
DK (n=9)	61.9	[24.4,89.1]	38.1	[10.9,75.6]	
Health status					<0.001
Excellent (n=337)	67.9	[61.3,73.8]	32.1	[26.2,38.7]	
Very good (n=1,041)	71.9	[67.9,75.7]	28.1	[24.3,32.1]	
Good (n=1,448)	81.3	[78.3,84.0]	18.7	[16.0,21.7]	
Fair (n=931)	86.3	[83.3,88.9]	13.7	[11.1,16.7]	
Poor (n=324)	90.7	[86.4,93.8]	9.3	[6.2,13.6]	
Any chronic health condition present					<0.001
Yes (n=2,986)	85.1	[83.2,86.8]	14.9	[13.2,16.8]	
No (n=1,104)	66.2	[62.5,69.8]	33.8	[30.2,37.5]	
Employment status					0.103
Yes (n=2,079)	77.8	[75.2,80.2]	22.2	[19.8,24.8]	
No (n=2,011)	80.7	[78.2,82.9]	19.3	[17.1,21.8]	

Married or partnered					0.102
Yes (n=1,193)	81.6	[78.4,84.5]	18.4	[15.5,21.6]	
No (n=2,880)	78.5	[76.4,80.5]	21.5	[19.5,23.6]	

[1] Pearson chi-square analyses

[2] Overall percentage of enrollees who had a PCP visit in the past year, regardless of whether or not they reported having a PCP

Table 3. Impact of PCP Visit in the Past 12 Months on Access, HRA, Counseling for Healthy Behavior and Diagnosis of New Chronic Condition

NOTE: Reported n is the number of observations in the logistic regression model

	Saw PCP in past 12 months		*P*-value[5]
	Yes (%)	No (%)	
Improved access to help with staying healthy[1] (n=4,004)	55.1 [52.8, 57.3]	40.1 [35.3, 44.9]	<0.001
Improved access to dental care[1] (n=4,011)	47.5 [45.3, 49.8]	41.1 [36.4, 45.9]	0.021
Improved access to specialty care[1] (n=4,012)	46.8 [44.6, 49.0]	35.6 [30.8, 40.4]	<0.001
Improved access to mental health care[1] (n=4,011)	28.0 [26.0, 30.1]	25.1 [20.7, 29.4]	0.242
Improved access to cancer screening[1] (n=3,997)	27.6 [25.7, 29.6]	18.0 [14.3, 21.6]	<0.001
Remembered completing an HRA (n=4,014)	52.8 [50.6, 55.1]	36.4 [31.7, 41.1]	<0.001
Reported being counseled about exercise (n=4,015)	55.4 [53.1, 57.6]	22.3 [18.4, 26.2]	<0.001
Reported being counseled about nutrition (n=4,014)	56.4 [54.1, 58.6]	24.7 [20.6, 28.7]	<0.001
Reported being counseled about tobacco cessation[2] (n=1,506)	61.6 [57.9, 65.2]	27.1 [20.2, 34.0]	<0.001
Reported being counseled about alcohol[3] (n=734)	36.2 [30.9, 41.5]	15.7 [8.4, 23.0]	<0.001
Reported being counseled about drug use[4] (n=173)	40.0 [30.4, 49.6]	30.1 [13.7, 46.5]	0.300
New diagnosis of chronic condition (n=4,015)	32.0 [30.1, 34.0]	22.7 [18.3, 27.0]	<0.001

[1]Participants reported that access to these health care resources had gotten better since enrollment in HMP

[2]Those who reported tobacco use

[3]Those who reported unsafe alcohol intake

[4]Those who reported unsafe drug use

[5] Logistic regression models included covariates age, gender, race, health status, FPL, employment, married/partnered and chronic condition

Impact of HMP on Acute Care Seeking

Table 4. Emergency Room Use in the Past 12 Months, by Health Status

	Health Status				
	Excellent, very good, or good		Fair or poor		*P*-value[1]
	Row %	95% CI	Row %	95% CI	
Any ER visits past 12 months (n=4,081)					<0.001
Yes (n=1,454)	59.9	[56.8,63.0]	40.1	[37.0,43.2]	
No (n=2,604)	76.8	[74.7,78.8]	23.2	[21.2,25.3]	

[1] Pearson chi-square analyses

Table 5. Emergency Room Use in the Past 12 Months, by Presence of Chronic Condition

	Any Chronic Health Condition Present				
	Yes		No		*P*-value[1]
	Row %	95% CI	Row %	95% CI	
Any ER visits past 12 months (n=4,090)					<0.001
Yes (n=1,456)	79.4	[76.4,82.1]	20.6	[17.9,23.6]	
No (n=2,611)	62.8	[60.3,65.2]	37.2	[34.8,39.7]	

[1] Pearson chi-square analyses

Table 6. Emergency Room Use in the Past 12 Months, by Perceived Discrimination Because of Race

	Discrimination: Race/Ethnicity				
	Yes		No		*P*-value[1]
	Row %	95% CI	Row %	95% CI	
Any ER visits past 12 months (n=4,076)					<0.001
Yes (n=1,451)	4.7	[3.5,6.3]	95.0	[93.4,96.3]	
No (n=2,603)	1.8	[1.3,2.5]	97.2	[96.4,97.8]	

[1] Pearson chi-square analyses

Table 7. Emergency Room Use in the Past 12 Months, by Perceived Discrimination Because of Ability to Pay

	Discrimination: Health Insurance/Ability to Pay				
	Yes		No		*P*-value[1]
	Row %	95% CI	Row %	95% CI	
Any ER visits past 12 months (n=4,077)					<0.001
Yes (n=1,452)	15.5	[13.4,17.9]	83.1	[80.6,85.3]	
No (n=2,603)	9.2	[7.8,10.8]	89.4	[87.8,90.9]	

[1] Pearson chi-square analyses

Table 8. Emergency Room Use in the Past 12 Months, by Perceived Discrimination Because of Ability to Speak English

	Discrimination: Ability to Speak English				
	Yes		No		*P*-value[1]
	Row %	95% CI	Row %	95% CI	
Any ER visits past 12 months (n=4,075)					0.003
Yes (n=1,451)	2.3	[1.5,3.4]	97.5	[96.3,98.3]	
No (n=2,602)	1.4	[0.9,2.0]	97.3	[96.3,98.1]	

[1] Pearson chi-square analyses

Impact of HMP on Beneficiary Employment, Education and Ability to Work

Table 9. Demographic and Health Characteristics for HMP Enrollees by Employment Status

	All	Employed or self-employed	Out of work, Total	Homemaker	Student	Retired	Unable to work	*P*-value
	% [95% CI]	% [95% CI]	% [95% CI]	% [95% CI]	% [95% CI]	% [95% CI]	% [95% CI]	
Age								
19-34	39.9 [37.9,41.9]	45.8 [43.0,48.6]	34.8 [30.9-38.9]	37.9 [30.1,46.3]	87.5 [81.4,91.8]	0	14.8 [10.6,20.2]	<0.001
35-50	34.0 [32.2,36.0]	34.2 [31.6,36.8]	37.7 [33.8-41.8]	35.1 [27.5,43.6]	8.5 [5.0,14.2]	1.1 [0.3,4.5]	43.1 [37.6,48.8]	
51-64	26.1 [24.6,27.6]	20.0 [18.3,21.9]	27.5 [24.4-30.8]	27.0 [20.7,34.3]	4.0 [2.1,7.7]	98.9 [95.5,99.7]	42.1 [36.8,47.5]	
Male Gender	48.5 [46.5,50.4]	45.5 [42.7,48.3]	57.2 [53.3,61.1]	6.8 [3.7,12.1]	53.3 [43.8,62.4]	51.3 [41.7,60.8]	53.9 [48.3,59.4]	<0.001
Race								
White or Caucasian	61.3 [59.4,63.2]	62.2 [59.5,64.9]	55.2 [51.1-59.2]	66.2 [58.0,73.5]	53.9 [44.3,63.2]	74.3 [63.0,83.1]	70.3 [64.7,75.4]	<0.001
Black or African-American	25.9 [24.2,27.7]	24.2 [21.8,26.8]	34.4 [30.6-38.5]	10.4 [6.3,16.7]	24.8 [17.9,33.4]	16.4 [9.3,27.2]	21.9 [17.3,27.3]	
Other	8.8 [7.7,10.0]	9.4 [7.9,11.2]	5.9 [4.4-7.9]	21.2 [15.3,28.7]	18.3 [11.2,28.6]	5.0 [2.0,11.9]	4.3 [2.5,7.3]	
More than one race	4.0 [3.3,4.9]	4.1 [3.1,5.5]	4.4 [3.0-6.5]	2.2 [1.0,5.1]	3.0 [1.0,8.2]	4.3 [1.1,15.4]	3.6 [2.1,6.1]	
Ethnicity								
Hispanic/Latino	5.2 [4.4,6.2]	6.1 [4.9,7.6]	4.6 [3.1-6.6]	4.9 [2.5,9.3]	6.5 [2.5,15.5]	2.8 [1.2,6.5]	3.3 [1.8,6.0]	0.429
Arab/Chaldean/Middle Eastern	6.2 [5.3,7.2]	7.3 [5.9,9.0]	2.7 [1.7-4.1]	21.1 [14.8,29.1]	14.6 [8.8,23.3]	0	1.2 [0.3,4.9]	<0.001
FPL								
0-35%	51.7 [50.7,52.7]	33.7 [31.3,36.3]	79.1 [76.5-81.5]	27.4 [19.8,36.8]	57.6 [48.4,66.3]	32.2 [23.0,42.9]	73.8 [69.4,77.8]	<0.001
36-99%	28.5 [27.6,29.3]	38.1 [36.1,40.1]	15.0 [12.9-17.3]	46.6 [38.7,54.6]	21.5 [15.5,29.0]	35.4 [26.9,44.9]	13.9 [10.9,17.6]	
≥100%	19.8 [19.2,20.5]	28.1 [26.5,29.8]	5.9 [4.7-7.4]	26.0 [20.0,33.0]	20.9 [14.4,29.3]	32.4 [25.0,40.9]	12.2 [9.6,15.4]	
Veteran	3.4 [2.7,4.2]	2.3 [1.6,3.3]	3.9 [2.6-5.8]	0.5 [0.1,2.0]	3.0 [1.0,8.7]	13.4 [7.6,22.5]	5.9 [3.7,9.2]	0.001
Health Status								
Excellent, very good, or good	70.1 [68.4,71.9]	80.3 [78.1,82.4]	66.1 [62.3-69.6]	77.5 [70.2,83.5]	81.1 [72.5,87.6]	75.9 [67.8,82.5]	26.2 [21.5,31.5]	<0.001
Fair or poor	29.7 [28.0,31.5]	19.6 [17.5,21.9]	33.7 [30.1-37.4]	22.5 [16.5,29.8]	18.9 [12.4,27.5]	24.1 [17.5,32.2]	73.4 [68.1,78.1]	
Chronic Health Condition	69.2 [67.3,71.0]	62.3 [59.5,65.0]	74.0 [69.9-77.6]	66.0 [57.5,73.7]	52.6 [43.1,62.0]	77.8 [67.5,85.6]	94.0 [90.6,96.2]	<0.001
Physical Health Condition	60.8 [58.8,62.8]	53.8 [51.0,56.6]	65.1 [60.9-69.0]	58.4 [49.9,66.3]	40 [31.4,49.3]	76.3 [66.0,84.1]	87.5 [82.6,91.2]	<0.001
Diabetes	10.8 [9.7,12.0]	8.8 [7.5,10.4]	11.4 [9.3-13.9]	9.9 [5.8,16.3]	4.1 [1.8,9.3]	9.3 [5.4,15.6]	22.3 [17.9,27.4]	<0.001
Hypertension	31.3 [29.6,33.1]	24.9 [22.7,27.3]	37.6 [33.8-41.5]	20.6 [15.2,27.2]	10.7 [6.7,16.5]	46.2 [36.7,55.9]	54.2 [48.5,59.8]	<0.001
Cardiovascular Disease	9.8 [8.7,11.0]	7.1 [5.9,8.6]	10.4 [8.2-13.2]	6.6 [4.0,10.6]	3.7 [1.7,7.9]	12.5 [8.2,18.7]	22.9 [18.3,28.2]	<0.001
Asthma	17.1 [15.7,18.6]	14.7 [12.9,16.6]	16.1 [13.5-19.1]	22.8 [16.5,30.8]	21.2 [14.4,30.1]	14.2 [8.0,24.0]	26.6 [21.9,31.9]	<0.001
COPD	10.5 [9.5,11.7]	7.6 [6.2,9.1]	11.2 [9.2-13.6]	10.6 [5.9,18.2]	2.9 [1.2,7.2]	17.4 [11.8,25.0]	23.7 [19.3,28.8]	<0.001
Cancer	3.7 [3.2,4.4]	2.8 [2.1,3.6]	2.7 [1.8-4.1]	5.2 [3.1,8.6]	1.8 [0.5,6.5]	7.6 [4.5,12.5]	10.2 [7.4,14.0]	<0.001
Mental Health Condition	32.2 [30.4,34.0]	25.2 [22.9,27.7]	35.3 [31.7-39.1]	24.2 [18.0,31.5]	30.2 [22.1,39.8]	20.3 [13.3,29.8]	61.7 [56.1,66.9]	<0.001
Mood disorder	30.5 [28.7,32.3]	23.5 [21.2,25.9]	33.7 [30.1-37.4]	23.9 [17.8,31.3]	26.6 [19.1,35.8]	19.9 [12.9,29.5]	59.6 [54.1,65.0]	<0.001
Other	0.8 [0.4,1.3]	0.8 [0.4,1.8]	0.2 [0.0-1.1]	0.3 [0.0,1.8]	3.7 [1.0,12.6]	0.4 [0.1,2.8]	1.2 [0.5,2.8]	0.008

Functional Impairment (≥14 of past 30 days)								
Physical	22.9 [21.3,24.5]	13.3 [11.6,15.3]	24.4 [21.2-27.9]	21.3 [15.0,29.1]	7.6 [4.3,13.1]	24.0 [17.3,32.2]	68.8 [63.2,73.8]	<0.001
Mental	19.9 [18.3,21.5]	11.6 [10.1,13.4]	25.0 [21.7-28.7]	15.1 [9.8,22.4]	16.2 [9.8,25.4]	13.6 [8.8,20.4]	48.4 [42.7,54.1]	<0.001

Table 10. Demographic and Health Characteristics for HMP Enrollees who are Out of Work, ≥ 1 year vs. <1 year

	Out of work ≥ 1 year		Out of work <1 year		Out of work, Total	
	%	[95% CI]	%	[95% CI]	%	[95% CI]
Age						
19-34	28.8	[24.6,33.4]	49.8	[42.2,57.4]	34.8	[30.9-38.9]
35-50	40.0	[35.3,44.9]	32.1	[25.9,39.0]	37.7	[33.8-41.8]
51-64	31.2	[27.4,35.3]	18.1	[13.2,24.3]	27.5	[24.4-30.8]
Male Gender	58.4	[53.7,62.9]	54.5	[46.9,61.9]	57.2	[53.3,61.1]
Race						
White or Caucasian	58.0	[53.2,62.6]	48.2	[40.7,55.8]	55.2	[51.1-59.2]
Black or African-American	31.9	[27.5,36.7]	40.8	[33.1,48.9]	34.4	[30.6-38.5]
Other	6.1	[4.3,8.5]	5.7	[3.2,9.8]	5.9	[4.4-7.9]
More than one race	4.1	[2.5,6.6]	5.4	[2.8,9.9]	4.4	[3.0-6.5]
Ethnicity						
Hispanic/Latino	5.0	[3.2,7.7]	3.5	[1.7,7.2]	4.6	[3.1-6.6]
Arab/Chaldean/Middle Eastern	2.6	[1.6,4.1]	3.0	[1.3,7.2]	2.7	[1.7-4.1]
FPL						
0-35%	81.8	[78.7,84.6]	72.4	[66.6,77.6]	79.1	[76.5-81.5]
36-99%	13.9	[11.4,16.9]	17.6	[13.7,22.3]	15.0	[12.9-17.3]
≥100%	4.3	[3.1,5.8]	10.0	[7.0,14.0]	5.9	[4.7-7.4]
Veteran	4.7	[3.0,7.2]	2.0	[0.8,4.8]	3.9	[2.6-5.8]
Health Status						
Excellent, very good, or good	63.6	[59.1,67.9]	72.2	[65.3,78.2]	66.1	[62.3-69.6]
Fair or poor	36.1	[31.8,40.6]	27.8	[21.8,34.7]	33.7	[30.1-37.4]
Chronic Health Condition	75.9	[71.3,80.0]	69.1	[60.6,76.4]	74.0	[69.9-77.6]
Physical Health Condition	68.2	[63.4,72.6]	57.4	[49.4,65.0]	65.1	[60.9-69.0]
Diabetes	13.8	[11.1,17.1]	5.2	[3.0,8.7]	11.4	[9.3-13.9]
Hypertension	39.8	[35.3,44.5]	32.0	[25.6,39.2]	37.6	[33.8-41.5]
Cardiovascular Disease	11.3	[8.6,14.8]	8.2	[5.1,12.9]	10.4	[8.2-13.2]
Asthma	16.3	[13.2,19.9]	15.6	[11.2,21.3]	16.1	[13.5-19.1]
COPD	12.6	[10.1,15.6]	7.8	[5.0,12.0]	11.2	[9.2-13.6]
Cancer	2.4	[1.5,3.9]	3.5	[1.6,7.2]	2.7	[1.8-4.1]
Mental Health Condition	35.1	[30.8,39.6]	35.9	[29.3,43.0]	35.3	[31.7-39.1]
Mood disorder	33.5	[29.3,38.0]	33.9	[27.5,41.0]	33.7	[30.1-37.4]
Other	0.2	[0.0,1.6]	0		0.2	[0.0-1.1]

Functional Impairment (≥14 of past 30 days)						
Physical	26.2	[22.3,30.5]	19.8	[14.7,26.3]	24.4	[21.2-27.9]
Mental	26.3	[22.3,30.8]	21.8	[16.2,28.7]	25.0	[21.7-28.7]

Table 11. Employment Status Among Healthy Michigan Plan Enrollees, by Health Status

	Health Status						
	Excellent, very good, or good		Fair or poor		Total		*P*-value[1]
	Col %	95% CI	Col %	95% CI	Col %	95% CI	
Employment Status (n=4,059)							<0.001
Employed or self-employed (n=2,076)	56.1	[53.7,58.4]	32.3	[29.1,35.5]	48.9	[47.0,50.8]	
Out of work ≥1 year (n=705)	17.9	[16.0,19.9]	23.9	[21.0,27.0]	19.7	[18.1,21.3]	
Out of work <1 year (n=258)	8.1	[6.8,9.7]	7.4	[5.7,9.4]	7.9	[6.8,9.1]	
Homemaker (n=217)	5.0	[4.2,6.0]	3.4	[2.5,4.7]	4.5	[3.8,5.3]	
Student (n=161)	6.0	[4.9,7.4]	3.3	[2.1,5.1]	5.2	[4.3,6.2]	
Retired (n=167)	2.7	[2.2,3.4]	2.0	[1.5,2.8]	2.5	[2.1,3.0]	
Unable to work (n=475)	4.2	[3.4,5.2]	27.8	[24.8,31.0]	11.3	[10.1,12.5]	

[1] Pearson chi-square analyses

Table 12. Employment Status Among Healthy Michigan Plan Enrollees, by Presence of Chronic Condition

	Any Chronic Health Condition Present						
	Yes		No		Total		*P*-value[1]
	Col %	95% CI	Col %	95% CI	Col %	95% CI	
Employment Status (n=4,068)							<0.001
Employed or self-employed (n=2,079)	44.1	[41.9,46.3]	59.8	[55.9,63.5]	48.9	[47.0,50.8]	
Out of work ≥1 year (n=707)	21.6	[19.7,23.6]	15.4	[12.7,18.5]	19.7	[18.1,21.3]	
Out of work <1 year (n=258)	7.9	[6.7,9.2]	7.9	[5.7,10.8]	7.9	[6.8,9.1]	
Homemaker (n=217)	4.3	[3.6,5.2]	5.0	[3.7,6.7]	4.5	[3.8,5.3]	
Student (n=161)	3.9	[3.1,5.0]	8.0	[6.0,10.4]	5.2	[4.3,6.2]	
Retired (n=167)	2.8	[2.3,3.5]	1.8	[1.1,2.9]	2.5	[2.1,3.0]	
Unable to work (n=479)	15.3	[13.8,17.0]	2.2	[1.4,3.5]	11.3	[10.1,12.5]	

[1] Pearson chi-square analyses

Table 13. Ability to Work Among Healthy Michigan Plan Enrollees Who Are Employed/Self-Employed

	Mean or %	95% CI
[If employed or self-employed] In the past 12 months, about how many days did you miss work at a job or business because of illness or injury (do not include maternity leave)?	Mean 7.2	[5.6,8.7]
Compared to the 12 months before this time, was this more, less, or about the same? (n=2,074)		
More (n=261)	12.3	[10.7,14.1]
Less (n=345)	17.2	[15.2,19.5]
About the same (n=1,437)	68.4	[65.8,70.9]
Don't know (n=31)	2.1	[1.2,3.4]

Table 14. Multivariable Logistic Regression Analysis of Association between HMP Enrollee Demographic and Health Characteristics and being Out of Work or Unable to Work

	Outcomes[1]			
	Out of Work		Unable to Work	
Characteristic	aOR (95% CI)	*P*-value	aOR (95% CI)	*P*-value
Age				
19-34	[ref]	[ref]	[ref]	[ref]
35-50	1.29 (0.99-1.67)	0.056	2.34 (1.45-3.75)	<0.001
51-64	1.67 (1.29-2.17)	<0.001	4.20 (2.64-6.65)	<0.001
Male gender	1.80 (1.45-2.23)	<0.001	1.88 (1.35-2.63)	<0.001
Race				
White or Caucasian	[ref]	[ref]	[ref]	[ref]
Black or African-American	1.93 (1.50-2.49)	<0.001	1.16 (0.76-1.78)	0.483
Other	0.75 (0.50-1.11)	0.148	0.51 (0.25-1.06)	0.072
More than one race	1.25 (0.72-2.18)	0.423	1.02 (0.49-2.15)	0.954
Fair or poor health	1.47 (1.15-1.89)	0.003	3.52 (2.42-5.11)	<0.001
Chronic Health Condition [reference = none]				
Physical	1.11 (0.88-1.42)	0.378	1.73 (1.08-2.79)	0.023
Mental	1.47 (1.16-1.87)	0.001	2.61 (1.82-3.73)	<0.001
Functional Limitation [reference = none]				
Physical	1.43 (1.07-1.92)	0.016	5.10 (3.54-7.33)	<0.001
Mental	1.95 (1.46-2.60)	<0.001	2.29 (1.56-3.37)	<0.001

aOR = adjusted odds ratio; CI = confidence interval

[1]Each column represents a different multivariable logistic regression model.

Table 15. Factors Associated with Employment and Ability to Work, Among Healthy Michigan Plan Enrollees who were Employed/Self-employed

Characteristic	Outcomes[1]			
	Employed or Self-Employed (Weighted N=106,619)		Better Job at Work (Weighted N=75,282)	
	aOR (95% CI)	*P*- value	aOR (95% CI)	*P*-value
Physical or mental health better since HMP enrollment	1.08 (0.89, 1.30)	0.44	4.08 (3.11, 5.35)	<0.001
Age				
19-34	Reference		Reference	
35-50	0.98 (0.78, 1.24)	0.89	0.96 (0.70, 1.31)	0.78
51-64	0.56 (0.45, 0.70)	<0.001	1.10 (0.80, 1.51)	0.57
Female gender	1.00 (0.83, 1.21)	0.98	1.42 (1.08, 1.85)	0.01
Race				
White or Caucasian	Reference		Reference	
Black or African American	0.96 (0.77, 1.21)	0.74	1.55 (1.10, 2.19)	0.01
Other	0.87 (0.61, 1.23)	0.44	1.24 (0.69, 2.21)	0.47
More than one race	1.10 (0.67, 1.82)	0.71	1.70 (0.79, 3.67)	0.18
FPL				
0-35%	Reference		Reference	
36-99%	3.72 (3.02, 4.58)	<0.001	0.79 (0.54, 1.15)	0.22
100-133%	4.40 (3.51, 5.52)	<0.001	0.62 (0.42, 0.90)	0.01
Fair or poor health	0.67 (0.53, 0.83)	<0.001	1.09 (0.76, 1.57)	0.64
Chronic health condition	0.84 (0.67, 1.06)	0.14	1.57 (1.18, 2.09)	0.002
Functional limitation, physical or mental	0.26 (0.19, 0.34)	<0.001	1.20 (0.69, 2.09)	0.53

aOR = adjusted odds ratio; CI = confidence interval; HMP = Healthy Michigan Plan

[1]Each column represents a different multivariable logistic regression model. In the first model, employment status was dichotomized as employed/self-employed vs. all other responses. We checked for collinearity of variables, including health status/chronic condition/function and there was no collinearity in the model.

Table 16. Factors Associated with Job Seeking Ability, Among Healthy Michigan Plan Enrollees who Had a Recent Job Change or were Out of Work

Characteristic	Outcomes[1]			
	Better able to look for job[2] (Weighted N=35,711)		Helped get a better job[3] (Weighted N=9,275)	
	aOR (95% CI)	*P*- value	aOR (95% CI)	*P*-value
Physical or mental health better since HMP enrollment	2.82 (1.93, 4.10)	<0.001	3.20 (1.69, 6.09)	<0.001
Age				
19-34	Reference		Reference	
35-50	1.36 (0.87, 2.11)	0.17	1.01 (0.55, 1.87)	0.97
51-64	1.76 (1.14, 2.72)	0.01	1.30 (0.65, 2.59)	0.46
Female gender	0.73 (0.50, 1.07)	0.10	0.72 (0.41, 1.25)	0.24
Race				
White or Caucasian	Reference		Reference	
Black or African American	0.80 (0.53, 1.22)	0.30	1.31 (0.68, 2.55)	0.42
Other	1.52 (0.73, 3.19)	0.27	1.69 (0.65, 4.41)	0.28
More than one race	0.51 (0.22, 1.23)	0.13	0.46 (0.13, 1.67)	0.24
FPL				
0-35%	Reference		Reference	
36-99%	0.83 (0.53, 1.29)	0.40	0.90 (0.47, 1.73)	0.76
100-133%	0.74 (0.41, 1.36)	0.33	0.60 (0.31, 1.17)	0.13
Fair or poor health	1.17 (0.79, 1.74)	0.42	1.17 (0.56, 2.45)	0.67
Chronic health condition	0.87 (0.54, 1.40)	0.57	1.31 (0.72, 2.36)	0.37
Functional limitation, physical or mental	0.85 (0.56, 1.30)	0.46	1.51 (0.47, 4.89)	0.49

aOR = adjusted odds ratio; CI = confidence interval; HMP = Healthy Michigan Plan

[1]Each column represents a different multivariable logistic regression model.

[2]Strongly agree or agree that "Having health insurance through the Healthy Michigan Plan has made me better able to look for a job."

[3]Strongly agree or agree that "Having health insurance through the Healthy Michigan Plan helped me get a better job."

Impact of HMP on Access to Dental Care and Oral Health

Table 17. Healthy Michigan Plan Beneficiary Characteristics, by Awareness of Dental Care Coverage

	My Healthy Michigan Plan covers routine dental visits.						
	Yes		No		Don't know		*P*-value[1]
	Row %	95% CI	Row %	95% CI	Row %	95% CI	
Age							0.524
19-34 (n=1,303)	76.9	[73.8,79.8]	4.6	[3.4,6.2]	18.5	[15.8,21.4]	
35-50 (n=1,300)	76.7	[73.6,79.5]	3.4	[2.5,4.6]	20.0	[17.3,23.0]	
51-64 (n=1,483)	78.2	[75.6,80.6]	3.7	[2.7,5.0]	18.1	[15.9,20.6]	
Total (n=4,086)	77.2	[75.4,78.8]	3.9	[3.3,4.7]	18.9	[17.3,20.6]	
FPL							0.016
0-35% (n=1,599)	77.1	[74.3,79.7]	2.9	[2.1,4.1]	20.0	[17.5,22.7]	
36-99% (n=1,448)	78.5	[75.9,80.9]	4.9	[3.7,6.4]	16.6	[14.5,18.9]	
≥100% (n=1,039)	75.3	[72.0,78.3]	5.2	[3.9,7.1]	19.4	[16.7,22.5]	
Total (n=4,086)	77.2	[75.4,78.8]	3.9	[3.3,4.7]	18.9	[17.3,20.6]	
Region							0.087
UP/NW/NE (n=745)	78.6	[75.0,81.7]	2.9	[1.9,4.4]	18.5	[15.5,22.0]	
W/EC/E (n=1,264)	79.0	[76.2,81.5]	3.3	[2.4,4.6]	17.7	[15.3,20.3]	
SC/SW/SE (n=836)	72.5	[68.5,76.2]	4.6	[3.3,6.4]	22.9	[19.3,26.9]	
DET (n=1,241)	77.7	[74.6,80.5]	4.2	[3.1,5.7]	18.1	[15.5,21.0]	
Total (n=4,086)	77.2	[75.4,78.8]	3.9	[3.3,4.7]	18.9	[17.3,20.6]	
Employment status							0.364
Employed or self-employed (n=2,078)	77.9	[75.5,80.2]	4.0	[3.1,5.2]	18.0	[15.9,20.4]	
Out of work ≥1 year (n=705)	74.4	[69.7,78.6]	3.4	[2.0,5.7]	22.2	[18.2,26.8]	
Out of work <1 year (n=258)	78.9	[72.1,84.4]	3.8	[2.1,7.0]	17.3	[12.2,24.0]	
Homemaker (n=217)	79.3	[72.3,84.9]	6.1	[3.1,11.7]	14.6	[10.1,20.6]	
Student (n=161)	75.3	[66.1,82.6]	5.4	[2.9,10.0]	19.3	[12.6,28.5]	
Retired (n=167)	80.1	[72.8,85.8]	3.8	[1.8,7.7]	16.1	[11.0,23.1]	
Unable to work (n=479)	77.1	[72.4,81.2]	2.2	[1.3,3.7]	20.7	[16.7,25.3]	
Don't know (n=7)	53.2	[15.8,87.3]	0		46.8	[12.7,84.2]	
Total (n=4,072)	77.2	[75.4,78.8]	3.8	[3.2,4.6]	19.0	[17.4,20.7]	

[1] Pearson chi-square analyses

Table 18. Healthy Michigan Plan Beneficiary Characteristics, by Perceived Dental Care Access

	Would you say that your ability to get dental care through the Healthy Michigan Plan is better, worse, or about the same, compared to before?								
	Better		Worse		About the same		Don't know		*P*-value[1]
	Row %	95% CI	Row %	95% CI	Row %	95% CI	Row %	95% CI	
Age									<0.001
19-34 (n=1,302)	44.4	[41.1,47.8]	6.4	[4.8,8.4]	35.2	[31.9,38.6]	14.1	[11.9,16.6]	
35-50 (n=1,298)	47.7	[44.3,51.1]	5.9	[4.6,7.6]	26.1	[23.2,29.1]	20.3	[17.5,23.4]	
51-64 (n=1,484)	46.4	[43.3,49.6]	6.5	[5.1,8.3]	24.7	[22.1,27.5]	22.4	[19.9,25.0]	
Total (n=4,084)	46.1	[44.1,48.0]	6.2	[5.4,7.3]	29.3	[27.5,31.2]	18.4	[16.9,19.9]	
FPL									0.104
0-35% (n=1,596)	46.8	[43.7,49.9]	5.3	[4.1,7.0]	28.2	[25.4,31.2]	19.7	[17.3,22.2]	
36-99% (n=1,448)	46.3	[43.2,49.4]	6.8	[5.4,8.7]	29.6	[26.7,32.6]	17.3	[15.0,19.8]	
≥100% (n=1,040)	43.6	[40.2,47.2]	7.8	[6.0,10.1]	32.1	[28.8,35.5]	16.5	[14.0,19.3]	
Total (n=4,084)	46.1	[44.1,48.0]	6.2	[5.4,7.3]	29.3	[27.5,31.2]	18.4	[16.9,19.9]	
Region									0.566
UP/NW/NE (n=746)	48.8	[44.7,52.9]	6.5	[4.9,8.5]	28.0	[24.3,32.0]	16.8	[14.1,19.8]	
W/EC/E (n=1,263)	47.3	[44.2,50.5]	5.9	[4.4,7.8]	28.1	[25.3,31.1]	18.6	[16.2,21.3]	
SC/SW/SE (n=835)	45.4	[41.4,49.5]	5.8	[4.2,8.0]	27.9	[24.1,31.9]	20.9	[17.9,24.3]	
DET (n=1,240)	44.9	[41.5,48.4]	6.6	[5.1,8.5]	31.0	[27.9,34.4]	17.4	[14.9,20.3]	
Total (n=4,084)	46.1	[44.1,48.0]	6.2	[5.4,7.3]	29.3	[27.5,31.2]	18.4	[16.9,19.9]	
Employment status									<0.001
Employed or self-employed (n=2,077)	48.2	[45.5,51.0]	5.5	[4.5,6.7]	30.1	[27.6,32.7]	16.2	[14.3,18.2]	
Out of work ≥1 year (n=704)	45.7	[41.0,50.4]	4.9	[3.1,7.7]	25.3	[21.4,29.6]	24.2	[20.2,28.7]	
Out of work <1 year (n=258)	43.0	[35.8,50.5]	9.0	[4.9,15.8]	28.8	[22.1,36.4]	19.3	[13.8,26.2]	
Homemaker (n=217)	48.0	[39.8,56.3]	5.7	[3.2,9.8]	33.8	[26.5,41.9]	12.6	[8.6,18.1]	
Student (n=160)	32.3	[24.6,41.0]	12.8	[7.6,20.9]	43.8	[34.5,53.6]	11.1	[6.6,18.0]	
Retired (n=167)	48.6	[39.0,58.3]	7.4	[3.8,13.9]	24.8	[17.3,34.3]	19.2	[13.1,27.1]	
Unable to work (n=479)	44.1	[38.6,49.7]	6.8	[4.4,10.4]	27.1	[22.2,32.5]	22.0	[17.8,27.0]	
Don't know (n=7)	58.7	[17.6,90.4]	0		0		41.3	[9.6,82.4]	
Total (n=4,069)	46.1	[44.1,48.0]	6.2	[5.3,7.2]	29.4	[27.6,31.3]	18.3	[16.9,19.9]	

[1] Pearson chi-square analyses

Table 19. Healthy Michigan Plan Beneficiary Characteristics, by Forgone Dental Care

	Forgone dental care due to cost[1]				
	Yes		No		*P*-value[2]
	Row %	95% CI	Row %	95% CI	0.537
Age					
19-34 (n=136)	65.3	[55.1,74.3]	34.7	[25.7,44.9]	
35-50 (n=132)	58.5	[47.9,68.3]	41.5	[31.7,52.1]	
51-64 (n=125)	66.1	[54.1,76.3]	33.9	[23.7,45.9]	
Total (n=393)	63.2	[57.0,69.0]	36.8	[31.0,43.0]	
FPL					0.282
0-35% (n=156)	59.9	[50.6,68.5]	40.1	[31.5,49.4]	
36-99% (n=142)	64.1	[53.2,73.7]	35.9	[26.3,46.8]	
≥100% (n=95)	72.0	[60.8,81.0]	28.0	[19.0,39.2]	
Total (n=393)	63.2	[57.0,69.0]	36.8	[31.0,43.0]	
Region					0.047
UP/NW/NE (n=55)	57.2	[42.3,70.9]	42.8	[29.1,57.7]	
W/EC/E (n=115)	61.1	[50.8,70.6]	38.9	[29.4,49.2]	
SC/SW/SE (n=92)	50.6	[38.9,62.2]	49.4	[37.8,61.1]	
DET (n=131)	70.5	[59.6,79.5]	29.5	[20.5,40.4]	
Total (n=393)	63.2	[57.0,69.0]	36.8	[31.0,43.0]	
Employment status					0.008
Employed or self-employed (n=196)	61.5	[52.6,69.8]	38.5	[30.2,47.4]	
Out of work ≥1 year (n=67)	68.6	[53.9,80.3]	31.4	[19.7,46.1]	
Out of work <1 year (n=26)	82.5	[64.3,92.5]	17.5	[7.5,35.7]	
Homemaker (n=18)	79.2	[52.8,92.8]	20.8	[7.2,47.2]	
Student (n=19)	78.9	[55.9,91.7]	21.1	[8.3,44.1]	
Retired (n=9)	70.3	[31.8,92.3]	29.7	[7.7,68.2]	
Unable to work (n=58)	41.3	[25.6,59.1]	58.7	[40.9,74.4]	
Total (n=393)	63.2	[57.0,69.0]	36.8	[31.0,43.0]	

[1] Going without dental care because 'you were worried about the cost,' 'you did not have health insurance,' 'the doctor or hospital wouldn't accept your health insurance,' or 'your health plan wouldn't pay for the treatment.'

[2] Pearson chi-square analyses

Table 20. Healthy Michigan Plan Beneficiary Characteristics, by Oral Health

	Since you enrolled in the Healthy Michigan Plan, has the health of your teeth and gums gotten better, stayed the same, or gotten worse?								
	Gotten better		Stayed the same		Gotten worse		Don't know		*P*-value[1]
	Row %	95% CI	Row %	95% CI	Row %	95% CI	Row %	95% CI	
Age									<0.001
19-34 (n=1,302)	38.8	[35.6,42.1]	50.1	[46.7,53.6]	8.1	[6.5,10.1]	2.9	[2.0,4.2]	
35-50 (n=1,299)	39.9	[36.6,43.3]	42.1	[38.7,45.5]	12.5	[10.5,14.9]	5.5	[4.1,7.4]	
51-64 (n=1,483)	40.1	[37.1,43.3]	42.9	[39.8,46.0]	11.0	[9.2,13.0]	6.0	[4.7,7.8]	
Total (n=4,084)	39.5	[37.6,41.5]	45.5	[43.5,47.5]	10.4	[9.3,11.6]	4.6	[3.9,5.5]	
FPL									0.198
0-35% (n=1,597)	40.0	[37.0,43.1]	44.0	[40.9,47.2]	11.1	[9.4,13.0]	4.9	[3.8,6.4]	
36-99% (n=1,448)	40.7	[37.7,43.8]	44.9	[41.8,48.0]	9.9	[8.1,12.0]	4.6	[3.4,6.0]	
≥100% (n=1,039)	36.6	[33.3,40.0]	50.3	[46.8,53.9]	9.2	[7.4,11.3]	3.9	[2.7,5.6]	
Total (n=4,084)	39.5	[37.6,41.5]	45.5	[43.5,47.5]	10.4	[9.3,11.6]	4.6	[3.9,5.5]	
Region									0.053
UP/NW/NE (n=745)	40.9	[36.9,45.0]	44.4	[40.3,48.5]	9.3	[7.3,11.8]	5.5	[3.9,7.5]	
W/EC/E (n=1,263)	38.2	[35.2,41.3]	46.9	[43.7,50.1]	9.0	[7.4,10.8]	6.0	[4.5,7.9]	
SC/SW/SE (n=836)	36.4	[32.7,40.4]	46.6	[42.5,50.8]	13.0	[10.5,15.9]	4.0	[2.8,5.6]	
DET (n=1,240)	41.4	[38.0,44.9]	44.4	[40.9,47.9]	10.4	[8.6,12.6]	3.8	[2.7,5.4]	
Total (n=4,084)	39.5	[37.6,41.5]	45.5	[43.5,47.5]	10.4	[9.3,11.6]	4.6	[3.9,5.5]	
Employment status									<0.001
Employed or self-employed (n=2,077)	40.1	[37.4,42.8]	46.9	[44.2,49.7]	9.2	[7.8,10.8]	3.8	[2.9,5.0]	
Out of work ≥1 year (n=704)	35.9	[31.6,40.4]	48.9	[44.2,53.7]	11.3	[8.6,14.7]	3.9	[2.6,5.8]	
Out of work <1 year (n=258)	43.2	[35.8,50.9]	42.0	[34.6,49.8]	9.0	[6.1,13.1]	5.8	[3.2,10.1]	
Homemaker (n=217)	43.3	[35.2,51.7]	45.3	[37.3,53.5]	9.3	[5.9,14.4]	2.2	[0.8,5.6]	
Student (n=161)	34.6	[26.4,43.7]	51.0	[41.5,60.3]	9.4	[5.7,15.0]	5.1	[2.0,12.8]	
Retired (n=167)	44.9	[35.3,54.9]	41.7	[32.7,51.3]	10.1	[5.9,16.7]	3.3	[1.4,7.5]	
Unable to work (n=478)	39.7	[34.3,45.4]	35.6	[30.5,41.1]	15.8	[12.0,20.6]	8.9	[6.0,12.9]	
Don't know (n=7)	27.0	[6.5,66.1]	39.3	[10.5,78.2]	0		33.7	[5.6,81.3]	
Total (n=4,069)	39.4	[37.5,41.4]	45.6	[43.7,47.6]	10.4	[9.3,11.6]	4.6	[3.8,5.5]	

[1] Pearson chi-square analyses

Table 21. Perceived Access to Dental Care, Forgone Dental Care, Dental Health, ER Use, and Missed Work or School, by Awareness of Dental Care Coverage

	Awareness of dental care coverage				
	Yes		No[1]		*P*-value[2]
	Row %	95% CI	Row %	95% CI	
Ability to get dental care					<0.001
Better (n=1,929)	92.6	[90.9,94.0]	7.4	[6.0,9.1]	
Worse (n=255)	63.6	[55.6,70.8]	36.4	[29.2,44.4]	
About the same (n=1,137)	72.3	[68.7,75.6]	27.7	[24.4,31.3]	
Don't know (n=760)	51.0	[46.4,55.6]	49.0	[44.4,53.6]	
Total (n=4,081)	77.2	[75.4,78.8]	22.8	[21.2,24.6]	
Forgone dental care due to cost[3]					0.277
Yes (n=252)	64.9	[57.2,71.9]	35.1	[28.1,42.8]	
No (n=141)	71.6	[61.3,80.1]	28.4	[19.9,38.7]	
Total (n=393)	67.4	[61.3,72.9]	32.6	[27.1,38.7]	
Dental health status					<0.001
Gotten better (n=1,641)	92.3	[90.6,93.8]	7.7	[6.2,9.4]	
Stayed the same (n=1,809)	69.9	[67.0,72.7]	30.1	[27.3,33.0]	
Gotten worse (n=443)	58.9	[53.1,64.5]	41.1	[35.5,46.9]	
Don't know (n=189)	59.5	[50.3,68.0]	40.5	[32.0,49.7]	
Total (n=4,082)	77.2	[75.4,78.8]	22.8	[21.2,24.6]	
Any ER visits past 12 months					0.785
Yes (n=1,455)	77.4	[74.4,80.0]	22.6	[20.0,25.6]	
No (n=2,609)	77.1	[74.9,79.2]	22.9	[20.8,25.1]	
Don't know (n=22)	69.6	[43.6,87.2]	30.4	[12.8,56.4]	
Total (n=4,086)	77.2	[75.4,78.8]	22.8	[21.2,24.6]	
Days of school missed					0.896
None (n=94)	74.3	[62.0,83.7]	25.7	[16.3,38.0]	
1-7 days (n=50)	78.4	[58.7,90.2]	21.6	[9.8,41.3]	
More than 7 days (n=15)	76.0	[48.0,91.6]	24.0	[8.4,52.0]	
Total (n=159)	75.8	[66.4,83.2]	24.2	[16.8,33.6]	

Days of work missed					0.930
None (n=1,180)	78.4	[75.1,81.3]	21.6	[18.7,24.9]	
1-7 days (n=744)	77.9	[73.6,81.6]	22.1	[18.4,26.4]	
More than 7 days (n=384)	77.2	[71.7,82.0]	22.8	[18.0,28.3]	
Total (n=2,308)	78.0	[75.7,80.2]	22.0	[19.8,24.3]	

[1] Includes "Don't know" responses

[2] Pearson chi-square analyses

[3] Going without dental care because 'you were worried about the cost,' 'you did not have health insurance,' 'the doctor or hospital wouldn't accept your health insurance,' or 'your health plan wouldn't pay for the treatment.'

Table 22. Perceived Impact of HMP on Employment, ER Use, and Dental Health, by Perceived Access to Dental Care

	Would you say that your ability to get dental care through the Healthy Michigan Plan is better, worse, or about the same, compared to before?										
	Better		Worse		About the same		Don't know		Total		*P*-value[1]
	Col %	95% CI	Col %	95% CI	Col %	95% CI	Col %	95% CI	Col %	95% CI	
HMP helped me get a better job (n=447)											<0.001
Strongly agree (n=33)	12.0	[7.1,19.5]	4.6	[1.1,17.3]	3.8	[1.5,9.6]	4.0	[1.0,15.3]	7.7	[5.0,11.6]	
Agree (n=123)	39.2	[30.2,49.0]	17.6	[5.5,44.0]	25.6	[17.2,36.2]	10.5	[5.2,20.2]	29.2	[23.6,35.4]	
Neutral (n=103)	17.8	[12.7,24.4]	36.7	[20.0,57.3]	20.0	[12.5,30.5]	31.4	[19.0,47.1]	21.5	[17.1,26.7]	
Disagree (n=150)	24.4	[17.4,33.1]	35.8	[18.5,57.8]	44.6	[34.1,55.6]	35.7	[22.6,51.4]	33.5	[27.8,39.6]	
Strongly disagree (n=30)	5.7	[2.8,11.4]	5.3	[1.2,21.2]	4.9	[2.0,11.3]	12.0	[6.1,22.3]	6.4	[4.2,9.6]	
Don't know (n=8)	0.9	[0.3,2.9]	0		1.1	[0.2,4.9]	6.4	[1.8,20.3]	1.8	[0.8,4.0]	
Better job at work (n=2,075)											<0.001
Yes (n=1,430)	76.8	[73.2,80.0]	56.9	[46.7,66.5]	63.3	[58.2,68.1]	63.1	[56.6,69.0]	69.4	[66.8,71.8]	
No (n=548)	19.2	[16.2,22.6]	34.4	[25.5,44.4]	32.6	[28.0,37.6]	30.3	[24.8,36.5]	25.9	[23.6,28.3]	
Don't know (n=97)	4.0	[2.8,5.8]	8.7	[4.4,16.4]	4.1	[2.4,6.9]	6.6	[4.1,10.5]	4.7	[3.7,6.0]	
HMP helped me look for job (n=955)											<0.001
Strongly agree (n=158)	18.9	[14.8,23.7]	11.0	[4.7,23.3]	11.8	[7.9,17.3]	17.7	[12.0,25.5]	16.3	[13.6,19.4]	
Agree (n=388)	42.6	[37.2,48.3]	17.1	[8.6,31.3]	41.6	[34.0,49.7]	31.2	[24.2,39.1]	38.2	[34.5,42.1]	
Neutral (n=185)	17.0	[12.9,22.0]	7.6	[3.6,15.5]	21.1	[14.8,29.3]	25.2	[18.0,34.0]	19.4	[16.2,23.0]	
Disagree (n=143)	14.1	[10.5,18.7]	51.3	[33.3,69.0]	16.9	[11.7,23.8]	14.7	[8.6,24.1]	17.2	[14.1,20.9]	
Strongly disagree (n=35)	3.8	[2.1,6.9]	4.3	[1.2,14.6]	3.6	[1.7,7.6]	2.8	[1.2,6.2]	3.5	[2.4,5.2]	
Don't know (n=46)	3.6	[2.1,6.2]	8.7	[2.4,27.3]	5.0	[2.5,9.6]	8.4	[4.4,15.6]	5.4	[3.8,7.6]	

Any ER visits past 12 months (n=4,084)											0.474
Yes (n=1,452)	38.5	[35.8,41.3]	43.1	[35.4,51.1]	35.0	[31.5,38.8]	37.0	[32.7,41.5]	37.5	[35.6,39.4]	
No (n=2,609)	60.8	[58.0,63.6]	56.9	[48.9,64.6]	64.4	[60.7,68.0]	62.4	[57.9,66.7]	61.9	[60.0,63.8]	
Don't know (n=23)	0.7	[0.3,1.6]	0		0.5	[0.2,1.3]	0.6	[0.2,1.4]	0.6	[0.3,1.0]	
Dental health status (n=4,081)											<0.001
Gotten better (n=1,641)	67.9	[65.2,70.6]	14.4	[9.2,21.9]	20.9	[18.0,24.1]	7.0	[5.0,9.8]	39.6	[37.7,41.5]	
Stayed the same (n=1,807)	26.6	[24.1,29.3]	33.9	[26.8,41.8]	68.9	[65.4,72.3]	59.5	[55.0,63.9]	45.5	[43.6,47.5]	
Gotten worse (n=443)	4.5	[3.6,5.7]	46.9	[39.2,54.8]	8.8	[7.0,11.0]	15.2	[12.3,18.6]	10.4	[9.3,11.6]	
Don't know (n=190)	1.0	[0.5,1.7]	4.8	[2.6,8.7]	1.4	[0.9,2.3]	18.2	[15.0,22.0]	4.5	[3.8,5.4]	

[1] Pearson chi-square analyses

Impact of HMP Premium Contributions on Cost-Conscious Behaviors

Table 23. Healthy Michigan Plan Beneficiary Characteristics, by Federal Poverty Level

Characteristic[1]	FPL 0-35%		FPL 36-99%		FPL ≥100%		Total		*P*-value[2]
	%	95% CI	%	95% CI	%	95% CI	%	95% CI	
Age									0.035
19-34 (n=1,303)	38.1	[35.0,41.3]	40.5	[37.4,43.7]	44.0	[40.4,47.6]	40.0	[38.0,42.0]	
35-50 (n=1,301)	36.1	[33.1,39.1]	33.6	[30.7,36.6]	29.2	[26.1,32.5]	34.0	[32.1,35.9]	
51-64 (n=1,486)	25.9	[23.5,28.3]	25.9	[23.5,28.5]	26.8	[24.1,29.7]	26.0	[24.5,27.6]	
Gender									<0.001
Male (n=1,681)	57.2	[54.1,60.2]	39.1	[36.0,42.3]	39.0	[35.5,42.6]	48.4	[46.5,50.4]	
Female (n=2,409)	42.8	[39.8,45.9]	60.9	[57.7,64.0]	61.0	[57.4,64.5]	51.6	[49.6,53.5]	
Race/ethnicity									<0.001
White, non-Hispanic (n=2,714)	54.4	[51.4,57.4]	62.9	[59.9,65.9]	66.7	[63.4,69.9]	59.3	[57.3,61.1]	
Black, non-Hispanic (n=800)	32.6	[29.7,35.6]	18.2	[15.8,21.0]	19.3	[16.7,22.1]	25.9	[24.1,27.7]	
Hispanic (n=78)	1.9	[1.2,2.9]	2.4	[1.6,3.5]	2.4	[1.4,4.0]	2.1	[1.6,2.8]	
Other (n=448)	11.2	[9.3,13.3]	16.4	[14.1,19.1]	11.7	[9.5,14.3]	12.8	[11.5,14.2]	
Region									<0.001
UP/NW/NE (n=746)	6.7	[6.2,7.2]	10.9	[10.1,11.7]	12.3	[11.5,13.2]	9.0	[8.6,9.4]	
W/EC/E (n=1,265)	26.2	[25.1,27.5]	30.5	[29.1,31.9]	32.1	[30.4,33.8]	28.6	[27.8,29.4]	
SC/SW/SE (n=837)	17.4	[16.2,18.7]	19.2	[18.2,20.3]	20.6	[19.2,22.1]	18.6	[17.8,19.3]	
DET (n=1,242)	49.6	[48.1,51.2]	39.4	[37.6,41.2]	35.0	[33.3,36.7]	43.8	[42.8,44.9]	

Married or partnered									<0.001
Yes (n=1,193)	13.8	[11.9,16.0]	34.6	[31.7,37.5]	38.7	[35.4,42.2]	24.6	[23.2,26.2]	
No (n=2,880)	86.2	[84.0,88.1]	65.4	[62.5,68.3]	61.3	[57.8,64.6]	75.4	[73.8,76.8]	
Health status									<0.001
Excellent, very good, or good (n=2,826)	64.1	[61.1,66.9]	75.7	[73.1,78.2]	78.6	[75.6,81.3]	70.2	[68.5,72.0]	
Fair or poor (n=1,255)	35.9	[33.1,38.9]	24.3	[21.8,26.9]	21.4	[18.7,24.4]	29.8	[28.0,31.5]	
Any chronic health condition									<0.001
Yes (n=2,986)	72.9	[69.8,75.7]	66.2	[63.1,69.1]	63.9	[60.4,67.2]	69.2	[67.3,71.0]	
No (n=1,104)	27.1	[24.3,30.2]	33.8	[30.9,36.9]	36.1	[32.8,39.6]	30.8	[29.0,32.7]	
Any health insurance in 12 months before HMP enrollment									<0.001
Yes (n=1,667)	35.4	[32.5,38.4]	44.8	[41.7,48.0]	48.6	[45.0,52.1]	40.7	[38.8,42.6]	
No (n=2,374)	62.6	[59.6,65.6]	54.1	[50.9,57.2]	50.9	[47.3,54.4]	57.9	[55.9,59.8]	
Cost-related access barriers in 12 months before HMP enrollment[3]									0.666
Yes (n=1,341)	32.4	[29.6,35.4]	31.2	[28.4,34.2]	30.6	[27.5,33.9]	31.7	[29.9,33.6]	
No (n=2,706)	67.6	[64.6,70.4]	68.8	[65.8,71.6]	69.4	[66.1,72.5]	68.3	[66.4,70.1]	
Carefully review MIHA statements[4]									0.387
Yes (n=2,675)	88.7	[86.2,90.8]	89.1	[86.4,91.3]	86.5	[83.4,89.1]	88.3	[86.8,89.7]	
No (n=330)	11.3	[9.2,13.8]	10.9	[8.7,13.6]	13.5	[10.9,16.6]	11.7	[10.3,13.2]	
Find out about service costs[5]									0.232
Yes (n=2,912)	70.3	[67.4,73.0]	73.5	[70.7,76.1]	72.1	[68.8,75.1]	71.5	[69.7,73.3]	
No (n=1,164)	29.7	[27.0,32.6]	26.5	[23.9,29.3]	27.9	[24.9,31.2]	28.5	[26.7,30.3]	
Talk with doctor about costs[6]									0.736
Yes (n=2,746)	67.3	[64.3,70.1]	68.7	[65.7,71.6]	68.4	[65.0,71.6]	67.9	[66.0,69.7]	
No (n=1,330)	32.7	[29.9,35.7]	31.3	[28.4,34.3]	31.6	[28.4,35.0]	32.1	[30.3,34.0]	
Ask doctor about less costly drug[7]									<0.001
Yes (n=3,143)	71.6	[68.7,74.4]	79.0	[76.4,81.4]	79.3	[76.2,82.0]	75.2	[73.4,76.9]	
No (n=931)	28.4	[25.6,31.3]	21.0	[18.6,23.6]	20.7	[18.0,23.8]	24.8	[23.1,26.6]	
Check reviews or ratings of quality[8]									0.058
Yes (n=3,142)	76.4	[73.7,79.0]	79.6	[77.0,82.0]	80.4	[77.6,82.9]	78.1	[76.4,79.7]	
No (n=932)	23.6	[21.0,26.3]	20.4	[18.0,23.0]	19.6	[17.1,22.4]	21.9	[20.3,23.6]	

Fewer medical bill problems in previous 12 months of HMP enrollment[9]									0.191
Yes (n=1,629)	84.4	[80.9,87.4]	88.3	[84.6,91.2]	86.9	[82.9,90.1]	85.9	[83.7,87.9]	
No (n=240)	15.6	[12.6,19.1]	11.7	[8.8,15.4]	13.1	[9.9,17.1]	14.1	[12.1,16.3]	
Payments affordable for HMP[10]									0.015
Yes (n=3,679)	88.6	[86.4,90.5]	91.1	[88.9,92.9]	85.9	[83.2,88.2]	88.8	[87.4,90.0]	
No (n=405)	11.4	[9.5,13.6]	8.9	[7.1,11.1]	14.1	[11.8,16.8]	11.2	[10.0,12.6]	
Foregone care due to cost in previous 12 months of HMP enrollment[3]									0.589
Yes (n=439)	11.2	[9.3,13.3]	11.8	[9.9,14.1]	10.1	[8.2,12.4]	11.1	[10.0,12.5]	
No (n=3,623)	88.8	[86.7,90.7]	88.2	[85.9,90.1]	89.9	[87.6,91.8]	88.9	[87.5,90.0]	

[1]n does not sum to 4,090 for every characteristic due to skip patterns, "don't know" responses, or non-responses for individual items.
[2]pearson chi-square analyses
[3]Going without health care because 'you were worried about the cost,' 'you did not have health insurance,' 'the doctor or hospital wouldn't accept your health insurance,' or 'your health plan wouldn't pay for the treatment.'
[4]Strongly agree or agree that carefully review MIHA statements.
[5]Very or somewhat likely to find out about the costs of services before receiving them.
[6]Very or somewhat likely to talk with doctors about how much services will cost.
[7]Very or somewhat likely to ask doctors about a less costly prescription drug.
[8]Very or somewhat likely to check quality reviews or ratings before getting care.
[9]Among individuals with problems paying medical bills in the 12 months before enrolling in HMP.
[10]Strongly agree or agree that payments for HMP are affordable.

Table 24. Engagement in Cost-Conscious Behaviors among Subgroups of HMP Beneficiaries

Subgroup[2]	Outcomes[1]														
	Carefully review MIHA statements[3] (n=2,924)			Find out about service costs[4] (n=3,979)			Talk with doctor about costs[5] (n=3,978)			Ask doctor about less costly drug[6] (n=3,978)			Check reviews or ratings of quality[7] (n=3,977)		
	%	95% CI		%	95% CI		%	95% CI		%	95% CI		%	95% CI	
FPL															
0-35%	89.3	87.0	91.5	71.6	68.8	74.4	68.1	65.2	71.0	73.8*	71.0	76.6	77.8	75.2	80.4
36-99% (ref)	88.7	86.0	91.3	72.9	70.0	75.8	68.6	65.5	71.6	78.2	75.4	80.9	79.0	76.3	81.6
100+%	86.0	83.0	89.0	70.4	67.0	73.8	67.8	64.3	71.3	77.0	73.7	80.2	78.4	75.4	81.4
Gender															
Male (ref)	87.4	85.1	89.8	69.7	67.0	72.4	67.2	64.3	70.1	71.5	68.7	74.2	75.0	72.4	77.6
Female	89.2	87.3	91.1	73.6*	71.3	76.0	69.1	66.7	71.5	79.6***	77.3	81.8	81.3***	79.1	83.4

Age															
19-34 (ref)	86.2	83.5	88.9	76.9	74.0	79.8	72.0	68.9	75.1	77.6	74.6	80.6	82.3	79.5	85.0
35-50	88.2	85.5	90.9	67.0***	63.5	70.2	64.8**	61.5	68.2	72.7*	69.5	75.8	75.7**	72.7	78.8
51-64	91.4**	89.3	93.5	70.0**	67.0	73.0	66.6*	63.5	69.7	76.2	73.4	79.0	75.3**	72.6	78.1
Race/ethnicity															
White, non-Hispanic (ref)	89.1	87.3	90.9	72.7	70.2	75.2	68.8	66.2	71.3	78.9	76.5	81.2	78.4	76.1	80.7
Black, non-Hispanic	88.4	85.0	91.8	71.8	67.9	75.7	69.3	65.2	73.4	73.3*	69.4	77.2	81.3	77.9	84.7
Hispanic	83.9	73.3	94.5	51.3**	37.0	65.6	51.9*	37.8	66.0	59.9**	46.0	73.8	64.1*	50.1	78.1
Other	85.5	80.3	90.6	70.2	65.0	75.4	65.6	59.9	71.2	68.0***	62.7	73.3	72.8*	67.3	78.2
Marital status															
Not married or partnered (ref)	88.1	86.3	89.9	71.6	69.5	73.6	67.9	65.8	70.1	74.7	72.7	76.7	77.1	75.1	79.0
Married or partnered	89.4	86.8	92.1	72.2	68.7	75.7	68.9	65.3	72.6	78.3	75.0	81.7	81.6	78.8	84.4
Region															
UP/NW/NE (ref)	86.7	82.9	90.6	68.0	63.8	72.2	66.8	62.6	71.0	76.2	72.2	80.2	70.3	66.2	74.5
W/EC/E	90.2	87.8	92.5	72.2	69.2	75.2	69.6	66.5	72.6	76.7	73.8	79.6	79.8***	77.2	82.4
SC/SW/SE	87.5	84.4	90.7	71.5	67.7	75.3	67.8	64.1	71.5	78.0	74.7	81.4	79.0**	75.9	82.1
DET	88.0	85.3	90.7	72.3	69.1	75.5	67.7	64.3	71.2	73.8	70.6	77.0	78.5**	75.4	81.6
Health status															
Excellent, very good, or good (ref)	89.3	87.5	91.0	72.5	70.3	74.7	68.4	66.1	70.7	76.6	74.4	78.8	79.1	77.0	81.2
Fair or poor	86.1	82.9	89.4	69.9	66.6	73.2	67.7	64.3	71.0	73.1	69.9	76.3	76.3	73.3	79.4
Any chronic health condition															
No (ref)	86.9	83.4	90.4	74.2	70.8	77.6	70.7	67.2	74.3	75.1	71.6	78.6	81.6	78.5	84.7
Yes	89.0	87.3	90.7	70.7	68.4	72.9	67.1	64.8	69.4	75.8	73.6	77.9	76.8*	74.7	78.9
Any health insurance in 12 months before HMP enrollment															
No (ref)	88.9	87.0	90.8	70.8	68.5	73.2	69.1	66.8	71.5	75.5	73.2	77.8	76.7	74.5	78.9
Yes	87.7	85.3	90.1	73.0	70.2	75.8	66.7	63.7	69.8	75.7	72.9	78.5	80.5*	78.0	83.1
Forgone care due to cost in 12 months before HMP enrollment[8]															
No (ref)	89.2	87.5	90.9	70.1	67.9	72.4	67.9	65.6	70.2	74.5	72.4	76.7	77.5	75.4	79.5
Yes	87.0	83.8	89.8	75.0*	72.0	78.0	68.8	65.4	72.1	77.8	74.7	80.9	79.7	76.9	82.6

NOTES: * denotes $P < 0.05$, ** denotes $P < 0.01$, and *** denotes $P < 0.001$.

[1]The columns for each outcome depict marginal estimates from a logistic regression model in which the dependent variable is the respective outcome and the independent variables are all of the characteristics in the table rows.
[2]Subgroups denoted by (ref) are the reference for statistical tests.
[3]Strongly agree or agree that carefully review MIHA statements.
[4]Very or somewhat likely to find out about the costs of services before receiving them.
[5]Very or somewhat likely to talk with doctors about how much services will cost.
[6]Very or somewhat likely to ask doctors about a less costly prescription drug.
[7]Very or somewhat likely to check quality reviews or ratings before getting care.
[8]Going without health care because 'you were worried about the cost,' 'you did not have health insurance,' 'the doctor or hospital wouldn't accept your health insurance,' or 'your health plan wouldn't pay for the treatment.'

Table 25. Health Care Affordability Among Subgroups of HMP Beneficiaries

Subgroup[2]	Outcomes[1]								
	Fewer medical bill problems[3] (n=1,816)			Payments affordable[4] (n=3,982)			Forgone care due to cost[5] (n=3,967)		
	%	95% CI		%	95% CI		%	95% CI	
FPL									
0-35%	84.8	81.7	88.0	89.2	87.1	91.2	10.9	9.0	12.9
36-99% (ref)	88.3	84.7	91.9	90.8	88.7	92.3	12.0	9.7	14.2
100+%	85.3	81.1	89.5	84.9**	82.1	87.7	10.4	8.2	12.7
Gender									
Male (ref)	84.4	81.0	87.8	89.1	87.0	91.1	10.2	8.3	12.2
Female	87.0	84.5	89.6	88.5	86.8	90.3	11.9	10.2	13.6
Age									
19-34 (ref)	83.4	79.2	87.6	88.3	86.0	90.6	13.7	11.2	16.2
35-50	85.3	82.0	88.6	87.9	85.5	90.3	9.9*	8.1	11.8
51-64	89.4*	86.6	92.3	90.8	88.8	92.8	9.2**	7.3	11.1
Race/ethnicity									
White, non-Hispanic (ref)	87.4	84.7	90.1	91.7	90.3	93.2	10.3	8.8	11.8
Black, non-Hispanic	84.8	80.6	89.1	84.0***	80.7	87.3	10.5	7.7	13.3
Hispanic	91.5	79.1	100.0	86.8	87.3	95.3	18.4	7.1	29.7
Other	79.7	71.0	88.4	85.3**	80.8	89.7	14.9*	10.5	19.3

Marital status									
Not married or partnered (ref)	85.7	83.3	88.1	88.9	87.4	90.4	11.1	9.7	12.6
Married or partnered	86.2	81.7	90.6	88.6	86.0	91.3	11.1	8.6	13.6
Sampling Region									
UP/NW/NE (ref)	82.1	76.8	87.3	90.9	87.9	94.0	8.3	6.0	10.6
W/EC/E	87.8*	84.3	91.2	88.6	86.3	90.9	10.8	8.7	12.9
SC/SW/SE	86.4	82.2	90.7	88.9	86.3	91.4	11.3	8.9	13.8
DET	85.1	81.4	88.8	88.6	86.4	90.8	11.9*	9.5	14.2
Health status									
Excellent, very good, or good (ref)	87.4	84.8	90.0	90.0	88.4	91.6	10.2	8.7	11.7
Fair or poor	83.2	79.5	86.8	85.8**	83.0	88.6	13.1*	10.6	15.6
Any chronic health condition									
No (ref)	85.7	80.7	90.7	88.4	85.7	91.0	7.7	5.6	9.8
Yes	85.8	83.4	88.3	89.0	87.4	90.6	12.5**	10.9	14.2
Any health insurance in 12 months before HMP enrollment									
No (ref)	86.9	84.5	89.4	89.8	88.3	91.4	9.7	8.2	11.2
Yes	83.3	79.4	87.3	87.3	84.9	89.6	13.4**	11.2	15.6
Forgone care due to cost in 12 months before HMP enrollment[6]									
No (ref)	83.2	80.2	86.2	89.6	88.1	91.0	8.1	6.8	9.5
Yes	88.8**	85.9	91.7	87.0	84.2	89.8	17.6***	14.8	20.5

NOTES: * denotes $P < 0.05$, ** denotes $P < 0.01$, and *** denotes $P < 0.001$.

[1]The columns for each outcome depict marginal estimates from a logistic regression model in which the dependent variable is the respective outcome and the independent variables are all of the characteristics in the table rows.

[2]Subgroups denoted by (ref) are the reference for statistical tests.

[3]Among individuals with problems paying medical bills in the 12 months before enrolling in HMP.

[4]Strongly agree or agree that payments for HMP are affordable.

[5]Going without health care in the previous 12 months of HMP enrollment because 'you were worried about the cost,' 'you did not have health insurance,' 'the doctor or hospital wouldn't accept your health insurance,' or 'your health plan wouldn't pay for the treatment.'

[6]Going without health care in the 12 months before HMP enrollment because 'you were worried about the cost,' 'you did not have health insurance,' 'the doctor or hospital wouldn't accept your health insurance,' or 'your health plan wouldn't pay for the treatment.'

Reproductive Health

Table 26. Characteristics of Reproductive Age Females

	Col %	95% CI
Age (n=1,168)		
19-34 (n=754)	68.1	[64.8,71.3]
35-45 (n=414)	31.9	[28.7,35.2]
Race (n=1,162)		
White (n=769)	61.7	[58.2,65.2]
Black or African American (n=254)	24.9	[21.9,28.2]
Other (n=90)	8.5	[6.7,10.6]
More than one (n=49)	4.9	[3.4,6.8]
FPL (n=1,168)		
0-35% (n=312)	40.1	[36.8,43.6]
36-99% (n=490)	34.5	[31.8,37.4]
≥100% (n=366)	25.3	[23.0,27.7]
Married or partnered (n=1,166)		
Yes (n=337)	23.7	[21.2,26.4]
No (n=829)	76.3	[73.6,78.8]
Health status (n=1,168)		
Excellent, very good, or good (n=905)	76.5	[73.4,79.4]
Fair or poor (n=263)	23.5	[20.6,26.6]
Health insurance in 12 months before HMP enrollment (n=1,167)		
Insured all 12 months (n=434)	36.4	[33.1,39.9]
Insured less than 12 months (n=129)	12.0	[9.7,14.6]
Not insured (n=570)	48.4	[44.9,52.0]
Don't know (n=34)	3.2	[2.1,4.8]
PCP visit in the past 12 months (n=1,168)		
Yes (n=947)	80.4	[77.5,83.0]
No (n=221)	19.6	[17.0,22.5]

Table 27. Healthy Michigan Plan Beneficiary Characteristics and Ability to Get Birth Control/Family Planning Services

	Would you say that your ability to get birth control/family planning services through the Healthy Michigan Plan is better, worse, or about the same, compared to before?								
	Better		Worse		About the same		Don't know		*P*-value[1]
	Row %	95% CI	Row %	95% CI	Row %	95% CI	Row %	95% CI	
Age									<0.001
19-34 (n=753)	40.9	[36.6,45.3]	1.9	[1.0,3.5]	26.9	[23.3,30.9]	30.3	[26.3,34.6]	
35-45 (n=413)	24.1	[19.4,29.5]	0.3	[0.0,2.4]	20.2	[15.4,26.0]	55.4	[49.3,61.4]	
Total (n=1,166)	35.5	[32.2,39.0]	1.4	[0.7,2.5]	24.8	[21.8,28.0]	38.4	[34.9,41.9]	
Race									0.224
White (n=767)	34.4	[30.4,38.7]	1.9	[1.0,3.6]	23.0	[19.6,26.8]	40.7	[36.4,45.2]	
Black or African American (n=254)	35.3	[28.3,43.0]	0.4	[0.1,3.1]	29.4	[23.1,36.7]	34.8	[27.9,42.3]	
Other (n=90)	48.0	[36.4,59.8]	0		25.7	[16.5,37.5]	26.3	[17.4,37.7]	
More than one (n=49)	32.9	[19.5,49.7]	2.5	[0.4,16.1]	24.7	[11.8,44.7]	39.9	[24.3,57.8]	
Total (n=1,160)	35.7	[32.4,39.2]	1.4	[0.8,2.5]	24.9	[22.0,28.1]	38.0	[34.5,41.5]	
FPL									0.280
0-35% (n=311)	34.8	[28.7,41.4]	1.9	[0.8,4.7]	21.4	[16.1,27.7]	41.9	[35.3,48.8]	
36-99% (n=490)	36.9	[32.0,42.2]	0.5	[0.2,1.8]	26.2	[22.0,30.8]	36.3	[31.6,41.3]	
≥100% (n=365)	34.7	[29.4,40.4]	1.7	[0.7,4.1]	28.2	[23.3,33.6]	35.5	[30.2,41.1]	
Total (n=1,166)	35.5	[32.2,39.0]	1.4	[0.7,2.5]	24.8	[21.8,28.0]	38.4	[34.9,41.9]	
Married or partnered									0.890
Yes (n=337)	34.1	[28.6,40.1]	1.1	[0.4,2.9]	25.3	[20.3,30.9]	39.6	[34.0,45.5]	
No (n=827)	36.1	[32.1,40.2]	1.5	[0.7,3.0]	24.7	[21.2,28.5]	37.8	[33.7,42.1]	
Total (n=1,164)	35.6	[32.3,39.1]	1.4	[0.8,2.5]	24.8	[21.9,28.0]	38.2	[34.8,41.8]	
Health status									0.114
Excellent, very good, or good (n=903)	35.3	[31.6,39.2]	1.0	[0.5,1.9]	26.4	[23.0,30.1]	37.3	[33.4,41.4]	
Fair or poor (n=263)	36.2	[29.1,43.8]	2.6	[0.9,7.3]	19.5	[14.4,25.9]	41.7	[34.7,49.0]	
Total (n=1,166)	35.5	[32.2,39.0]	1.4	[0.7,2.5]	24.8	[21.8,28.0]	38.4	[34.9,41.9]	
Health insurance in 12 months before HMP enrollment									<0.001
Insured all 12 months (n=434)	27.5	[22.3,33.2]	2.5	[1.1,5.5]	35.3	[30.2,40.9]	34.7	[29.4,40.3]	
Insured less than 12 months (n=127)	33.8	[24.4,44.7]	1.0	[0.1,6.5]	21.9	[14.5,31.8]	43.3	[33.0,54.2]	
Not insured (n=570)	42.5	[37.6,47.5]	0.5	[0.2,1.3]	17.9	[14.1,22.6]	39.1	[34.1,44.2]	
Don't know (n=34)	28.2	[11.9,53.2]	3.1	[0.4,19.4]	18.7	[8.5,36.1]	50.0	[29.4,70.6]	
Total (n=1,165)	35.5	[32.2,39.0]	1.4	[0.8,2.5]	24.8	[21.9,28.0]	38.3	[34.9,41.8]	

PCP visit in the past 12 months									0.376
Yes (n=945)	36.8	[33.0,40.7]	1.2	[0.6,2.2]	24.8	[21.5,28.4]	37.2	[33.4,41.2]	
No (n=221)	30.2	[23.6,37.8]	2.1	[0.6,7.7]	24.7	[18.7,31.7]	43.0	[35.4,50.9]	
Total (n=1,166)	35.5	[32.2,39.0]	1.4	[0.7,2.5]	24.8	[21.8,28.0]	38.4	[34.9,41.9]	

[1] Pearson chi-square analyses

Impact on Those with Chronic Health Conditions

Table 28. Functional Limitations Among Those with Chronic Conditions

	Functional Limitations				
	Yes		No		*P*-value[1]
	Row %	95% CI	Row %	95% CI	
Physical Chronic Disease					<0.001
Yes (n=2,590)	24.8	[22.8,26.9]	75.2	[73.1,77.2]	
No (n=1,436)	9.1	[7.2,11.5]	90.9	[88.5,92.8]	
Total (n=4,026)	18.4	[17.0,20.0]	81.6	[80.0,83.0]	
Mood Disorder or Mental Health Condition					<0.001
Yes (n=1,279)	35.3	[32.1,38.7]	64.7	[61.3,67.9]	
No (n=2,747)	10.9	[9.5,12.5]	89.1	[87.5,90.5]	
Total (n=4,026)	18.4	[17.0,20.0]	81.6	[80.0,83.0]	
Any Chronic Disease or Mood Disorder					<0.001
Yes (n=2,885)	24.4	[22.5,26.4]	75.6	[73.6,77.5]	
No (n=1,141)	5.8	[4.1,8.3]	94.2	[91.7,95.9]	
Total (n=4,026)	18.4	[17.0,20.0]	81.6	[80.0,83.0]	

[1] Pearson chi-square analyses

Table 29. Healthy Michigan Plan Beneficiary Characteristics Among Those with Chronic Disease and Among Those with Functional Limitations

	Any Chronic Disease or Mood Disorder		Functional Limitations	
	Col %	95% CI	Col %	95% CI
Age (n=4,090)				
19-34 (n=1,303)	32.5	[30.3,34.8]	23.5	[19.5,28.1]
35-50 (n=1,301)	36.7	[34.5,39.0]	40.2	[35.9,44.7]
51-64 (n=1,486)	30.8	[28.9,32.8]	36.3	[32.2,40.5]

Gender (n=4,090)				
Male (n=1,681)	46.7	[44.4,49.0]	50.6	[46.1,55.1]
Female (n=2,409)	53.3	[51.0,55.6]	49.4	[44.9,53.9]
Race (n=4,039)				
White (n=2,784)	64.4	[62.2,66.6]	63.7	[59.0,68.1]
Black/African American (n=807)	24.8	[22.8,26.9]	23.6	[19.7,28.0]
Other (n=306)	6.8	[5.7,8.0]	8.0	[5.6,11.1]
More than one (n=142)	4.0	[3.1,5.1]	4.8	[3.2,7.0]
Hispanic/Latino (n=4,056)				
Yes (n=188)	4.7	[3.8,5.9]	6.1	[4.0,9.3]
No (n=3,856)	94.7	[93.5,95.7]	93.5	[90.3,95.8]
Don't Know (n=12)	0.6	[0.3,1.2]	0.4	[0.1,2.6]
Arab, Chaldean, Middle Eastern (n=4,055)				
Yes (n=204)	3.8	[3.0,4.8]	3.8	[2.3,6.3]
No (n=3,842)	95.8	[94.8,96.7]	95.9	[93.4,97.5]
Don't Know (n=9)	0.3	[0.2,0.7]	0.3	[0.0,1.9]
Marital status (n=4,073)				
Not married or partnered (n=2,880)	75.6	[73.7,77.3]	78.0	[74.2,81.4]
Married or partnered (n=1,193)	24.4	[22.7,26.3]	22.0	[18.6,25.8]
Health status (n=4,081)				
Excellent (n=337)	4.5	[3.7,5.6]	1.5	[0.7,3.1]
Very good (n=1,041)	19.5	[17.6,21.5]	8.3	[5.7,11.9]
Good (n=1,448)	37.1	[34.9,39.4]	20.9	[17.6,24.7]
Fair (n=931)	28.3	[26.3,30.4]	37.7	[33.4,42.2]
Poor (n=324)	10.5	[9.2,12.0]	31.6	[27.5,35.9]
Physical health not good any days in past 30 days (n=4,090)				
Yes (n=2,082)	58.0	[55.7,60.3]	88.0	[84.5,90.8]
No (n=2,008)	42.0	[39.7,44.3]	12.0	[9.2,15.5]
Mental health not good any days in past 30 days (n=4,090)				
Yes (n=1,635)	49.1	[46.8,51.4]	75.1	[71.2,78.7]
No (n=2,455)	50.9	[48.6,53.2]	24.9	[21.3,28.8]

Table 30. Access to Care Prior to HMP Enrollment Among Those With Chronic Disease

	Any Chronic Disease or Mood Disorder		Physical Chronic Disease		Mood Disorder or Mental Health Condition		Functional Limitations	
	Col %	95% CI	Col %	95% CI	Col %	95% CI	Col %	95% CI
Any health insurance in 12 months before HMP enrollment (n=4,087)								
Yes (n=1,667)	40.8	[38.5,43.0]	40.3	[38.0,42.7]	44.0	[40.6,47.6]	41.1	[36.8,45.7]
No (n=2,374)	58.3	[56.0,60.5]	58.7	[56.4,61.1]	55.0	[51.5,58.5]	57.1	[52.6,61.6]
Don't Know (n=46)	1.0	[0.6,1.5]	1.0	[0.6,1.6]	0.9	[0.5,1.7]	1.7	[0.7,4.3]
Insurance duration before HMP enrollment (n=1,667)								
All 12 months (n=1,235)	74.9	[71.7,77.9]	75.2	[71.9,78.3]	74.5	[69.5,78.9]	66.4	[59.2,72.9]
6-11 months (n=245)	14.4	[12.1,17.2]	14.3	[11.9,17.1]	14.1	[10.8,18.2]	17.6	[12.7,23.8]
Less than 6 months (n=129)	6.7	[5.2,8.5]	6.8	[5.2,8.8]	6.5	[4.4,9.6]	11.0	[6.9,17.0]
Don't know (n=58)	4.0	[2.8,5.8]	3.6	[2.5,5.3]	4.9	[2.9,8.2]	5.0	[2.7,9.3]
Problems paying medical bills before HMP enrollment (n=4,085)								
Yes (n=1,869)	51.7	[49.4,54.0]	52.9	[50.5,55.3]	52.7	[49.2,56.2]	59.4	[54.9,63.8]
No (n=2,196)	47.9	[45.6,50.2]	46.8	[44.4,49.2]	47.0	[43.5,50.5]	40.0	[35.6,44.5]
Don't Know (n=20)	0.4	[0.2,0.7]	0.3	[0.1,0.7]	0.3	[0.1,0.8]	0.6	[0.2,1.7]
Didn't get care needed before HMP enrollment (n=4,084)								
Yes (n=1,409)	38.4	[36.2,40.7]	39.2	[36.8,41.5]	41.8	[38.4,45.2]	47.3	[42.8,51.9]
No (n=2,638)	60.6	[58.4,62.9]	59.8	[57.5,62.2]	57.5	[54.1,60.9]	51.8	[47.3,56.3]
Don't Know (n=37)	1.0	[0.6,1.5]	1.0	[0.6,1.6]	0.7	[0.4,1.3]	0.9	[0.3,2.4]
PCP visit timing before HMP enrollment (n=4,086)								
Less than 1 year before HMP (n=1,647)	42.1	[39.8,44.4]	41.9	[39.6,44.3]	45.6	[42.1,49.1]	40.4	[36.1,44.9]
1 to 5 years (n=1,577)	36.2	[34.0,38.4]	36.0	[33.8,38.4]	35.1	[31.9,38.4]	36.8	[32.6,41.3]
More that 5 years (n=813)	20.4	[18.6,22.5]	20.7	[18.7,22.8]	18.7	[16.0,21.6]	21.5	[17.9,25.6]
Don’t Know (n=49)	1.3	[0.8,2.0]	1.3	[0.8,2.1]	0.7	[0.4,1.3]	1.3	[0.6,2.5]

Table 31. Impact of HMP on Chronic Disease Care Access and Function Among Enrollees With Chronic Illness

	Any Chronic Disease or Mood Disorder		Physical Chronic Disease		Mood Disorder or Mental Health Condition		Functional Limitations	
	Col %	95% CI	Col %	95% CI	Col %	95% CI	Col %	95% CI
Ability to get mental health care (n=4,084)								
Better (n=1,077)	32.2	[30.0,34.4]	29.7	[27.5,32.0]	46.4	[42.9,49.9]	36.2	[31.9,40.7]
Worse (n=97)	3.4	[2.7,4.4]	2.9	[2.2,3.9]	6.2	[4.7,8.2]	8.1	[5.9,11.1]
About the same (n=923)	22.1	[20.2,24.1]	21.4	[19.5,23.4]	27.1	[24.1,30.4]	21.4	[17.9,25.3]
Don't know (n=1,987)	42.3	[40.1,44.6]	46	[43.6,48.4]	20.2	[17.6,23.1]	34.3	[30.2,38.6]
Ability to get prescription meds (n=4,085)								
Better (n=2,497)	64.6	[62.3,66.8]	64.6	[62.3,66.9]	67.6	[64.3,70.7]	66.7	[62.3,70.9]
Worse (n=121)	3.9	[3.0,4.9]	4.0	[3.1,5.2]	4.5	[3.2,6.1]	7.0	[4.9,9.8]
About the same (n=1,017)	24.6	[22.6,26.6]	24.6	[22.6,26.8]	23.5	[20.7,26.6]	22.0	[18.4,26.1]
Don't know (n=450)	7.0	[5.9,8.3]	6.8	[5.6,8.1]	4.4	[3.2,6.1]	4.3	[2.8,6.6]
Ability to pay medical bills (n=1,869)								
Gotten worse (n=51)	3.1	[2.2,4.4]	3.3	[2.3,4.6]	4.2	[2.6,6.6]	5.5	[3.3,9.1]
Stayed the same (n=176)	9.8	[8.0,11.9]	9.7	[7.8,12.0]	9.5	[7.0,12.7]	13.5	[9.6,18.7]
Gotten better (n=1,629)	86.3	[83.8,88.4]	86.6	[84.1,88.7]	85.0	[81.1,88.2]	80.0	[74.4,84.6]
Don't know (n=13)	0.9	[0.4,2.1]	0.5	[0.2,1.1]	1.4	[0.4,4.2]	1.0	[0.3,3.3]
Physical health status (n=4,086)								
Gotten better (n=1,961)	51.9	[49.6,54.2]	52.9	[50.5,55.3]	50.2	[46.7,53.6]	41.5	[37.1,46.0]
Stayed the same (n=1,851)	40.3	[38.0,42.6]	38.5	[36.2,40.8]	39.0	[35.6,42.5]	38.6	[34.2,43.2]
Gotten worse (n=256)	7.5	[6.4,8.6]	8.2	[7.1,9.5]	10.3	[8.6,12.4]	19.1	[16.0,22.6]
Don't know (n=18)	0.4	[0.2,0.7]	0.4	[0.2,0.7]	0.5	[0.2,1.3]	0.8	[0.3,1.9]
Mental health status (n=4,080)								
Gotten better (n=1,550)	42.4	[40.1,44.7]	40.8	[38.4,43.2]	48.7	[45.2,52.2]	34.9	[30.7,39.3]
Stayed the same (n=2,318)	50.9	[48.6,53.2]	52.8	[50.4,55.2]	40.1	[36.7,43.6]	47.0	[42.5,51.6]
Gotten worse (n=186)	6.1	[5.1,7.4]	5.7	[4.7,6.9]	10.8	[8.8,13.2]	17.1	[13.8,20.9]
Don't know (n=26)	0.6	[0.4,0.9]	0.7	[0.4,1.1]	0.4	[0.2,0.8]	1.1	[0.5,2.1]

Table 32. Opportunities for Improvement of Chronic Disease Care in HMP

	Any Chronic Disease or Mood Disorder		Physical Chronic Disease		Mood Disorder or Mental Health Condition		Functional Limitations	
	Col %	95% CI	Col %	95% CI	Col %	95% CI	Col %	95% CI
Foregone care in past 12 months (n=4,084)								
Yes (n=629)	18.4	[16.6,20.3]	17.7	[15.9,19.6]	22.5	[19.8,25.6]	27.8	[23.8,32.1]
No (n=3,433)	81.4	[79.5,83.1]	82.1	[80.1,83.8]	77.2	[74.2,80.0]	72.0	[67.6,76.0]
Don't Know (n=22)	0.2	[0.1,0.4]	0.2	[0.1,0.5]	0.2	[0.1,0.6]	0.2	[0.1,0.7]
Foregone care because worried about cost (n=629)								
Yes (n=155)	25.7	[21.2,30.8]	25.3	[20.6,30.8]	28.8	[22.7,35.7]	26.8	[19.7,35.3]
No (n=474)	74.3	[69.2,78.8]	74.7	[69.2,79.4]	71.2	[64.3,77.3]	73.2	[64.7,80.3]
Foregone care because no insurance (n=629)								
Yes (n=41)	8.9	[5.8,13.3]	6.8	[4.3,10.6]	9.0	[4.8,16.2]	8.8	[4.0,18.2]
No (n=588)	91.1	[86.7,94.2]	93.2	[89.4,95.7]	91.0	[83.8,95.2]	91.2	[81.8,96.0]
Foregone care because insurance not accepted (n=629)								
Yes (n=141)	23.7	[19.1,28.9]	25.1	[20.2,30.9]	24.6	[18.7,31.5]	23.2	[16.4,31.8]
No (n=488)	76.3	[71.1,80.9]	74.9	[69.1,79.8]	75.4	[68.5,81.3]	76.8	[68.2,83.6]
Foregone care because health plan wouldn't pay (n=629)								
Yes (n=251)	38.5	[33.4,43.9]	39.6	[34.2,45.4]	34.9	[28.5,42.0]	37.9	[29.7,47.0]
No (n=378)	61.5	[56.1,66.6]	60.4	[54.6,65.8]	65.1	[58.0,71.5]	62.1	[53.0,70.3]
Foregone care because couldn’t get an appointment soon enough (n=630)								
Yes (n=73)	10.0	[7.4,13.5]	10.4	[7.6,14.1]	11.5	[7.7,16.8]	15.6	[10.2,23.1]
No (n=557)	90.0	[86.5,92.6]	89.6	[85.9,92.4]	88.5	[83.2,92.3]	84.4	[76.9,89.8]
Forgone care because no transportation (n=629)								
Yes (n=30)	6.7	[4.1,10.6]	5.2	[3.2,8.6]	9.9	[5.8,16.5]	9.2	[5.2,15.7]
No (n=599)	93.3	[89.4,95.9]	94.8	[91.4,96.8]	90.1	[83.5,94.2]	90.8	[84.3,94.8]
Foregone checkup due to cost[1] (n=393)								
Yes (n=47)	13.9	[9.7,19.6]	12.9	[9.0,18.3]	16.5	[10.2,25.4]	13.1	[7.7,21.5]
No (n=346)	86.1	[80.4,90.3]	87.1	[81.7,91.0]	83.5	[74.6,89.8]	86.9	[78.5,92.3]
Forgone specialty care due to cost[2] (n=393)								
Yes (n=79)	24.5	[18.7,31.4]	25.7	[19.6,32.9]	26.0	[18.1,35.7]	33.8	[23.0,46.5]
No (n=314)	75.5	[68.6,81.3]	74.3	[67.1,80.4]	74.0	[64.3,81.9]	66.2	[53.5,77.0]

PCP visit in the past 12 months								
Yes (n=3,386)	89.6	[87.8,91.1]	90.5	[88.7,92.0]	90.1	[87.3,92.4]	92.4	[88.8,94.9]
No (n=453)	10.2	[8.7,12.0]	9.3	[7.8,11.0]	9.7	[7.5,12.6]	7.2	[4.7,10.8]
Don't Know (n=12)	0.2	[0.1,0.5]	0.3	[0.1,0.6]	0.1	[0.0,0.5]	0.4	[0.1,1.5]
Regular place of care before HMP enrollment (n=4,084)								
Yes (n=3,051)	77.2	[75.1,79.1]	77.2	[75.0,79.2]	78.3	[75.3,80.9]	75.1	[70.8,78.9]
No (n=955)	21.6	[19.7,23.6]	21.5	[19.5,23.6]	21.2	[18.5,24.1]	22.0	[18.4,26.1]
NA (n=73)	1.1	[0.7,1.7]	1.2	[0.8,1.8]	0.5	[0.2,1.2]	2.6	[1.4,4.9]
Don't know (n=5)	0.1	[0.0,0.4]	0.2	[0.1,0.5]	0.1	[0.0,0.6]	0.3	[0.1,1.4]
Regular place of care before HMP enrollment--location (n=3,051)								
Clinic (n=557)	17.4	[15.5,19.4]	17.5	[15.5,19.6]	16.2	[13.5,19.4]	17.3	[13.3,22.1]
Doctor's office (n=1,498)	47.3	[44.7,49.9]	47.0	[44.3,49.7]	49.9	[45.9,53.9]	46.8	[41.7,51.9]
Urgent care/walk-in (n=529)	16.1	[14.3,18.1]	16.3	[14.4,18.4]	14.5	[12.1,17.3]	13.0	[10.3,16.4]
Emergency room (n=409)	17.3	[15.3,19.5]	17.5	[15.4,19.8]	16.8	[14.0,20.0]	19.9	[16.0,24.5]
Other place (n=56)	1.8	[1.3,2.6]	1.7	[1.1,2.5]	2.5	[1.5,4.0]	3.0	[1.7,5.4]
Don't know (n=2)	0.1	[0.0,0.3]	0.1	[0.0,0.4]	0.1	[0.0,0.7]	0	
Regular place of care past 12 months (n=4,088)								
Yes (n=3,850)	95.2	[93.8,96.3]	96.0	[94.7,97.0]	94.7	[92.4,96.4]	93.2	[89.4,95.7]
No (n=194)	4.1	[3.1,5.4]	3.5	[2.6,4.8]	4.4	[2.9,6.4]	5.0	[2.9,8.3]
NA (n=44)	0.7	[0.4,1.4]	0.5	[0.3,0.9]	0.9	[0.3,2.6]	1.8	[0.7,4.9]
Regular place of care past 12 months--location (n=3,850)								
Clinic (n=640)	16.0	[14.3,17.8]	16.5	[14.7,18.4]	14.4	[12.2,16.9]	17.3	[14.0,21.1]
Doctor's office (n=2,934)	77.1	[75.0,79.0]	76.7	[74.6,78.8]	79.7	[76.8,82.4]	75.9	[71.6,79.8]
Urgent care/walk-in (n=181)	4.8	[3.8,6.0]	4.6	[3.5,5.9]	3.8	[2.6,5.6]	4.1	[2.3,7.0]
Emergency room (n=65)	1.5	[1.1,2.2]	1.6	[1.1,2.3]	1.2	[0.8,2.1]	1.7	[0.8,3.4]
Other place (n=29)	0.6	[0.4,1.0]	0.6	[0.3,1.0]	0.8	[0.4,1.7]	1.1	[0.4,2.8]
Don't know (n=1)			0		0		0	

[1] Going without a checkup because 'you were worried about the cost,' 'you did not have health insurance,' 'the doctor or hospital wouldn't accept your health insurance,' or 'your health plan wouldn't pay for the treatment.'

[2] Going without specialty care because 'you were worried about the cost,' 'you did not have health insurance,' 'the doctor or hospital wouldn't accept your health insurance,' or 'your health plan wouldn't pay for the treatment.'

Impact on Those with Mood Disorder and Substance Use Disorder

Table 33. Regular Source of Care Prior to HMP Among Those with a Mood Disorder and Among Those with a Substance Use Disorder

	In the 12 months before enrolling in the Healthy Michigan Plan, was there a place that you usually would go to for a checkup, when you felt sick, or when you wanted advice about your health?								
	Yes		No		NA		Don't know		*P*-value[1]
	Row %	95% CI	Row %	95% CI	Row %	95% CI	Row %	95% CI	
Mood disorder									0.002
Yes (n=1,287)	78.0	[75.0,80.7]	21.4	[18.7,24.4]	0.5	[0.2,1.2]	0.1	[0.0,0.6]	
No (n=2,781)	71.9	[69.6,74.0]	25.2	[23.2,27.4]	2.7	[2.0,3.7]	0.2	[0.1,0.5]	
Don't know (n=10)	100.0		0		0		0		
Total (n=4,078)	73.8	[72.1,75.5]	24.0	[22.3,25.7]	2.1	[1.5,2.8]	0.1	[0.1,0.4]	
Substance use disorder									0.650
Yes (n=165)	79.6	[70.9,86.3]	20.0	[13.5,28.8]	0.3	[0.0,2.3]	0		
No (n=3,910)	73.5	[71.7,75.2]	24.2	[22.5,26.0]	2.1	[1.6,2.9]	0.2	[0.1,0.4]	
Don't know (n=7)	87.9	[43.9,98.5]	12.1	[1.5,56.1]	0		0		
Total (n=4,082)	73.8	[72.0,75.5]	24.0	[22.4,25.8]	2.1	[1.5,2.8]	0.1	[0.1,0.4]	

[1] Pearson chi-square analyses

Table 34. Type of Regular Source of Care Prior to HMP Among Those with a Mood Disorder and Among Those with a Substance Use Disorder

	[If Yes-Regular source of care prior to HMP] What kind of place was it?												
	Clinic		Doctor's office		Urgent care/walk-in		Emergency room		Other place		Don't know		*P*-value[1]
	Row %	95% CI	Row %	95% CI	Row %	95% CI	Row %	95% CI	Row %	95% CI	Row %	95% CI	
Mood disorder													0.117
Yes (n=1,013)	16.0	[13.3,19.0]	49.9	[45.9,53.9]	14.5	[12.1,17.4]	17.0	[14.2,20.3]	2.5	[1.5,4.1]	0.1	[0.0,0.7]	
No (n=2,026)	17.8	[15.8,20.1]	47.0	[44.2,49.8]	18.0	[15.9,20.3]	15.7	[13.7,18.0]	1.4	[1.0,2.2]	0	[0.0,0.3]	
Don't know (n=10)	3.1	[0.4,20.8]	54.6	[20.1,85.2]	0		42.3	[13.2,78.0]	0		0		
Total (n=3,049)	17.2	[15.5,18.9]	48.0	[45.7,50.3]	16.8	[15.2,18.5]	16.3	[14.6,18.1]	1.8	[1.3,2.4]	0.1	[0.0,0.2]	

Substance use disorder													<0.001
Yes (n=131)	12.2	[7.4,19.5]	32.9	[23.1,44.4]	16.1	[9.6,25.9]	37.0	[27.1,48.1]	1.1	[0.2,4.6]	0.7	[0.1,5.0]	
No (n=2,913)	17.4	[15.7,19.3]	48.6	[46.2,50.9]	16.8	[15.2,18.7]	15.3	[13.6,17.2]	1.8	[1.3,2.5]	0	[0.0,0.2]	
Don't know (n=6)	0		100.0		0		0		0		0		
Total (n=3,050)	17.2	[15.5,18.9]	48.0	[45.7,50.3]	16.8	[15.1,18.5]	16.2	[14.6,18.1]	1.8	[1.3,2.4]	0.1	[0.0,0.2]	

[1] Pearson chi-square analyses

Table 35. Regular Source of Care with HMP Among Those with a Mood Disorder and Among Those with a Substance Use Disorder

	In the last 12 months, is there a place you usually go when you need a checkup, feel sick, or want advice about your health?						
	Yes		No		NA		*P*-value[1]
	Row %	95% CI	Row %	95% CI	Row %	95% CI	
Mood disorder							0.028
Yes (n=1,288)	95.2	[93.0,96.7]	3.9	[2.6,5.7]	0.9	[0.3,2.6]	
No (n=2,784)	90.9	[89.1,92.4]	7.3	[6.0,8.9]	1.8	[1.2,2.9]	
Don't know (n=10)	93.9	[64.8,99.2]	0		6.1	[0.8,35.2]	
Total (n=4,082)	92.2	[90.8,93.4]	6.2	[5.2,7.4]	1.6	[1.1,2.4]	
Substance use disorder							0.803
Yes (n=165)	94.0	[85.2,97.7]	6.0	[2.3,14.8]	0		
No (n=3,914)	92.1	[90.7,93.3]	6.2	[5.2,7.5]	1.6	[1.1,2.5]	
Don't know (n=7)	100.0		0		0		
Total (n=4,086)	92.2	[90.8,93.4]	6.2	[5.2,7.4]	1.6	[1.0,2.4]	

[1] Pearson chi-square analyses

Table 36. Type of Regular Source of Care with HMP Among Those with a Mood Disorder and Among Those with a Substance Use Disorder

	[If Yes-Regular source of care with HMP] What kind of place was it?												
	Clinic		Doctor's office		Urgent care/walk-in		Emergency room		Other place		Don't know		*P*-value[1]
	Row %	95% CI	Row %	95% CI	Row %	95% CI	Row %	95% CI	Row %	95% CI	Row %	95% CI	
Mood disorder													0.058
Yes (n=1,245)	14.6	[12.3,17.1]	79.5	[76.6,82.1]	3.9	[2.6,5.6]	1.3	[0.8,2.1]	0.8	[0.4,1.7]	0		
No (n=2,590)	17.4	[15.6,19.4]	73.2	[70.9,75.4]	6.7	[5.4,8.2]	1.9	[1.4,2.6]	0.8	[0.5,1.3]	0	[0.0,0.3]	
Don't know (n=9)	0		96.7	[77.8,99.6]	3.3	[0.4,22.2]	0		0		0		
Total (n=3,844)	16.5	[15.0,18.0]	75.2	[73.4,77.0]	5.8	[4.8,6.9]	1.7	[1.3,2.2]	0.8	[0.5,1.2]	0	[0.0,0.2]	
Substance use disorder													0.815
Yes (n=159)	17.4	[11.0,26.4]	71.2	[61.0,79.6]	5.8	[2.0,15.5]	3.6	[1.4,9.0]	2.0	[0.6,7.3]	0		
No (n=3,682)	16.5	[15.0,18.1]	75.4	[73.5,77.1]	5.8	[4.8,6.9]	1.6	[1.2,2.1]	0.7	[0.5,1.1]	0	[0.0,0.2]	
Don't know (n=7)	6.8	[0.8,39.7]	93.2	[60.3,99.2]	0		0		0		0		
Total (n=3,848)	16.5	[15.1,18.1]	75.2	[73.4,77.0]	5.8	[4.8,6.9]	1.7	[1.3,2.2]	0.8	[0.5,1.2]	0	[0.0,0.2]	

[1] Pearson chi-square analyses

Table 37. Emergency Room Use in Past 12 Months Among Those with a Mood Disorder and Among Those with a Substance Use Disorder

	Any ER visits past 12 months						
	Yes		No		Don't know		*P*-value[1]
	Row %	95% CI	Row %	95% CI	Row %	95% CI	
Mood disorder							<0.001
Yes (n=1,288)	50.5	[47.0,54.0]	48.1	[44.6,51.6]	1.4	[0.7,2.8]	
No (n=2,786)	31.9	[29.7,34.2]	67.9	[65.6,70.1]	0.2	[0.1,0.5]	
Don't know (n=10)	61.5	[23.3,89.4]	38.5	[10.6,76.7]	0		
Total (n=4,084)	37.7	[35.8,39.6]	61.8	[59.8,63.7]	0.6	[0.3,1.0]	
Substance use disorder							<0.001
Yes (n=165)	60.4	[50.7,69.3]	38.7	[29.9,48.4]	0.9	[0.1,5.9]	
No (n=3,916)	36.6	[34.7,38.5]	62.9	[60.9,64.8]	0.6	[0.3,1.0]	
Don't know (n=7)	88.3	[56.5,97.8]	11.7	[2.2,43.5]	0		
Total (n=4,088)	37.7	[35.8,39.6]	61.8	[59.8,63.7]	0.6	[0.3,1.0]	

[1] Pearson chi-square analyses

Table 38. Factors Associated with ER Use Among HMP Enrollees

	Outcome: Emergency Room Visit in Past 12 Months		
	aOR	95% CI	*P*-value
Predictors:			
Age	0.979	[0.9716, 0.98549]	0.001
FPL	0.998	[0.9958, 0.99922]	0.004
Hypertension diagnosis[1]	1.795	[1.485, 2.16907]	0.001
Stroke diagnosis[1]	1.999	[1.1728, 3.40759]	0.011
Asthma diagnosis[1]	1.507	[1.2104, 1.87552]	0.001
COPD diagnosis[1]	2.118	[1.6104, 2.78609]	0.001
Substance use disorder diagnosis[1]	2.395	[1.5293, 3.74951]	0.001

aOR = adjusted odds ratio; CI = confidence interval; HMP = Healthy Michigan Plan

NOTE: The odds ratios presented here represent the results of a single logistic regression model adjusting for age, FPL, and presence or absence of the listed diagnoses.

[1]Diagnoses were dichotomized as not present (0) vs. present (1).

Table 39. Perceived Access to Mental Health Care Among Those with a Mood Disorder and Among Those with a Substance Use Disorder

	Would you say that your ability to get mental health care through the Healthy Michigan Plan is better, worse, or about the same, compared to before?								
	Better		Worse		About the same		Don't know		*P*-value[1]
	Row %	95% CI	Row %	95% CI	Row %	95% CI	Row %	95% CI	
Mood disorder									<0.001
Yes (n=1,287)	46.2	[42.7,49.7]	6.3	[4.8,8.3]	27.2	[24.1,30.5]	20.3	[17.6,23.2]	
No (n=2,781)	19.4	[17.5,21.5]	0.8	[0.5,1.2]	21.6	[19.6,23.7]	58.2	[55.8,60.6]	
Don't know (n=10)	7.2	[1.5,28.4]	0		24.0	[5.0,65.6]	68.8	[31.1,91.5]	
Total (n=4,078)	27.5	[25.8,29.4]	2.5	[1.9,3.1]	23.3	[21.6,25.1]	46.7	[44.8,48.7]	
Substance use disorder									<0.001
Yes (n=165)	46.6	[37.2,56.3]	3.0	[1.2,7.4]	22.8	[16.1,31.2]	27.6	[19.1,38.1]	
No (n=3,910)	26.7	[24.9,28.6]	2.5	[1.9,3.2]	23.2	[21.5,25.1]	47.6	[45.6,49.6]	
Don't know (n=7)	11.7	[2.2,43.5]	0		64.5	[24.6,91.0]	23.8	[4.8,65.8]	
Total (n=4,082)	27.5	[25.8,29.3]	2.5	[1.9,3.2]	23.3	[21.6,25.1]	46.7	[44.8,48.7]	

[1] Pearson chi-square analyses

Table 40. Perceived Access to Substance Use Treatment Among Those with a Substance Use Disorder

	Would you say that your ability to get substance use treatment services through the Healthy Michigan Plan is better, worse, or about the same, compared to before?								
	Better		Worse		About the same		Don't know		*P*-value[1]
	Row %	95% CI	Row %	95% CI	Row %	95% CI	Row %	95% CI	
Substance use disorder									<0.001
Yes (n=165)	48.3	[38.7,58.1]	1.7	[0.4,6.6]	16.4	[11.0,23.7]	33.6	[25.2,43.1]	
No (n=3,909)	8.1	[7.0,9.4]	0.1	[0.1,0.3]	8.9	[7.7,10.3]	82.8	[81.1,84.4]	
Don't know (n=7)	6.8	[0.8,39.7]	0		54.7	[16.4,88.1]	38.6	[9.9,78.2]	
Total (n=4,081)	9.8	[8.6,11.1]	0.2	[0.1,0.4]	9.3	[8.1,10.6]	80.7	[79.0,82.3]	

[1] Pearson chi-square analyses

Table 41. Change in Mental Health Status Among Those with a Mood Disorder and Among Those with a Substance Use Disorder

	Overall, since you enrolled in Healthy Michigan Plan, would you say your mental and emotional health has gotten better, stayed the same, or gotten worse?								
	Gotten better		Stayed the same		Gotten worse		Don't know		*P*-value[1]
	Row %	95% CI	Row %	95% CI	Row %	95% CI	Row %	95% CI	
Mood disorder									<0.001
Yes (n=1,286)	48.9	[45.4,52.4]	39.8	[36.5,43.3]	10.9	[8.9,13.3]	0.4	[0.2,0.9]	
No (n=2,778)	33.3	[31.1,35.6]	64.4	[62.1,66.7]	1.8	[1.3,2.4]	0.5	[0.3,0.9]	
Don't know (n=10)	82.2	[53.9,94.8]	14.7	[3.9,42.7]	3.1	[0.4,20.8]	0		
Total (n=4,074)	38.2	[36.3,40.2]	56.7	[54.7,58.7]	4.6	[3.8,5.4]	0.5	[0.3,0.7]	
Substance use disorder									<0.001
Yes (n=165)	50.7	[41.0,60.3]	40.5	[31.2,50.5]	8.8	[4.6,16.1]	0		
No (n=3,906)	37.6	[35.7,39.6]	57.5	[55.5,59.5]	4.3	[3.6,5.2]	0.5	[0.3,0.8]	
Don't know (n=7)	46.5	[12.1,84.5]	11.7	[1.4,55.1]	41.8	[7.9,85.8]	0		
Total (n=4,078)	38.2	[36.3,40.1]	56.7	[54.8,58.7]	4.6	[3.9,5.5]	0.5	[0.3,0.7]	

[1] Pearson chi-square analyses

Table 42. Perceived Impact of HMP Among Those with a Mood Disorder and Among Those with a Substance Use Disorder

	Having the Healthy Michigan Plan has helped me live a better life.												
	Strongly agree		Agree		Neutral		Disagree		Strongly disagree		Don't know		*P*-value[1]
	Row %	95% CI	Row %	95% CI	Row %	95% CI	Row %	95% CI	Row %	95% CI	Row %	95% CI	
Mood disorder													<0.001
Yes (n=1,286)	32.1	[28.9,35.5]	59.9	[56.4,63.4]	4.3	[3.0,6.0]	2.4	[1.6,3.7]	0.6	[0.3,1.4]	0.6		
No (n=2,781)	21.9	[20.0,23.9]	66.1	[63.8,68.3]	8.1	[6.8,9.5]	3.2	[2.5,4.1]	0.2	[0.1,0.3]	0.6	[0.3,1.2]	
Don't know (n=10)	36.2	[10.5,73.3]	63.8	[26.7,89.5]	0		0		0		0		
Total (n=4,077)	25.1	[23.4,26.8]	64.2	[62.3,66.1]	6.9	[5.9,8.0]	2.9	[2.4,3.7]	0.3	[0.2,0.5]	0.6	[0.3,1.1]	
Substance use disorder													<0.001
Yes (n=165)	35.5	[27.2,44.8]	60.3	[50.7,69.1]	1.6	[0.6,4.4]	2.6	[0.4,13.8]	0		0		
No (n=3,909)	24.6	[22.9,26.3]	64.5	[62.5,66.4]	7.1	[6.1,8.3]	2.9	[2.3,3.6]	0.3	[0.2,0.6]	0.6	[0.4,1.1]	
Don't know (n=7)	34.8	[8.5,75.4]	23.4	[5.3,62.4]	0		41.8	[7.9,85.8]	0		0		
Total (n=4,081)	25.0	[23.4,26.8]	64.2	[62.3,66.1]	6.9	[5.9,8.0]	2.9	[2.4,3.7]	0.3	[0.2,0.5]	0.6	[0.3,1.1]	

[1] Pearson chi-square analyses

Table 43. Change in Frequency of Involvement with Family and Friends Among Those with a Mood Disorder and Among Those with a Substance Use Disorder

	Since enrolling in the Healthy Michigan Plan are you involved with your family, friends or community more, less, or about the same?								
	More		Less		About the same		Don't know		*P*-value[1]
	Row %	95% CI	Row %	95% CI	Row %	95% CI	Row %	95% CI	
Mood disorder									<0.001
Yes (n=1,287)	21.0	[18.1,24.2]	8.3	[6.5,10.5]	70.0	[66.6,73.2]	0.7	[0.3,1.5]	
No (n=2,774)	12.6	[11.1,14.3]	2.6	[2.0,3.5]	84.2	[82.4,85.9]	0.6	[0.3,1.2]	
Don't know (n=10)	4.6	[0.6,28.5]	25.2	[3.9,73.9]	70.2	[26.1,94.0]	0		
Total (n=4,071)	15.1	[13.7,16.6]	4.4	[3.7,5.3]	79.8	[78.2,81.4]	0.6	[0.3,1.1]	
Substance use disorder									0.001
Yes (n=165)	23.2	[16.0,32.2]	8.3	[4.0,16.4]	67.4	[57.6,75.9]	1.1	[0.2,7.6]	
No (n=3,903)	14.8	[13.3,16.3]	4.2	[3.5,5.1]	80.4	[78.8,82.0]	0.6	[0.3,1.1]	
Don't know (n=7)	23.8	[5.4,63.1]	41.8	[7.9,85.8]	34.4	[8.4,75.0]	0		
Total (n=4,075)	15.1	[13.7,16.6]	4.4	[3.7,5.3]	79.8	[78.2,81.4]	0.6	[0.4,1.1]	

[1] Pearson chi-square analyses

Table 44. Went to ER Because of Proximity Among Those with a Mood Disorder and Among Those with a Substance Use Disorder

	Went to the ER because it's your closest place to receive care[1]						
	Yes		No		Don't know		*P*-value[2]
	Row %	95% CI	Row %	95% CI	Row %	95% CI	
Mood disorder							0.940
Yes (n=398)	75.1	[69.5,80.1]	24.1	[19.3,29.8]	0.7	[0.1,3.6]	
No (n=575)	74.4	[69.9,78.4]	24.6	[20.7,29.1]	1.0	[0.4,2.3]	
Don't know (n=4)	89.8	[45.8,98.9]	10.2	[1.1,54.2]	0		
Total (n=977)	74.8	[71.3,77.9]	24.3	[21.2,27.8]	0.9	[0.4,1.9]	
Substance use disorder							0.035
Yes (n=70)	87.6	[77.6,93.5]	10.1	[5.3,18.5]	2.3	[0.3,14.7]	
No (n=907)	73.9	[70.2,77.2]	25.4	[22.1,29.0]	0.8	[0.3,1.8]	
Don't know (n=1)	0		100.0		0		
Total (n=978)	74.8	[71.4,78.0]	24.3	[21.2,27.7]	0.9	[0.4,1.9]	
Mood or substance use disorder							0.791
No (n=559)	74.3	[69.7,78.3]	25.0	[21.0,29.5]	0.7	[0.3,1.7]	
Yes (n=418)	75.5	[70.0,80.3]	23.4	[18.7,28.8]	1.1	[0.3,3.8]	
Total (n=977)	74.8	[71.3,77.9]	24.3	[21.2,27.8]	0.9	[0.4,1.9]	

[1] Asked of respondents with an ER visit in the past 12 months who said they did not try to contact their usual provider's office to get help or advice before going to the ER

[2] Pearson chi-square analyses

Report on the Impact of Cost Sharing in the Healthy Michigan Plan

Healthy Michigan Plan Evaluation Domains V/VI

July 30, 2018

University of Michigan
Institute for Healthcare Policy & Innovation

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INSTITUTE FOR HEALTHCARE POLICY & INNOVATION
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Executive Summary

The University of Michigan Institute for Healthcare Policy & Innovation (IHPI) is conducting the evaluation of the Healthy Michigan Plan (HMP) as required by the Centers for Medicare & Medicaid Services (CMS) through a contract with the Michigan Department of Health and Human Services (MDHHS). The focus of Domains V and VI is to evaluate the role of cost-sharing in the program with a focus on:

1) whether the cost-sharing structure, specifically the assessment of co-payments for certain medical services and monthly contributions, affects how much enrollees spend (Hypothesis 1)
2) whether the cost-sharing structure affects the services enrollees use (Hypothesis 2)
3) whether the cost-sharing structure affects enrollees' likelihood of disenrolling from the program (Hypothesis 3)
4) whether healthy behavior rewards are associated with more use of preventive care (Hypothesis 4).

Methods

Data

To find out how cost-sharing affected behavior, we focused on those enrollees who had experience with the cost-sharing features of the Healthy Michigan Plan (HMP). Cost-sharing begins after six months of continuous enrollment in an HMP managed care plan. We used enrollment data from the Michigan Department of Health and Human Services Data Warehouse to determine our study population and included enrollees who met the following criteria:

- First month of HMP managed care (MC) between April 2014 and March 2015 (1st year of HMP)
- HMP MC enrollment for at least 18 consecutive months
- Between 22 and 62 years old in 2014
- Not enrolled in a special program (e.g. nursing home care, hospice care)

We analyzed data from a 30-month period (April 2014-September 2016). Enrollees in other Medicaid programs for a portion of this 30 months were included if they met the criteria above. For some analyses, we used survey data as described in the body of the report.

Analysis

For all hypotheses, we completed statistical analyses of multivariate relationships between our outcomes (e.g. total spending, service use, disenrollment) and our key explanatory variables of interest, cost-sharing and income as a percent of the federal poverty level (FPL). We used linear and non-linear regression techniques that have been validated to provide accurate associations between variables and tested our results with alternative models. For hypotheses 1 and 2, we compared spending and use of preventive care and other services for three different income groups: 0-35% FPL, 36-99% FPL, 100+% FPL. Since many in the 0-35% group had no reported income, they were effectively exempt from cost-sharing. Those in the 36-99% category faced co-payments for services used but not monthly contributions, and those in the 100+% category faced both co-payments and monthly contributions. For hypothesis 3, we compared

disenrollment for those who had cost-sharing against those who did not, and especially focused on those close to 100% FPL. For hypothesis 4, we examined whether enrollees with a completed health risk assessment were more likely to use a preventive service.

Results

Demographic Characteristics

The population of 158,369 enrollees who met the selection criteria were:

- 55% female
- 64% white
- Likely to live in the Detroit Metro area (42%)
- Likely to have an income at 0-35% FPL (58%)

Cost-Sharing Characteristics

- Slightly more than half of the population (51%) had a cost-sharing obligation (either a co-pay or contribution that generated a non-zero statement)
- The average quarterly statement for those with an obligation was $16.85 ($11.11 for those below 100% FPL and $30.93 for those at or above 100% FPL)
- Overall, about one quarter (23%) of all enrollees who owed anything paid in full, about half (48%) of those who owed money made no payments
- People above 100% of FPL were more likely to pay some or all of their statement than people below despite their higher average obligations
- After the first potential 6-month period of cost-sharing (months 7-12 of enrollment), rates of payment dropped. For those who paid at least once, an estimated 65% paid in full for months 7-12 and 56% paid in full for months 13-18.

Medical and Pharmaceutical Spending (Hypothesis 1)

Spending here is defined not just as the cost-sharing amount the enrollee is obligated to pay for the service, but as the total amount spent by both the health plan and the enrollee.

- Average monthly amount spent (April 2014-Sept 2016): $360
- Median monthly spending: $136
- Those with incomes 0-35% FPL spent more per month ($391) than those with incomes 36-99% FPL ($313) or 100+% FPL ($327)
- Pharmaceutical spending increased for the entire HMP population with 18 months of continuous enrollment. That result is consistent with, and probably driven by, the initiation and maintenance of medications for chronic disease.
- Medical spending remained flat or declined for those with higher levels of cost-sharing, either from co-payments or monthly contributions. Though we cannot definitively attribute this change to cost-sharing attributes of HMP, these general patterns may indicate that those with monthly contributions may have become more efficient users of the healthcare system over time.

Service Use (Hypothesis 2)

- We use services exempt from co-payments (vs. services where co-payments are likely) as an indicator of which services the state deems high (vs. low) value. During the study period, 81% of enrollees received a co-pay exempt preventive service (exemption often based on care for a chronic condition per program rules). 56% received a service likely to have a co-payment and incurred a co-payment for it (vision exam, chiropractic treatment, new patient visit, office consultation). All income groups had similar rates of co-pay exempt and co-pay likely service use.
- Co-pay exempt preventive service use and co-pay likely service use declined over time.
- Use of the emergency department declined over time.

Disenrollment (Hypothesis 3)

- People with co-pay exempt chronic conditions are less likely to disenroll than those without. Among those with co-payments, those with the highest co-payments are less likely to disenroll.
- Enrollees just above 100% FPL have a higher rate of disenrollment than those just below it, which may be caused by monthly contributions. However, those with evidence of higher medical needs do not have higher disenrollment above 100% FPL, suggesting the plan retains clinically vulnerable populations regardless of cost sharing obligations.
- Among previously enrolled individuals, those with cost-sharing obligations and those who pay their obligations are more likely than those without obligations to gain insurance after disenrolling from HMP, underscoring that disenrollment does not always lead to uninsurance.
- In a survey of those no longer enrolled in Healthy Michigan, most enrollees said the amount they had to pay was fair and affordable. Among those with any cost obligations, 89% said they felt the amount they had to pay was fair and 95% said the amount they had to pay was affordable.

Healthy Behaviors (Hypothesis 4)

- People who have a recorded attestation for a completed Heath Risk Assessment are much more likely than those who do not have an attestation to have a preventive visit (84% vs 50%), have a preventive screening (93% vs 71%), and use a co-pay exempt medication to control a chronic disease (66% vs 48%).

Conclusion

Overall, we found that cost-sharing requirements may reduce the amount spent by plans and enrollees on medical services, though we could not rule out other causes of the decline. Cost-sharing does not appear to affect the mix of high- and low-value services used in this population. Monthly contribution amounts may cause increased disenrollment from the plan among those with low medical spending and no chronic conditions but not among those with higher medical needs. While people who complete Health Risk Assessments are more likely to also complete healthy preventive behaviors, we could not determine if the health risk assessments themselves increased these behaviors or if they were both the result of a physician visit.

Introduction

The University of Michigan Institute for Healthcare Policy & Innovation (IHPI) is conducting an evaluation of the Healthy Michigan Plan (HMP) as required by the Centers for Medicare & Medicaid Services (CMS) through a contract with the Michigan Department of Health and Human Services (MDHHS). This report presents findings from Domains V and VI of the evaluation, which assesses the impact of monthly contribution requirements and the impact of cost-sharing implemented through the MI Health Account framework. As outlined in the CMS Special Terms and Conditions, the focus of Domains V and VI is to 1) assess whether the contribution requirements for certain enrollees affect propensity to retain insurance or use health care services and 2) evaluate whether features of the MI Health Accounts deter enrollees from receiving certain health care services and/or encourage enrollees to be more cost conscious.

Background on Cost Sharing in the Healthy Michigan Plan

One of the key market-based features of the Healthy Michigan Plan is the MI Health Account, which facilitates cost-sharing for HMP enrollees. Cost-sharing obligations are tracked and paid through the MI Health Accounts and enrollees receive a new statement, with a payment schedule as applicable, each quarter. While Medicaid programs have historically placed little emphasis on patient-directed financial incentives, MI Health Accounts aim to encourage enrollees to take more responsibility when it comes to their healthcare costs, and perhaps modify their behaviors to reduce costs.

Some co-payments are waived for State-defined services to treat and manage chronic conditions (e.g., diabetes) and for preventive care. Additionally, certain populations are exempt from all co-payments including those who are pregnant, enrollees under age 21, enrollees receiving nursing home or hospice care, Native Americans and Alaskan Natives eligible to receive services furnished by an Indian health care provider or through referral under contract health care services, and individuals who are enrolled in Children's Special Health Care Services (CSHCS). Enrollees with incomes above 100% of the federal poverty level (FPL) also pay monthly contributions into their accounts, up to 2% of their annual income. All enrollees have an opportunity to reduce their co-payments and monthly contributions through completion of a health risk assessment and attesting to a healthy behavior.

During the first six months of enrollment, no co-payments or monthly contributions are due. All cost-sharing obligations begin in the 7th month or later of enrollment in a managed care plan and are based on service use and income. MI Health Account statements are sent quarterly to enrollees with cost-sharing obligations and include a monthly contribution based on income (for those above 100% FPL) and co-payments based on utilization of services. Enrollees generally are expected to pay monthly (1/3 of the quarterly statement) though can pay all at once. Not all health services or medications include co-payments, so enrollees are not always responsible for utilization-based cost sharing each quarter even if they do use services. Additionally, cost-sharing amounts can be reduced by completing a health risk assessment, and these reductions are shown on the MI Health Account statement.

If an enrollee fails to pay his or her required co-payments and/or monthly contributions, after a six-month grace period, state law directs MDHHS to pursue certain penalties or avenues for collection (e.g. offsets of state tax refunds or state lottery winnings), though enrollees cannot be disenrolled from the program due to failure to comply with payment requirements.

These novel benefit designs represent some of the first efforts to implement financial incentives among Medicaid enrollees. On one hand, these incentives have the potential to yield more engaged enrollees who make more informed choices about their use of health care services and their health behaviors. On the other hand, higher cost-sharing among these low-income individuals may delay receipt of necessary care which could lead to adverse health consequences.

Domain V/VI Hypotheses

The hypotheses as outlined in the CMS Special Terms and Conditions:

Hypothesis V/VI.1:

Cost-sharing implemented through the MI Health Account framework will be associated with beneficiaries making more efficient use of health care services, as measured by total costs of care over time relative to their initial year of enrollment, and relative to trends in the Healthy Michigan Plan's population below 100% of the Federal Poverty Level that face similar service-specific cost-sharing requirements but not additional contributions towards the cost of their care.

Hypothesis V/VI.2:

Cost-sharing implemented through the MI Health Account framework will be associated with beneficiaries making more effective use of health care services relative to their initial year of enrollment, as indicated by a change in the mix of services from low-value (e.g., non-urgent emergency department visits, low priority office visits subject to co-payments) to higher-value categories (e.g., emergency-only emergency department visits, high priority office visits not subject to co-payments), and relative to trends in the Healthy Michigan Plan's population below 100% of the Federal Poverty Level that face similar service-specific cost-sharing requirements but not additional contributions towards the cost of their care. Several questions on the Healthy Michigan Voices Survey also address this hypothesis.

Hypothesis V/VI.3:

Cost-sharing and contributions implemented through the MI Health Account framework will not be associated with beneficiaries dropping their coverage through the Healthy Michigan Plan. Beneficiaries above 100% of FPL who have few health care needs may consider dropping coverage due to the required contributions. However, those contributions do not begin until 6 months after enrollment and can be reduced by 50% based on healthy behaviors. Therefore, we expect most beneficiaries will have little incentive to let their enrollment lapse, despite continued eligibility. To determine the prevalence of coverage drops due to cost-sharing, we will monitor compliance with contribution requirements and use the Healthy Michigan Voices survey to assess reasons for failure to re-enroll.

Hypothesis V/VI.4:

A. Exemptions from cost-sharing for specified services for chronic illnesses and rewards implemented through the MI Health Account framework for completing a health risk assessment with a primary care provider and agreeing to behavior changes will be associated with beneficiaries increasing their healthy behaviors and their engagement with healthcare decision-making relative to their initial year of enrollment. Several questions on the Healthy Michigan Voices Survey also address this hypothesis.

B. This increase in healthy behaviors and engagement will be associated with an improvement in enrollees' health status over time, as measured by changes in elements of their health risk assessments and changes in receipt of recommended preventive care (e.g., flu shots, cancer screening) and adherence to prescribed medications for chronic disease (e.g., asthma controller medications).

Methods

Below, we provide an overview of the methods and data sources that apply to testing the four specified hypotheses. Hypothesis-specific methods will be described later in the sub-sections devoted to each hypothesis.

Eligible Population

This report reflects a secondary analysis of administrative claims, cost sharing and enrollment data for Healthy Michigan Plan enrollees. The study population for hypotheses 1, 2, and 4 includes Medicaid enrollees ages 22-62 in 2014 who enrolled in a Healthy Michigan managed care plan between April 2014 and March 2015 and who were continuously enrolled for at least 18 months. We followed enrollees for up to 30 months if they remained continuously enrolled. We only measured periods during the 18 months or more of continuous enrollment, such that gaps in HMP enrollment were not allowed. Our study period included claims and cost-sharing information through September 2016. The 18-month eligibility requirement was selected to allow for an initial observation period of 6 months to serve as a baseline for health service utilization and spending prior to the receipt of the first MI Health Account statement, and a follow-up period of at least one year to allow measurement of utilization or spending changes. Enrollee eligibility months that include fee-for-service Medicaid, incarceration, and emergency services only are excluded (and thus do not count toward the 18-month eligibility criteria). To ensure that enrollees had not become Medicare eligible on the basis of age during our follow up period, we excluded enrollees younger than 22 in 2014, older than 64 in 2016 (62 in 2014), those in Children's Special Health Care Services, those in nursing homes, and those who ever received hospice services. Application of these criteria yielded an analytic population of 158,369 eligible enrollees; some analyses have slightly fewer enrollees due to missing variables. For portions of hypothesis 3, we relaxed the enrollment criteria, requiring at least 6 months of continuous enrollment rather than 18 as looking at changing behavior within the program was less relevant to the hypothesis. That population size is 469,465.

For additional analyses in hypotheses 3 and 4 we used samples who responded to two Healthy Michigan Voices surveys administered under Domain IV of the Healthy Michigan Plan evaluation. For hypothesis 3, which pertains to dropping coverage, we included respondents from the 2016-17 Healthy Michigan Voices survey of individuals no longer enrolled in the Healthy Michigan Plan who initially enrolled before March 2015 in order to match with our existing data. That sample includes 1,060 people. Analyses for hypothesis 4 include information from the 2016 Healthy Michigan Voices survey of current enrollees, which had a total of 4,090 respondents. We did not require continuous enrollment for these samples beyond that required to participate in the surveys.

Data Source

Administrative data were drawn from the MDHHS Data Warehouse. Data included Medicaid claims across service types (e.g., medical, pharmacy), program enrollment data, demographic

characteristics, health risk assessment completion and cost-share data. Claims related to substance abuse disorder were excluded from the dataset, consistent with MDHHS protocols, though enrollees with these claims were included, as was their non-substance abuse health care use. Data extraction was performed via a secure Virtual Private Network (VPN) connection by a data analyst with specific approval from MDHHS for this purpose, using existing protocols that require two layers of password protection. Data extraction is allowed under the authority of a Business Associates' Agreement between the University of Michigan and the MDHHS. Data processing, encryption and storage are done in accordance with a data security protocol approved by the MDHHS Compliance Office. Additionally, we used data from the 2016-17 Healthy Michigan Voices survey of individuals no longer enrolled in HMP and the 2016 Healthy Michigan Voices survey of current enrollees administered under Domain IV of the evaluation, as described above and in the methods section for each hypothesis.

Definitions

Demographic and Programmatic Characteristics: Demographic characteristics included age, gender, race, income level as a percent of FPL and MDHHS prosperity region. Age was evaluated in categories (under 30; 30 to 39; 40 to 49; over 50) based on birth year and held constant to reflect age in 2014. FPL was also evaluated in categories (0-35%; 36-99%; 100+ %) and allowed to change based on changes in FPL levels noted in enrollment data. Third-party liability (TPL) through concurrent public or private health insurance coverage was identified for each month of enrollment.

Spending: Spending measures are based on the total amount paid to health care providers for a service. Spending includes all medical care adjudicated through the claims process including outpatient visits, inpatient claims, emergency department visits, and pharmacy claims. It includes both the amount paid by the health plan, the state Medicaid program and, where applicable, the co-payment assessed to the enrollee. For most measures, medical spending for each enrollee was averaged at the monthly level.

Utilization-Based Measures: We used claims-based Current Procedural Terminology (CPT) codes to classify and define medical services and therapeutic class codes to define pharmaceuticals. We defined specific co-payment exempt services using state categories and specific lists of CPT codes defined by MDHHS. We defined co-pay likely services through claims-based analysis that allowed us to link CPT codes to co-payments. Specifically, we took a sample of claims from three non-contiguous months and measured which CPT codes were more often associated with co-payments. We then grouped these into service areas (e.g. vision exams, chiropractic services) and defined these groups as co-pay likely services. Co-pay likely medical services were those associated with a co-payment at least 50% of the time and the sample included at least 25 claims; co-pay likely medications were associated with a co-payment at least 40% of the time, with more than 3 claims.

Cost-sharing: Cost-sharing information comes from quarterly reports of enrollees' invoices and payments. The invoice amounts reflect the amount due and any reductions. We examined cost-sharing from the beginning of the program through the third quarter of 2016, combining monthly contribution and co-payment amounts to reflect the total amount that enrollees owe for each quarter, and applying the payment from that quarter to the amount due. For analysis over time, we calculated the fraction as the amount applied to each quarterly statement, divided by the total amount due.

For cross-sectional analyses, we calculated the total amounts owed and paid through the third quarter of 2016 and the fraction paid overall. We defined any fraction of 0.95 or above as full collection. Our calculated numbers represent the amount applied to an enrollees' account, which could differ from the amount paid in the case of overpayment. We coded any overpayments to reflect the full amount of the invoice owed and no more.

Co-payments: We identified co-payments through medical and pharmaceutical claims. The data do not reflect co-payments when they are waived for condition-based reasons, such as those waived for chronic diseases. However, the data may include co-payment amounts that are later waived or reduced for other reasons, including enrollees meeting their cost sharing limits or receiving reductions for Healthy Behavior rewards. Our analysis does not incorporate these later reductions.

Overall Analytic Plan for Testing Hypotheses

Domains V and VI use the implementation of cost sharing as a key independent variable to predict a number of outcomes. To provide context, we report descriptive statistics for the study population's demographic characteristics, as well as a characterization of the cost-sharing patterns (obligations and subsequent payments).

For hypotheses 1, 2 and 4, HMP enrollees' first 6 months in a health plan are compared against their later experiences, under the assumption that cost sharing implemented after the first 6 months of health plan enrollment may change behavior. We compare enrollees whose incomes are at 0-35 % of FPL and 36-99% of FPL, who are exempt from monthly contributions, to those above 100% of FPL, whose income and household size make them subject to monthly contributions. For hypothesis 3, we measured cost-sharing obligations and continued enrollment for those who are in an HMP managed care plan for at least 6 months continuously, excluding special populations mentioned above. We compared the obligations of those who disenroll from those who maintain enrollment for at least 6 to 12 more months.

Our statistical approach to all hypotheses uses multivariate regression models, either linear for continuous outcomes or discrete choice for binary outcomes. We use both fixed effects and repeated cross-sectional analysis to help evaluate the underlying dynamics of enrollee decisions. For outcomes in which data are skewed (i.e. spending outcomes), we use models that have been found less biased, including generalized linear models and transformations of the dependent variable. For a portion of the analysis for hypothesis 3, we use a regression discontinuity approach to measure disenrollment differences between those just above and just below the federal poverty line.

Results

Demographic Characteristics of Population

Sample characteristics are reported in Table 1, comparing the study population of enrollees continuously eligible for Healthy Michigan for at least 18 months (n=158,369) to shorter-term enrollees or those otherwise ineligible for inclusion in the analyses (n=411,169). Demographically, eligible enrollees were more likely to be older, female, and white compared to the ineligible population. The distribution of incomes and regions were quite similar across the two groups.

Table 1. Demographic Characteristics of Continuously Enrolled 18-30 Months in HMP Managed Care Plan vs. HMP Population Continuously Enrolled < 18 Months		
	Continuously Enrolled in HMP Managed Care 18+ months (n=158,369)	HMP Population Enrolled in Managed Care for < 18 months (n=411,169)
Age		
Under 35	30.0%	46.2%
35-44	21.8%	22.3%
45-54	29.9%	20.2%
55-62	18.3%	11.3%
Female	54.5%	50.5%
Race		
White	64.0%	58.2%
Black	24.2%	24.4%
American Indian/Alaskan Native	0.5%	0.8%
Hispanic	2.8%	3.7%
Asian/Pacific Islander	0.5%	0.6%
Other	7.9 %	12.3%
FPL		
0%	51.1%	47.6%
1-35%	7.2%	8.4%
36-99%	25.7%	27.7%
100+%	15.9%	16.3%
Region		
Upper Peninsula	3.6%	2.7%
Northwest	2.6%	2.8%
Northeast	3.2%	2.4%
West	12.0%	13.2%
East Central	6.7%	5.9%
East	11.5%	10.3%
Southeast	6.8%	7.7%
South Central	4.1%	4.3%
Southwest	7.1%	8.1%
Detroit Metro	42.3%	42.3%
Notes: Enrollees under 22 or over 62 in 2014 were excluded from both groups. Special exclusion populations (CSHCS), nursing home residence, hospice care) dropped from both groups compared here.		

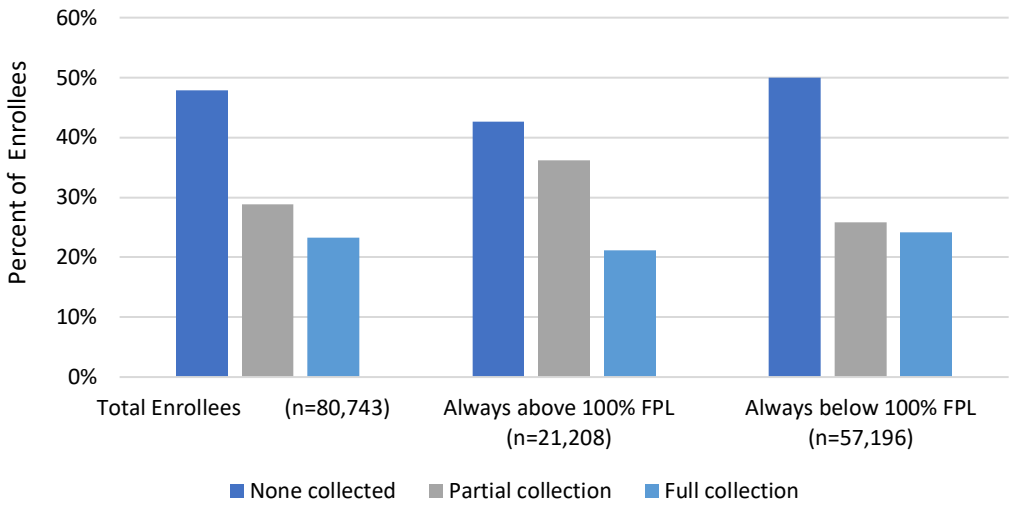
Cost-Sharing: Average Invoice Amounts and Payment Behavior

Average quarterly invoice amounts and payment status by FPL category are reported in Appendix Table 1.1. Slightly over half of those continuously enrolled for at least 18 months faced cost-sharing obligations. These obligations averaged $8.59 per quarter in the entire analysis sample, and $16.85 per quarter among those who actually faced obligations. Among those with obligations, payments

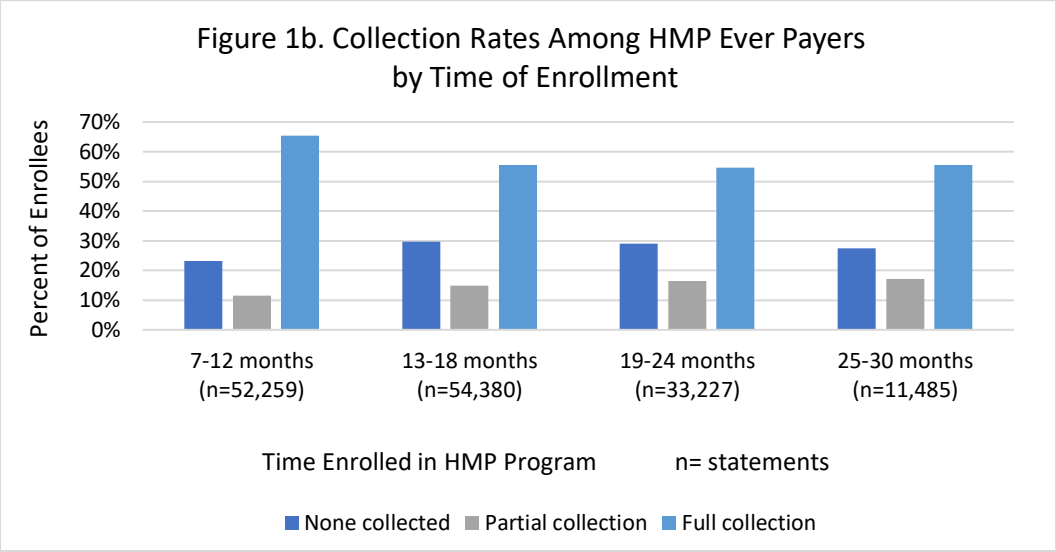
were collected from almost half of enrollees (Appendix Table 1.1a), with full payments being collected for about one fifth of enrollees. Enrollees with cost obligations who had an income above 100% FPL for the entire study period had a higher average quarterly invoice ($30.93) than those with an income below 100% FPL with cost obligations ($11.11).

Slightly less than half of enrollees with cost sharing obligations made no payments towards their obligation during the study period (Figure 1a). For those above 100% FPL, with substantially higher cost sharing obligations, rates of full payment were lower, though rates of partial payment were higher. Those with an income below 100% FPL were more likely to pay none of their obligation than those with higher incomes, despite having lower overall cost-sharing obligations. Results from an ordered logit model, adjusted for demographic characteristics (Table 1.2 in Appendix) confirmed these results, showing that those with higher incomes were more likely to pay some or all of their cost-sharing obligation.

Figure 1a. Collection Rates of HMP Enrollees with Cost-Sharing Obligations, by FPL



Among enrollees who made at least one payment (n=42,098), collection rates by 6-month time period are illustrated in Figure 1b. When split out by period, most enrollees who made at least one payment, paid in full within the period. Full payment was most likely in the period of 7-12 months of enrollment (that is, the first two quarters when obligations could be assessed). After that, full collections decreased after the first year of enrollment and remained at about 55%. Likewise, partial and non-payment remained roughly steady at about 16% and 30%, respectively, after the first period. Appendix Table 1.4 reports the predicted percentage of payment type per time frame from the two regression models; one is unadjusted and the other controls for age, gender, FPL and region. After adjusting for these characteristics, the overall patterns remain similar to the unadjusted observations in Figure 1b. In particular, Appendix Table 1.5 shows the probability of paying in full, controlling for an individual's initial payment behavior. Compared with the first period, an individual has lower likelihood of paying in full in later periods.



We examined the associations between cost-sharing amounts and perceived affordability or access barriers by linking cost-sharing data with 2016 HMV telephone survey data for 1,669 enrollees who had been enrolled in HMP for at least 18 months. We limited the cost-sharing data to the billed and collected premium contributions and co-payments in the 12 months prior to survey completion (sample characteristics in Appendix Table 1.8). We estimated the associations between cost-sharing amounts and perceived affordability and fairness of health care payments and delayed or foregone care in the previous 12 months. All models incorporated weights to adjust for probabilities of survey sampling and controlled for billed co-payments, age, gender, race/ethnicity, income, marital status, health status, and chronic conditions.

Compared to having no billed monthly contributions, we could not find associations between having moderate or high billed monthly contributions and enrollees being less likely to report health care payments as being affordable, less likely to report health care payments as being fair, or more likely to report delayed or foregone care due to cost (Appendix Table 1.9). Enrollees with higher cost-sharing obligations were more likely to pay at least some of what they were billed.

Hypothesis 1: Cost-Sharing and Total Cost of Care

> *Cost-sharing implemented through the MI Health Account framework will be associated with beneficiaries making more efficient use of health care services, as measured by total costs of care over time relative to their initial year of enrollment, and relative to trends in the Healthy Michigan Plan's population below 100% of the Federal Poverty Level that face similar service-specific cost-sharing requirements but not additional contributions towards the cost of their care.*

One objective of the cost-sharing implemented through the MI Health Account framework is to enhance the efficiency of the use of health care services by making enrollees partially responsible for the cost of care (cost-sharing for services actually received) and, for those over 100% of FPL, for part of the cost of participating in the program through income-related monthly contributions. As a proxy for efficiency of health care use, we track how the total monthly cost of care changes over time for 22-62 year olds continuously enrolled for at least 18 months and compare that across enrollees at different income (and hence monthly contribution) levels. Because cost-sharing is capped at a certain percentage of income, the expected amount of cost-sharing increases with increasing income. The

lowest income enrollees (0-35% of FPL) will face little cost sharing in absolute terms, both because they are exempt from monthly contributions and because total cost-sharing is capped as a percentage of income. Higher income enrollees (36%-99% of FPL) are at risk for greater cost-sharing, but still face no monthly contributions. Finally, the highest income group of enrollees (100% or more of FPL) will face both co-payments and monthly contributions.

An ideal evaluation design would compare spending before and after HMP enrollment among HMP enrollees and an otherwise similar set of Medicaid enrollees not subject to cost-sharing. Because pre-HMP health care costs are unavailable and groups categorically exempt from cost-sharing are quite different than HMP Medicaid expansion enrollees who are subject to cost sharing, we cannot directly make such comparisons. Therefore, we track spending among enrollees over their enrollment period to determine how their costs change and whether that change varies across income groups. One might expect the first year of costs to differ from subsequent years for several reasons. First, there might be pent up demand among those newly gaining coverage. That is, it is possible that first year spending is higher simply because people who were previously uninsured had been delaying care due to cost. Second, the delivery of information on cost as well as cost obligations through the MI Health Account framework could encourage individuals to make more efficient use of the healthcare system, again lowering costs of care. Since such learning could take time and enrollees do not receive their first MI Health Account statement until after six months of enrollment in a health plan, such effects may not be visible until the second year of enrollment. Lastly, since it may take time for enrollees to make and complete appointments, initial costs might be low for some period of time as new enrollees establish provider relationships.

Methods

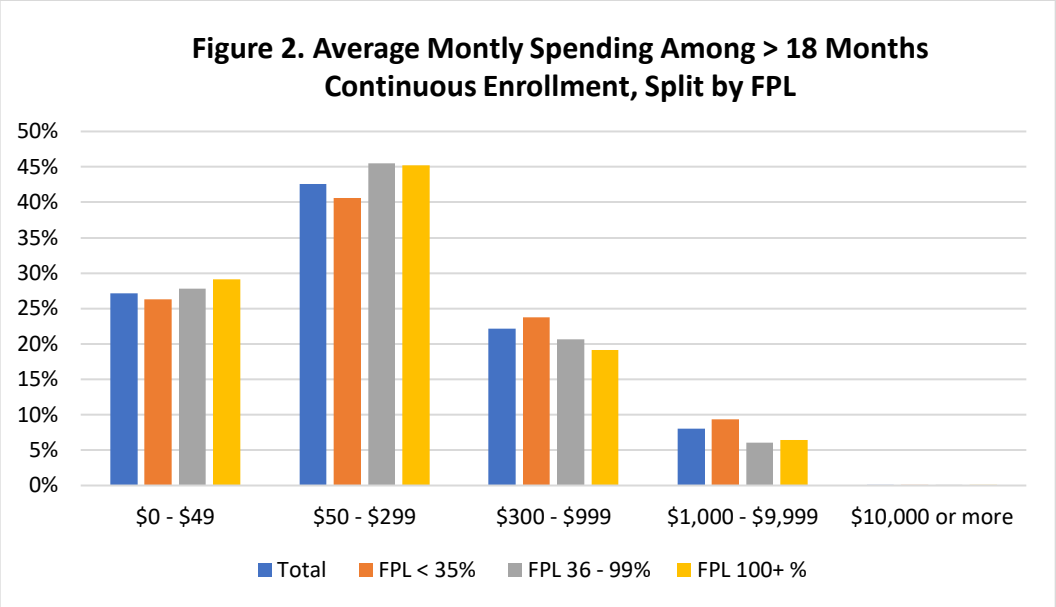
As described above, we captured all claims spending, including spending by managed care plans, and enrollee obligations. When comparing across income categories and time periods in regression analyses, we controlled for age, gender, region and the presence of other health insurance to reduce confounding by these demographic characteristics. As with most analyses of healthcare expenditures, the distribution of spending is highly right-skewed with a large number of enrollees spending a small amount, and a minority spending very large amounts during each period. Ordinary least squares regression, while the easiest to interpret, is known to produce biased results in these situations. Thus, we used a generalized linear model (GLM) to estimate and predict total spending for each time period and income category. These models produce more consistent and unbiased results with highly skewed outcome data.

All eligible enrollees are included in these analyses, regardless of whether they received a MI Health Account statement, as the objective was to test the effects of this design on the total spending of the eligible population.

Results

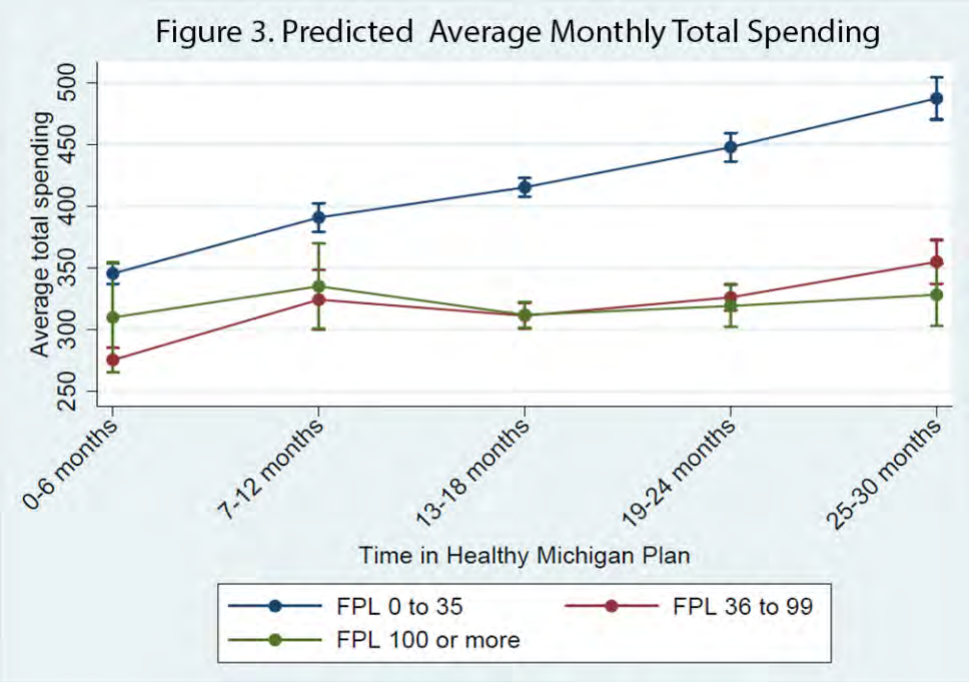
The distribution of average monthly spending by three income groupings (0-35% FPL, 36-99% FPL, and 100% or more of FPL) is shown in Figure 2. In each income category, the plurality of the population was in the $50-$299 monthly spending range. While the spending distribution did not

vary greatly across income groups, there was some trend towards lower income groups being slightly more likely to appear in the highest spending categories compared with the other income categories.

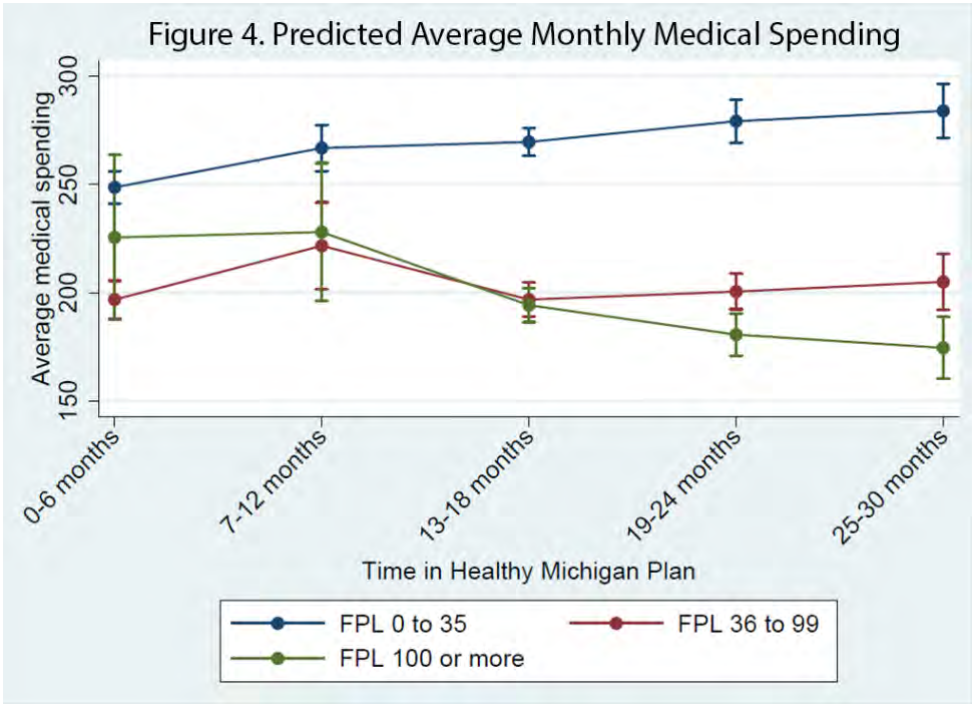


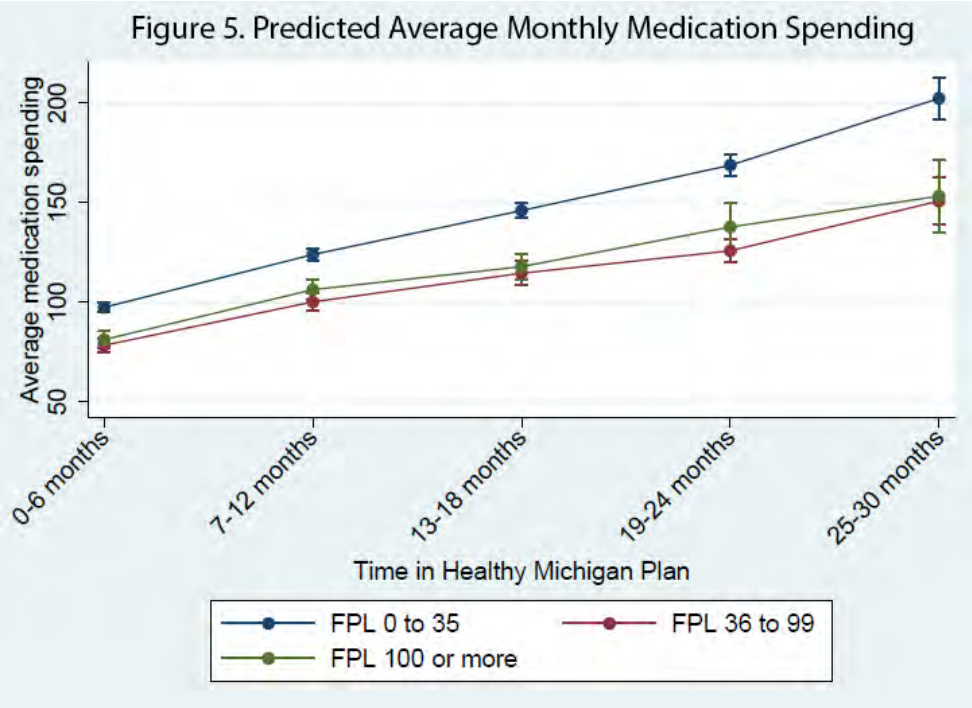
Overall, the average monthly amount spent was $360.04 (Appendix Table 2.1). Broken into categories, $238.44 was spent per month on medical services (including both inpatient and outpatient services) and $121.60 was spent on medications in the 18-month continuously eligible population. Spending amounts varied slightly by income; amounts are shown in Appendix Table 2.1. The amount of spending per month changed over time, as shown in the following figures.

Figure 3 shows the predicted total monthly spending by period of enrollment and by income group, adjusting for demographic differences through the GLM regression model. These values represent the average predicted spending for persons in each income category in each six-month time period, controlling for all other characteristics in the model (age, race, gender, region, other insurance). The bars illustrate the 95% confidence intervals for each estimated average value. Overall, spending was highest in each time period for the 0-35% FPL group. Spending in the two higher income groups was very similar. In all three income groups, spending rose in the 7-12 month period relative to the 0-6 month period. After the 7-12 month period, spending continued to rise for the 0-35% of FPL group, but stabilized in the higher income groups.



Figures 4 and 5 break spending trends into medical services and pharmaceuticals. For medical spending, the highest income group generally shows declining monthly spending after the first two periods. The lowest income group shows increasing spending and the group of enrollees with incomes of 36-99% FPL shows statistically flat spending through the study period. For pharmaceutical spending, all income groups show increasing trends with the length of enrollment.





Overall, the results show fairly stable spending in the middle and higher income groups, and spending growth in the lowest income group. All income groups show spending growth in pharmaceutical spending. Medical spending, on the other hand, remains stable or declines in groups with higher cost-sharing requirements. We did not examine the reason for the growth in pharmaceutical spending, though it is consistent with the idea of adherence to medications once a prescription is initiated. While the interpretation of medical spending results remains speculative, it is consistent with the possibility that cost-sharing deters medical spending.

Due to the limitations regarding lack of a comparison group of similar new Medicaid enrollees who did not face cost-sharing and/or monthly contributions, these findings should be interpreted with caution. However, the general patterns, particularly for medical spending, may indicate that those with monthly contributions may have become more efficient users of the healthcare system over time.

Hypothesis 2: Cost-Sharing and Effectiveness of Services

Cost-sharing implemented through the MI Health Account framework will be associated with beneficiaries making more effective use of health care services relative to their initial year of enrollment, as indicated by a change in the mix of services from low-value (e.g., non-urgent emergency department visits, low priority office visits) to higher-value categories (e.g., emergency-only emergency department visits, high priority office visits), and relative to trends in the Healthy Michigan Plan's population below 100% of the Federal Poverty Level that face similar service-specific cost-sharing requirements but not additional contributions towards the cost of their care. Several questions on the Healthy Michigan Voices Survey also address this hypothesis.

Among medical professionals and health policy scholars, recognition is growing that health care services offer a spectrum of clinical benefits that are dependent on the patient, the provider, and the service itself. This recognition has led to research that defines differences between high- and low-value medical services, and measures the cost, benefit, and prevalence of these services. Low-value care includes a range of potential waste in the system, including medical errors, variations in price unrelated to quality, services that are more likely to cause harm than benefit, and services that are used more often or in a wider population of patients than they should be. High-value care includes many preventive screenings and tests, medications, and services that attenuate the progression of chronic disease, and care delivery settings appropriate to the urgency and severity of the medical condition (See Table 2 for specific services). Through insurance benefit design and other measures, policymakers and payers have begun to encourage delivery of services that provide high clinical value, while discouraging medical services that provide little to no value.

The Healthy Michigan Plan was crafted in this policy environment. When state policymakers designed the provisions of the Healthy Michigan Program, they sought a federal waiver in part to include more cost sharing than in other state Medicaid plans or, historically, in Michigan's own Medicaid program. The waiver allowed for cost sharing for the overall cost of the plan (similar to premiums in the commercial market) as well as common medical services, including physician office visits, dental visits, medications, and outpatient hospital clinic visits. Policymakers also sought to encourage enrollees to engage in healthy behaviors. Thus, many services considered beneficial to long-term health, such as high-value primary preventive screenings and services or medications related to specific chronic diseases, were exempted from co-payments. It was expected that these exemptions would signal to enrollees that these services were valuable and encourage their use.

In practice, the structure of the program means that cost-sharing is not consistently applied to all services across the population. There are some enrollees who are exempted from all co-payments as a class some enrollees who may be exempted for a certain portion of time, (e.g. those exempted for the rest of the year once they have paid 5% of their income). Additionally, certain services such as preventive care, radiologic imaging and laboratory tests are nearly always exempted from co-payments. That means that some services researchers typically use as a signal of low-value or wasteful care—unnecessary imaging for low-back pain or headache, for example —are not applicable in this context. It also means that there are rarely services for which a co-payment would always be assessed. Once those groups that are never subject to cost sharing are excluded, there may still be exemptions for reasons such as maximum out-of-pocket limits or because a visit was related to a chronic condition. However, there are certain services that are more likely to incur co-payments such as chiropractic care, vision services and hospital-associated urgent care (type B) visits.

There are also certain high-value services that are nearly always co-payment exempt, such as preventive services and medications for specific chronic diseases. These are services that designers of the Healthy Michigan Plan singled out as worthy of encouragement. Our hypothesis is that use of these services will rise relative to those that are more likely to incur a co-payment, and relative to the initial year of enrollment, as enrollees learn about the value of the service through financial incentives.

Methods

Co-payment exempt services selected for this analysis include a subset of those exempted from co-payments through HMP. We chose to examine preventive screenings and care, which applied to a large number of enrollees in our population. As described above, we defined co-pay likely services as those associated with co-payments at least 50% of the time for medical services and 40% or more for medications. Table 2 includes a full list of each service or medication. For the co-pay likely measure, we flagged any six-month period in which an enrollee had used at least one of these services and incurred at least one co-payment for that service. Similarly, for emergency department (ED) visits, we flagged ED claims and measured the proportion of the population with an ED visit in each time period.

It is important to note that most services used do not fall into either of these categories, and thus analysis of service use along these categories should not be taken as an indication of total service use.

Table 2. Co-Pay Exempt and Co-Pay Likely Services Analyzed

Service Type	Co-Pay Exempt	Co-Pay Likely
Visits	Well physical exam, preventive office visit, health risk assessment administration, preventive counseling, smoking/tobacco cessation counseling	Vision exams, contact lens visit, chiropractic treatment, new patient visit, office consultation
Screenings	Depression, BRCA testing, mammography, cervical cancer screen, sexually transmitted infections, cholesterol, colorectal cancer, diabetes, Hepatitis B/C, HIV, lung cancer, tuberculosis	
Medication Classes	Cardiovascular, COPD, diabetes, HIV, obesity, smoking	Metabolic deficiency, Hepatitis C, narcolepsy, hypnotics, cortisol, atypical antipsychotics, antineoplastic enzyme inhibitors, ADHD, ARV Comb-NRTIS and integrase inhibitor (infectious disease agent), Parkinson's disease, ammonia inhibitors, Mek 1 and Mek 2 inhibitors, Gaucher's disease,
Emergency Services	Emergency services	Non-urgent ED use

Notes: Co-pay exempt services were selected based on MDHHS definitions of co-pay exempt services which is available on the MDHHS website. Co-pay likely services were selected by looking at a sample of claims and measuring which services/medications were more likely to incur co-payments. Co-pay exempt and co-pay likely services were defined using claims prior to 2017; these classes may not be valid for later data periods, when the number of co-pay exempt services and medications list was expanded.

We compared use from year to year with the model specified below:

$$\Pr(Y_{it} = 1) = f(\beta_1 TimePeriod + \beta_2 FPL + \beta_3 Female + \beta_4 Age + \beta_5 GeographicRegion + \beta_6 Race + \beta_7 PaymentObligation + (\beta_8 \%OOPPaid) + \alpha_i + \varepsilon_{it})$$

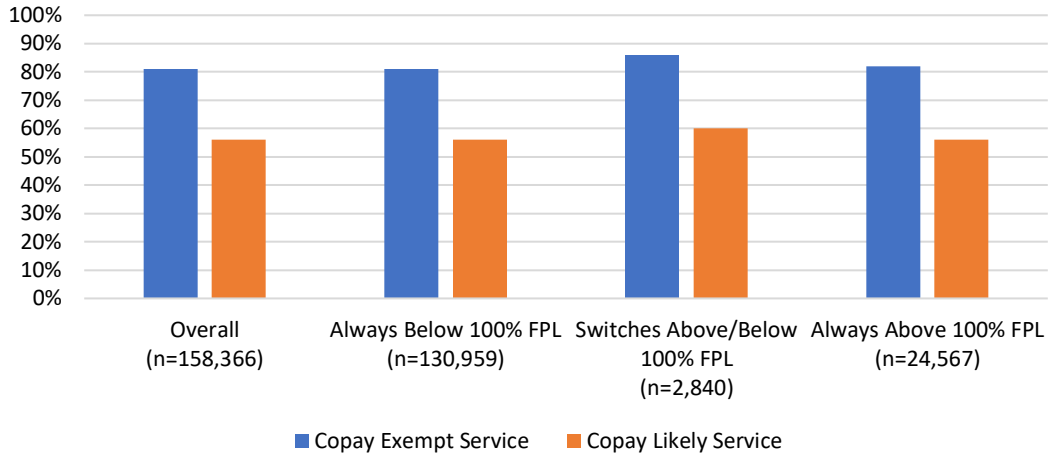
In this model, the dependent variable Y_{it} is an indicator for whether a person has received a co-pay exempt/co-pay likely service. Percent out-of-pocket (OOP) paid is only available for the subset with a cost sharing obligation, approximately 50% of the sample. We include other specifications as well,

such as FPL interacted with year. Our primary specification is a probit regression, though we also use a fixed-effects linear regression to measure individual change over time.

Results

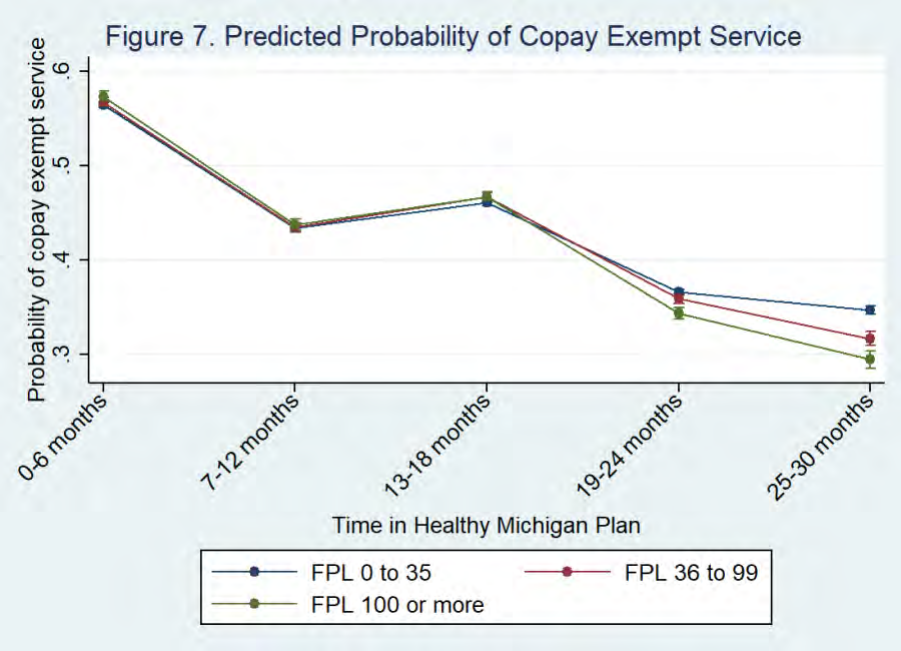
The analyses focus on three types of services: a variety of general medical services with and without co-payments, pharmaceuticals, and ED use. Figure 6 shows the percent of enrollees who ever received a co-pay exempt or co-pay likely medical service by FPL. Overall, 81% received one or more co-pay exempt medical services while 56% received at least one of the specified co-pay likely services. These percentages did not vary substantially across the three income groups.

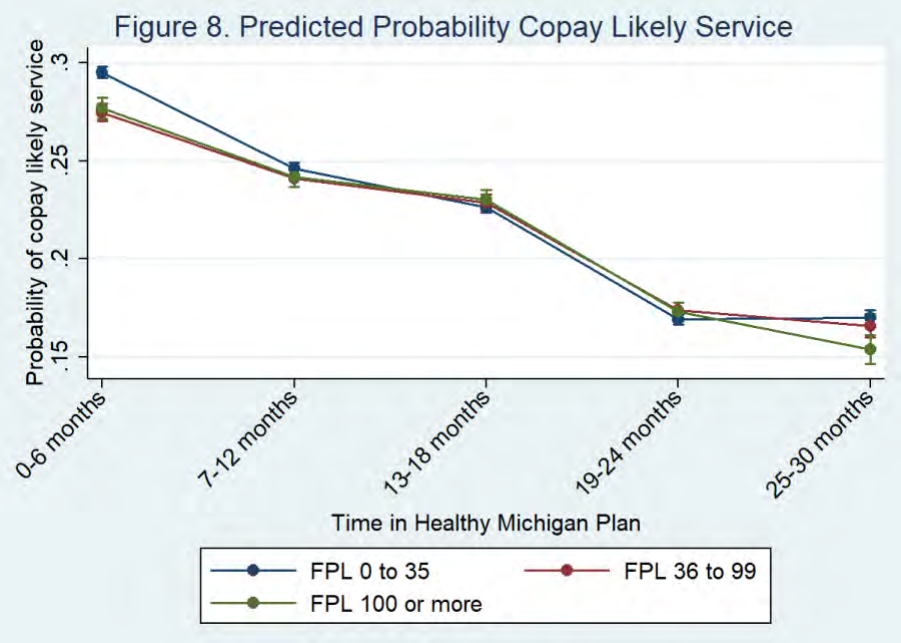
Figure 6. Percent of Population Ever Receiving Each Type of Service During Study Period



Predicted use of co-pay exempt and co-pay likely medical services by enrollee characteristics is reported in Appendix Table 3.1.1 Males and younger enrollees had fewer HMP claims for co-pay exempt and co-pay likely services. There were no consistent patterns in use of co-pay exempt services by income category, though those in the lower income group had a slightly higher usage of co-pay likely services than those in the 36-99% FPL and 100+% FPL groups.

Looking at use of services over time, Figures 7 and 8 illustrate predicted use of co-pay exempt and co-pay likely medical services, respectively, for the eligible population at each time enrolled in HMP by income category, adjusting for all other characteristics in the model. These figures show both types of use declined in a similar fashion as enrollees had been in the program for a longer period of time.

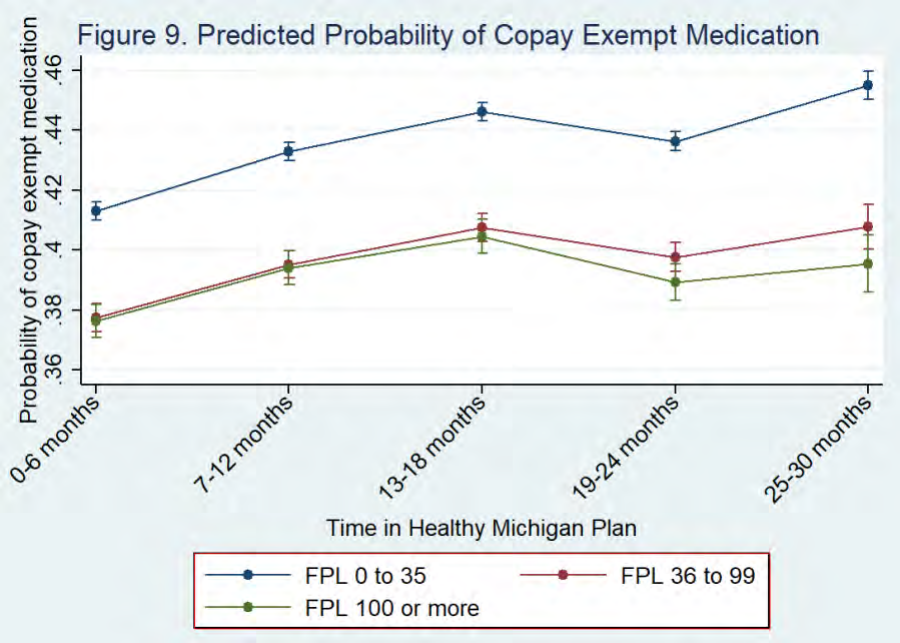




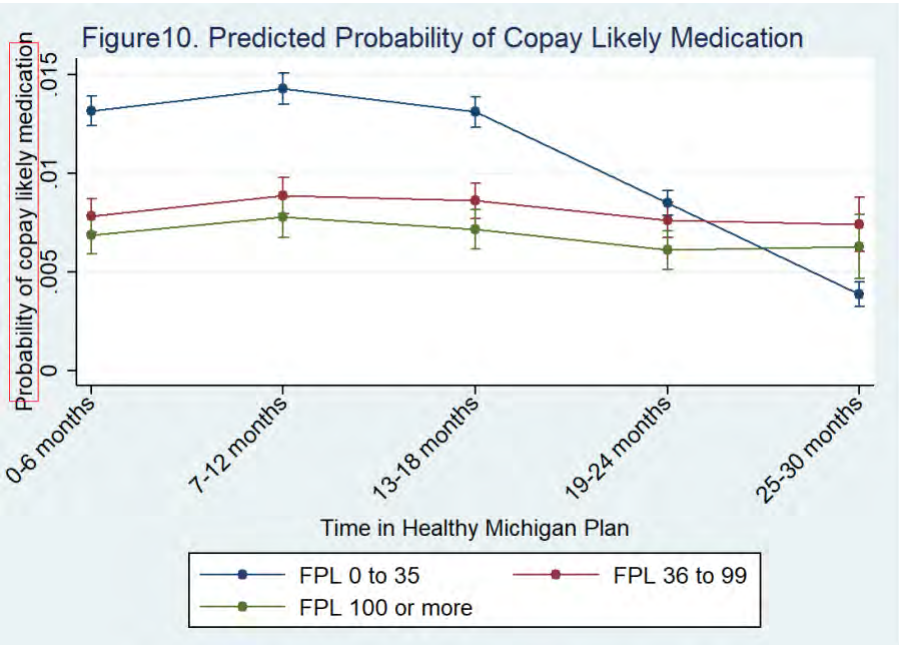
Similar analyses of co-pay exempt and co-pay likely prescription drugs show about half of enrollees received at least one co-pay exempt medication while only a small percent received a co-pay likely medication (reflecting the relatively small number of medications identified in that category). The likelihood of receiving a co-pay exempt medication varied only modestly with most enrollee characteristics (Appendix Table 3.2.1). Most notably, the percentage declined somewhat with income and rose substantially with age. Percent receiving a co-pay likely medication also varied only modestly with enrollee characteristics.

Looking over time, the use of co-pay exempt medications rose steadily with time enrolled in the program, starting at 40% in the first six months and ending at 43% in months 25-30 of eligibility as shown in Appendix Table 3.2.2. A slight decline was observed in the use of co-pay likely medications. Examining the trends separately by income level over enrollment time demonstrates that the use of

co-pay exempt medications was highest in the 0-35% FPL group and the increases in use with time enrolled were relatively consistent across all income groups (Figure 9).



Only a small percentage of the population used a pharmaceutical for which a co-payment was regularly assessed (<3.0% in all income groups combined across all time periods; Appendix Table 3.2.1). For drugs that were identified as co-pay likely use was also highest in the 0-35% FPL group initially, but that group's use declined beyond 18 months of enrollment (Figure 10).

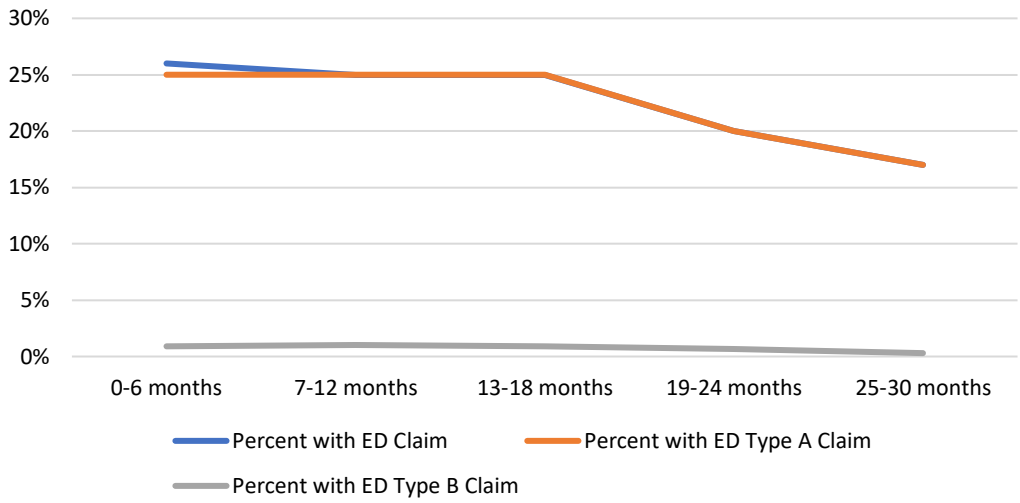


Finally, we consider co-payments for ED visits. The type of ED used can be examined using CPT codes, which are different depending on location of care. Visits associated with a hospital-based urgent care facility are often assessed a co-payment (23% of visits). By contrast, visits associated with a traditional emergency room are almost never assessed a co-payment (0.05% of visits) (Appendix Table 3.3.1). The fraction with a co-payment also decreased with increased visit severity (Appendix Table 3.3.1),

though hospital-based urgent care facility visits incurred co-payments more often for each level of severity.

Figure 11 shows a reduction in the percentage of the population using the ED from initial months of continuous enrollment over subsequent months. That reduction is confirmed in the regression model adjusting for other enrollee characteristics (Appendix Table 3.3.3). This overall trend was driven primarily by the Type A visits, which rarely assessed co-payments, but was also evident in the Type B visits that were more likely to result in a co-payment. Adjusting for all other characteristics in the model, average severity of ED visits rose substantially after 18 months of enrollment (Appendix Figure 3.3.2), which could imply that less severe illnesses were being seen in other settings.

Figure 11. Percentage of Enrollees with ED Claims by ED Type



Overall, the findings provide some evidence that the mix of pharmaceuticals used improved in terms of value the longer that individuals had been enrolled in HMP. For pharmaceuticals, use of co-pay exempt medications rose over time in all income groups, while the use of co-pay likely medications either remained stable or declined. The picture is less clear for co-pay exempt and co-pay likely medical services, where use declined by comparable amounts for both types of services, keeping the mix approximately constant. Finally, ED use of all types declined with time enrolled.

While the value mix of services, at least in terms of pharmaceuticals, improved as enrollees had longer tenure in the program, it is uncertain how much out-of-pocket cost contributed to these changes. Notably, the trends in the use of co-pay exempt medications were quite similar across income groups facing different exposure to monthly contributions. Similarly, most of the decline in ED use occurred in type A visits where co-payments were rarely assessed; however, we did not assess to what extent enrollees were aware of the lack of co-payments for type A visits.

There are other reasons that these findings should only be interpreted as suggestive. In addition to the concern about lack of a comparison group, the process of classifying services should be kept in mind. We measured a subset of co-pay exempt services defined by the program. Co-pay likely services were a group of services for which enrollees often incurred a co-payment; we measured the likelihood of using and incurring a co-payment for at least one of this group of services per period.

The findings could change if we had measured different bundles of services or operationalized our definitions of co-pay likely in a different way. Additionally, the results for co-pay likely pharmaceuticals should be interpreted with caution, as the number of these medications was very low.

Hypothesis 3: Disenrollment Associated with Cost-Sharing

> *Cost-sharing and contributions implemented through the MI Health Account framework will not be associated with beneficiaries dropping their coverage through the Healthy Michigan Plan. Beneficiaries above 100% of FPL who have few health care needs may consider dropping coverage due to the required contributions. However, those contributions do not begin until 6 months after enrollment and can be reduced by 50% based on healthy behaviors. Therefore, we expect most beneficiaries will have little incentive to let their enrollment lapse, despite continued eligibility. To determine the prevalence of coverage drops due to cost-sharing, we will monitor compliance with contribution requirements and use the Healthy Michigan Voices survey to assess reasons for failure to re-enroll.*

Enrollees below 100% FPL only face cost-sharing for services actually received and therefore are expected to have little reason to let coverage lapse due to cost. However, enrollees above 100% FPL who have few health care needs may consider dropping coverage due to the required monthly contributions. Because those monthly contributions do not begin until 6 months after enrollment in a health plan and can be reduced by 50% by completing an HRA and choosing to engage in a healthy behavior, we expect most enrollees who remain eligible will have little incentive to let their enrollment lapse. To test these hypotheses, we assess the extent to which total cost-sharing obligations (co-payments for services and monthly contributions) are related to disenrollment from HMP in two ways. First, we examine enrollees' perceptions of the fairness and affordability of cost-sharing under HMP and by insurance status after disenrollment from HMP. If cost-sharing strongly influences disenrollment, we would expect to see a substantial of disenrollees becoming uninsured after leaving the HMP program. The assumption is that those who gain insurance left because of improved circumstances (e.g., accepting a job that offers insurance), while those who left HMP but did not obtain other coverage are more likely to have disenrolled for other reasons including dissatisfaction. Second, we examine disenrollment from the program in the population enrolled for at least 6 months. Here, we can assess likelihood of disenrollment by cost-sharing obligations but cannot observe whether enrollees left and gained other insurance or left for other reasons.

Methods

First, to determine the role of cost-sharing in disenrollment, we use the No Longer Enrolled (NLE) survey to assess reasons for failure to re-enroll. The NLE survey sample is drawn from enrollees who had at least 10 months of HMP enrollment followed by a period of at least 6 months (range 6-20 months) during which they were not enrolled in HMP or another Medicaid program. Survey questions explored enrollees' experiences during the period after their HMP coverage ended, including health insurance coverage, access to health services, and unmet health care needs. Surveys were conducted with 1,123 individuals who were no longer enrolled in HMP; our sample of 1,060 includes those enrolled before March 2015 who we could therefore link to our cost sharing data. We link the NLE data on reported insurance type since HMP ended to information on respondents' average cost-sharing levels and other characteristics while they were enrolled and to respondents' report of all health insurance during the 6-20 months from the time their HMP coverage ended to the time of the

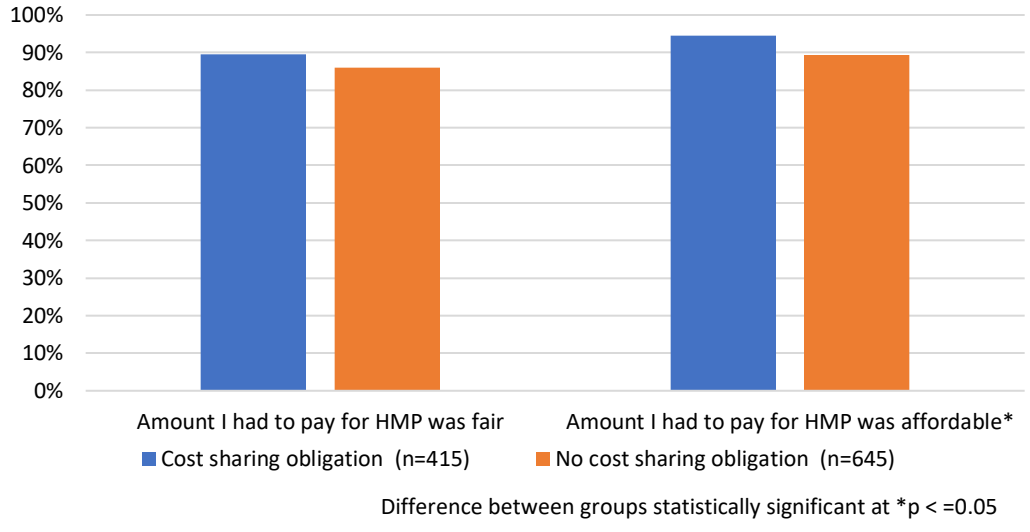
NLE survey. Specifically, we compare respondents who reported no insurance coverage post-HMP (on the assumption they found no insurance preferable to HMP) to those who reported other health insurance (employer-sponsored, individual and/or government-sponsored) at some point after their HMP coverage ended.

Additionally, we supplemented this analysis with two analyses of the full population of HMP enrollees to determine if cost sharing obligations were associated with a greater likelihood of disenrollment. Here, we used the population enrolled in an HMP managed care plan for at least 6 months continuously, who were not part of a special population (e.g. nursing home, hospice care, etc.; N=448,372 enrollees). We measured disenrollment as a drop from any Michigan Medicaid program, without reenrollment within 6 months. We merged enrollment data with quarterly cost sharing tables to measure contribution and co-payment amounts on the MI Health Account statement. We used statement date and amount owed on the MI Health Account statements, and examined whether the contribution, co-payment and total amounts predicted disenrollment within the next 11-month period. Second, to account for higher churn at the upper end of the eligible income spectrum, we measured disenrollment within 13 months of initial managed care enrollment for those just above and just below 100% FPL. We used enrollees in a managed care plan for more than 6 months continuously with an average income of 85% to 115% FPL (n=56,578 for this subpopulation; full population characteristics in Appendix Table 4.6 and Appendix Table 4.7). The assumption is that those individuals are relatively similar aside from the small difference in income, so if there is a jump in disenrollment near 100% FPL, it is more likely related to the contribution requirement triggered by exceeding that threshold. We analyzed these enrollees overall, and by subgroup based on medical spending and chronic disease claims.

Results

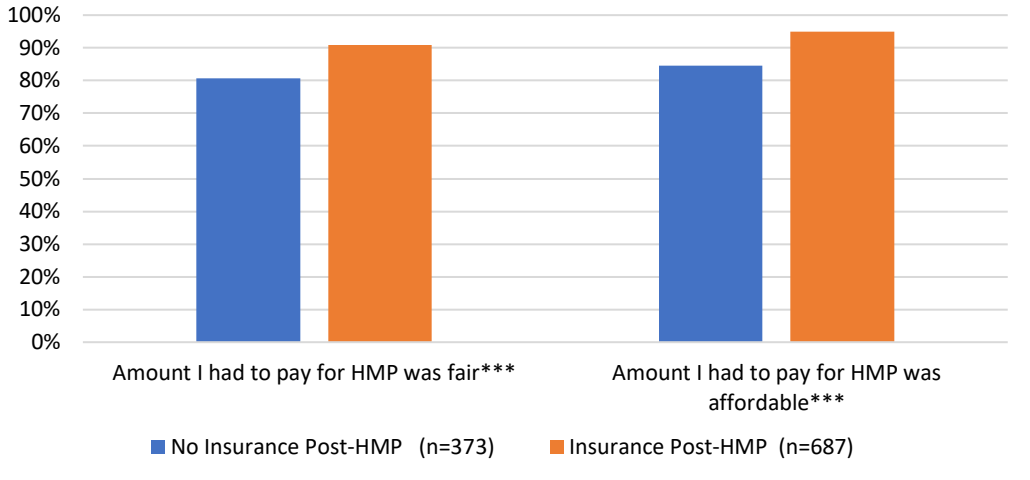
Figure 12 shows the percentages of NLE survey respondents who agreed that HMP's cost-sharing obligations were fair and affordable. Agreement was quite high, with 89% of those who faced obligations agreeing that they were fair and 95% agreeing that they were affordable.

Figure 12. Percent of NLE Respondents Who Agree with Statement Based on Cost-Sharing Obligation



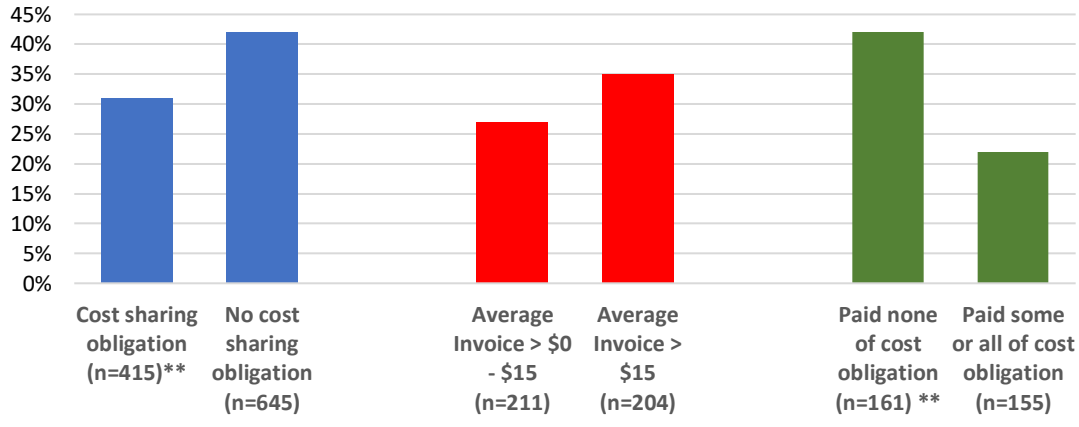
Agreement, while still high, was slightly lower among NLE survey respondents who didn't actually face an obligation. We did not test an explanation for this somewhat paradoxical result, though a possible reason could be payment for services not covered through HMP, such as for over-the-counter medications. Figure 13 splits the same two questions by whether or not the respondent had insurance post-HMP.

Figure 13. Percent of NLE Respondents Who Agree with Statement Based on Post-HMP Insurance Status



While agreement with both statements was high for both groups, those who did not have insurance post-HMP were less likely to agree that HMP's cost-sharing obligations were fair and affordable. Figure 14 shows that NLE survey respondents without cost-sharing obligations under HMP and those who did not pay their cost sharing obligation were more likely to report having no insurance post-HMP than those with such obligations. Those with invoices between $0 and $15 may be more likely

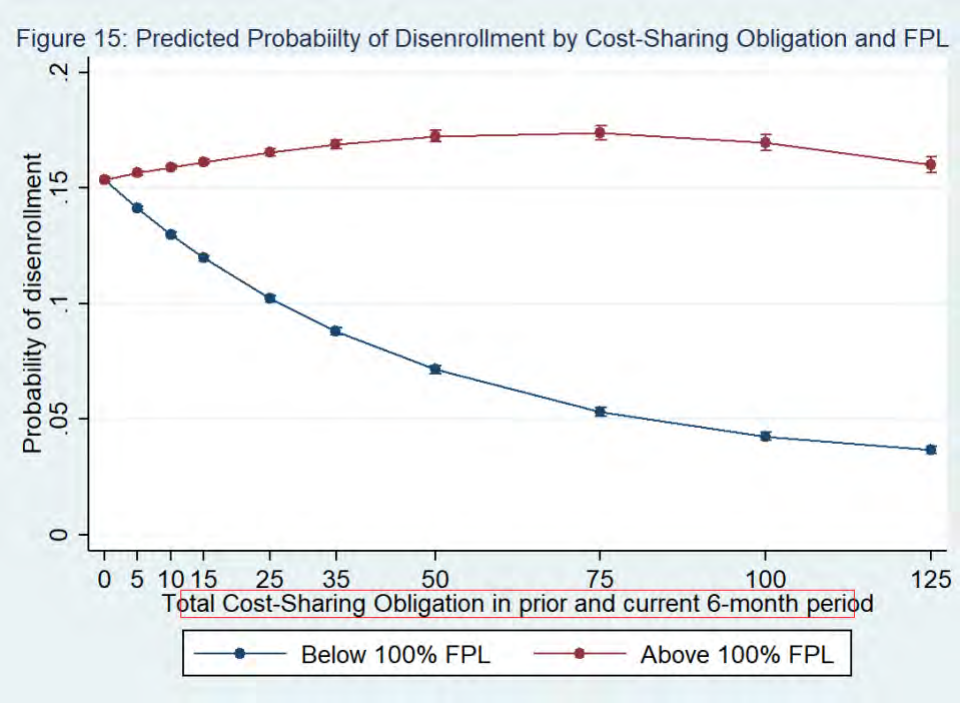
Figure 14. Percent of NLE Respondents in Each Category Who Reported No Insurance Post-HMP



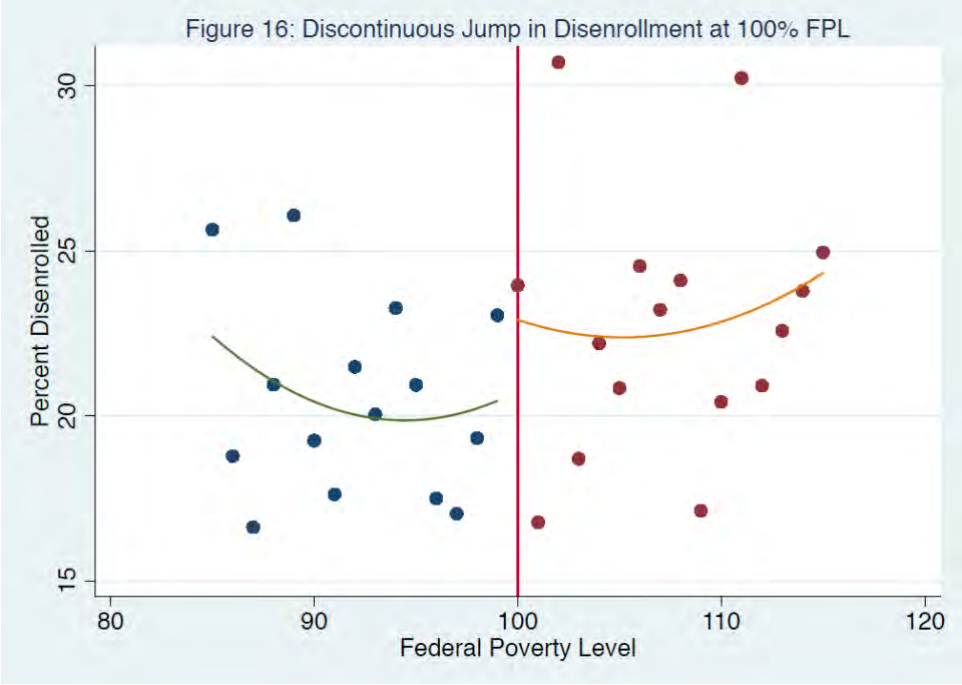
*1: Notes: Cost-sharing obligation applicable to whole population. Invoice applicable to population with cost-sharing obligation. Paid some/none applicable to population with cost-sharing obligation and at least one quarter of observation past invoice. **Difference between groups is statistically significant at p<0.01*

to transition to uninsurance, however that difference was not statistically significant, thus the differences could be attributed to statistical noise in the data given the relatively small sample. Finally, the relationship of cost obligation and payment compliance with not having insurance post-HMP is reported in Appendix Table 4.2 and was analyzed using regression models that control for observed enrollee characteristics. Because income (and hence contribution status) could vary over time, cost obligations and collections are averaged over the enrollee's time enrolled in HMP. In the first model, cost obligations are categorized as zero, positive up to $15.00, and over $15.00. As reported in the first section and shown in Appendix Table 1.1a, the overall average quarterly invoice in HMP for persons who face obligations but were below 100% FPL were $4.85 whereas obligations for those above 100% FPL (and hence were potentially subject to monthly contributions) were $26.71. Therefore, the higher category is likely dominated by persons who were typically over 100% FPL. That model finds that prior HMP enrollees in the $0.01-$15.00 category were more likely than those with no obligations to have insurance after they left HMP, though there was no significant difference between those without cost sharing obligations and those with > $15.00 average quarterly invoice. No other characteristics significantly differentiated prior HMP enrollees' subsequent insurance status. Collapsing the three obligation categories into two (zero vs. positive obligations) in the second model yielded similar results, with prior HMP enrollees facing cost-sharing being more likely to have subsequent insurance coverage. The third model is restricted to those who had obligations and shows that subsequent insurance was more likely among prior HMP enrollees for whom collections data indicated higher levels of compliance in paying their obligations.

Results from the analysis of the full population show that people with any cost-sharing obligation are less likely to disenroll than those without such obligations (Appendix Table 4.3). However, the effects are different by income. Figure 15 shows the probability of disenrollment in a period by the amount owed on MI health account statements. For those below 100% FPL, who are subject to co-payments only, higher cost-sharing amounts are associated with a lower likelihood of disenrollment.
For those above 100% FPL, who are subject to both monthly contributions and co-payments, higher cost-sharing obligations increase the probability of disenrollment up to about $75, after which probability of disenrollment decreases with increasing cost. Looking at co-payments only by income level, higher co-payments are associated with less likelihood of disenrollment regardless of FPL (Appendix Figure 4.2d). We also found that having at least one claim in a prior period decreases likelihood of disenrollment (18.1% for those with no prior claims; 5.3% for those with at least one prior claim; Appendix Table 4.5). These results are consistent with the idea that those with higher medical needs are less likely to drop HMP coverage.

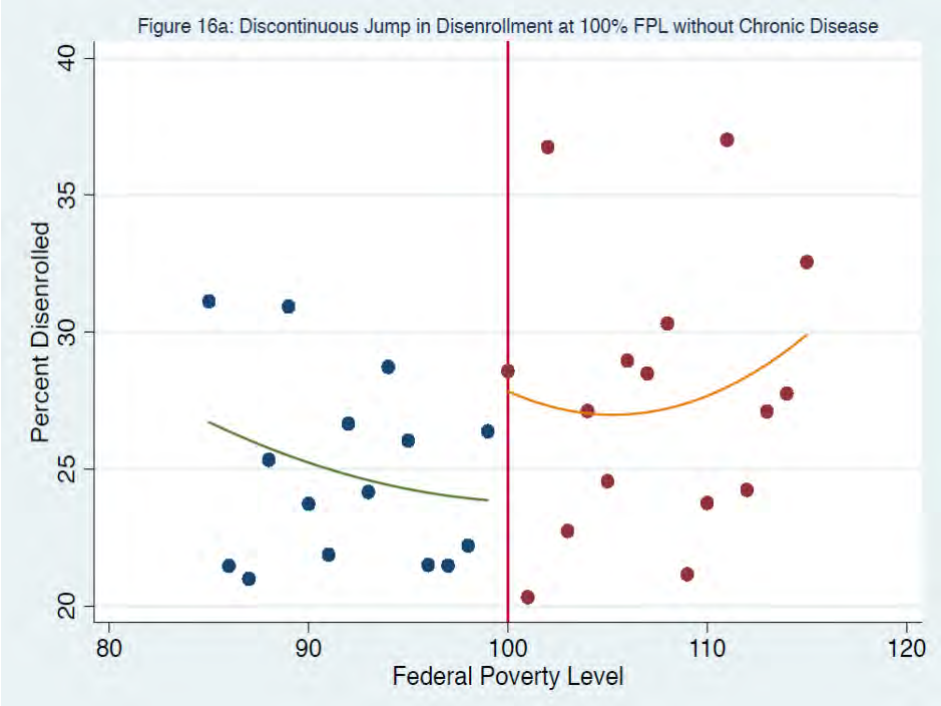


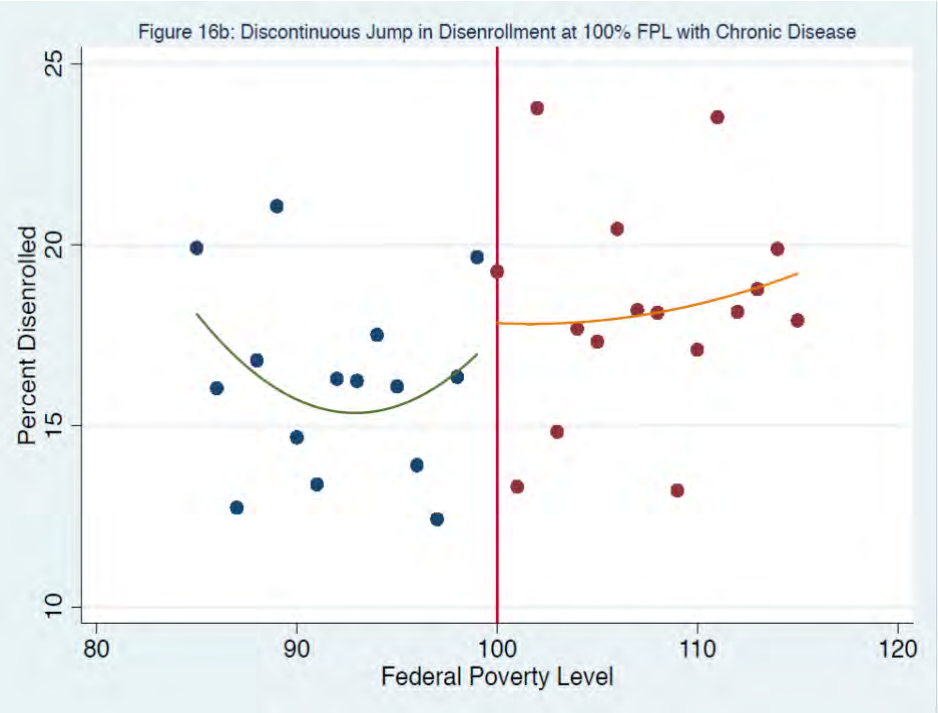
Looking specifically at the effect of monthly contributions on disenrollment, we found that at 100% FPL there is about a 2.6 percentage point jump in the probability of disenrollment. Restricting the analysis to those with monthly contributions, the jump at 100% FPL may be slightly higher, about 10 to 12 percentage points, though this result is sensitive to how we construct our model (Appendix Table 4.15).



Additionally, we split the population between those with no chronic disease claims and those with at least one chronic disease claim in their first 7 months of HMP-MC enrollment. As Figures 16a and 16b show, the jump in disenrollment at 100% FPL is higher for those without chronic disease claims. When we model this jump, controlling for demographic factors and measuring the magnitude of the

jump, we find a statistically significant relationship only in the group without chronic disease claims (Appendix Table 4.9). Combined with our analysis showing lower disenrollment for those with co-payments, this result suggests that those who have medical needs remain in the program despite cost-sharing obligations. Populations with lower medical needs may leave the program, a result that is consistent with previous studies showing low willingness to pay for insurance among lower income individuals, especially those without high health needs.





We limited our analysis to those who do not switch to other Medicaid programs (in Michigan) and who do not return to a Michigan Medicaid program for at least 6 months after disenrollment. However, we do not know whether those who disenrolled gained health insurance coverage in some other way, such as through the commercial insurance market.

Overall, the vast majority of people surveyed after they had disenrolled from HMP said their payments were fair and affordable. These results also show that prior HMP enrollees who went uninsured after leaving HMP were less likely to report they felt cost-sharing was affordable or fair. Using the full population of HMP enrollees, we found evidence that contributions, but not co-payments, may induce a slight increase in disenrollment from HMP managed care plans. The jump in disenrollment is higher for those without chronic conditions in HMP suggesting that vulnerable populations maintain coverage despite higher cost-sharing obligations. Higher co-payments, likely the result of increased service use and an indication of higher medical need, are associated with less likelihood of disenrollment. This could indicate that enrollees who need health care are receiving it and are motivated to stay enrolled in the program. Additionally, our survey results found that those with cost-sharing obligations are also more likely to report gaining insurance after disenrollment from HMP, suggesting disenrollment among those with cost-sharing obligations may not always lead to uninsurance.

Hypothesis 4: Healthy Behavior Rewards and Healthy Behaviors

A. Exemptions from cost-sharing for chronic illnesses and rewards implemented through the MI Health Account framework for completing a health risk assessment with a primary care provider and agreeing to behavior changes will be associated with beneficiaries increasing their healthy behaviors and their engagement with healthcare decision-making relative to their initial year of enrollment.

B. This increase in healthy behaviors and engagement will be associated with an improvement in enrollees' health status over time, as measured by changes in elements of their health risk assessments and changes in receipt of recommended preventive care (e.g., flu shots, cancer screening) and adherence to prescribed medications for chronic disease (e.g., asthma controller medications).

Methods

This hypothesis was analyzed using two different data sources. The first part of the hypothesis took advantage of several questions in the 2016 Healthy Michigan Voices (HMV) current enrollee survey:

- Compared to 12 months ago, how would you describe your weight? Have you lost weight; gained weight; or stayed about the same
- [*Asked of those who reported smoking or using tobacco in the past 30 days]* Are you working on cutting back or quitting right now?
- Since July 1, 2015, have you had a flu vaccine?

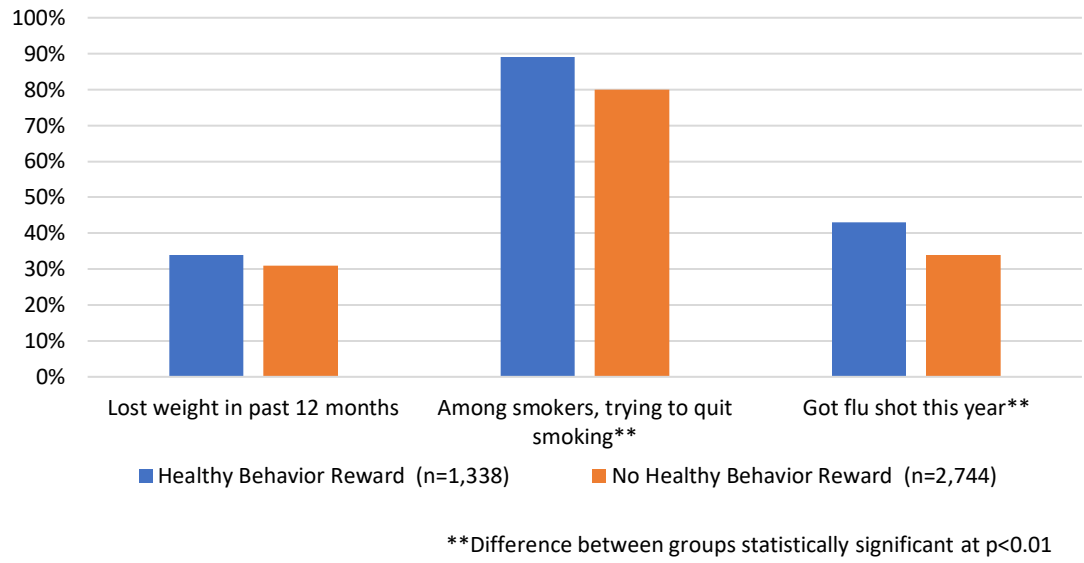
We linked answers on the HMV current enrollee survey to data from MDHHS relating to attestation of health risk assessment and agreement to a Healthy Behavior. We correlated affirmation of a healthy behavior with answers to questions about changes in healthy behaviors.

The second part of this hypothesis was tested using the same framework and population used in hypothesis 1 and 2, 22-64 year olds continuously enrolled for at least 18 months. We correlated affirmation of agreement to a healthy behavior with utilization of preventive services, preventive screenings and high-value medications. To measure service use, we used a subset of the services used for the analysis of hypothesis 2, with the same type of identification using flags to indicate receipt of service in a time period.

Results

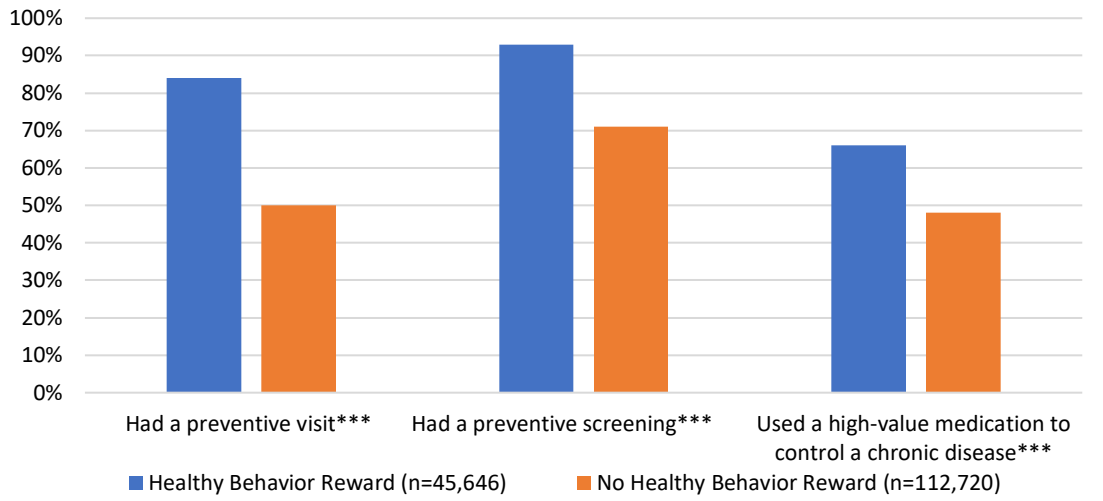
Figure 17 shows the percent of current enrollees who reported engaging in health behaviors based on whether or not they received a healthy behavior reward. Those who received a healthy behavior reward were significantly more likely to say they were trying to quit smoking, and to report they had a flu shot. However, there was no statistically significant difference in the percentage of respondents who reported that they had lost weight in the past year. In a probit regression model that controlled for demographic characteristics (including FPL), respondents who lost weight were statistically less likely to have received a healthy behavior reward, though the magnitude of the difference is relatively small (30.5% vs. 31.9%). Other results from the probit regression confirmed the unadjusted analyses in Figure 17 (Appendix Table 5.1).

Figure 17. Associations Between Healthy Behavior Rewards and Healthy Behaviors



Further evidence was developed using the set of enrollees aged 22-62 who were continuously enrolled for at least 18 months. Individuals who earned a health behavior reward were more likely to have a preventive visit, a preventive screening, or to have used a co-pay exempt drug for a chronic condition (Figure 18), but it should be noted that these are correlations and do not prove that receipt of a reward caused these differences.

Figure 18. Associations Between Healthy Behavior Rewards and Healthy Behaviors, Full Sample



***Difference between groups is statistically significant at p<0.01

Appendix Figures 5.1, 5.2 and 5.3 track these outcomes over time. For preventive visits and screenings, use declined with time in the program for both reward recipients and non-recipients, but the higher use among recipients persisted. For use of co-pay exempt medications, rates for both groups rose over time, and use was again consistently higher among reward recipients. Results for the full regression models for these three measures are reported in Appendix Table 5.2. All use measures were higher for older and female enrollees and varied modestly by income, race and region.

Finally, Appendix Table 5.3 reports a "difference-in-differences" model for each measure. This can be interpreted as reflecting changes over time for enrollees. Those who received a reward at any point had lower use of preventive visits and screening, but higher use of co-pay exempt drugs in their second year of the program compared with those who never received a healthy behavior reward. Preventive visits and preventive screening declined over time for both those who did and did not receive a reward but declined more quickly for those who did. This result may reflect that many of these services are not needed every year, such that those who received a healthy behavior reward were more likely to get the screenings in their initial enrollment periods. The use of high-value medications, typically for controlling chronic disease, rose for both groups and rose more quickly for those who received a reward.

Limitations

This study has several limitations. First, the results should be interpreted cautiously due to the lack of a control group of similar enrollees not subject to co-payments and monthly contributions. Second, the classification into co-pay exempt and co-pay likely as a proxy for high- and low-value services is not straightforward and relied on the likelihood of cost-sharing rather than a direct assessment of value and encompassed only a fraction of all services. Because cost-sharing was imposed infrequently for many services, the set of commonly used services with a high likelihood of co-payments was

limited. Third, the relationship between preventive service use and reward receipt may reflect correlations due to the same people pursuing both rewards and preventive services rather than reward receipt causing subsequent preventive care use. Fourth, the NLE survey does not allow direct comparison to those who continued enrollment.

Conclusions

Cost-sharing implemented through MI Health Accounts, consisting of co-payment for some services and monthly contributions for higher-income enrollees, was intended to raise enrollees' awareness of the cost of care and encourage efficient and effective use of care. In the primary analysis cohort of non-elderly adult enrollees with at least 18 months of continuous enrollment, there was some indication that enrollees facing higher cost-sharing made more efficient use of medical services over time relative to those facing lower cost sharing. However, trends in the use of co-pay exempt and co-pay likely services were similar across income groups that faced different exposures to cost-sharing. Receipt of a healthy behavior reward was associated with attempts to quit smoking, receipt of a flu shot, and higher use of other preventive services, but not with weight loss. Finally, there was evidence of a relationship between cost-sharing and disenrollment, though with different effects. Enrollees with co-payments were more likely to stay in the program. Enrollees with contributions were more likely to disenroll but only when they did not have evidence of higher medical needs, supporting the idea that the HMP retains clinically vulnerable populations despite cost-sharing. Results from our survey of those who had disenrolled from the program found that those with cost-sharing obligations and those who paid on their obligations were more likely than those without to gain insurance post-HMP enrollment, suggesting disenrollment does not always lead to uninsurance.

Report on the Impact of Cost Sharing in the Healthy Michigan Plan

Appendix A

Table and Figure of Contents

HMP Cost Share

Table 1.1 Average Invoice and Collection Amounts, Cross-Sectional

Average invoice, quarterly	$8.59
Median invoice, quarterly	$0.25
Average invoice (>$0), quarterly	$16.85
Median invoice (> $0), quarterly	$7.80
Average invoice, always < 100% FPL	$4.85
Median invoice, always < 100% FPL	$ 0.00
Average invoice, always > 100% FPL	$26.71
Median invoice, always > 100% FPL	$21.86
Fraction collected, overall*	0.39
Fraction collected, always < 100% FPL	0.38
Fraction collected, always > 100% FPL	0.41

*Fraction collected is conditional on having some cost-sharing obligation

Table 1.1a Invoice Amounts by Population and Collection Rates

	Average invoice ($)	Number of enrollees
Total population	8.59	158,322
Subset of total population with cost obligation	16.85	80,743
Collection category (Total population)		
None collected	15.21	38,645
Partial collection	23.31	23,302
Full collection	12.20	18,796
Always below 100% FPL	4.85	130,926
Subset of always below 100% FPL with cost obligation	11.11	57,196
Collection category (Always below 100% FPL)		
None collected	10.25	28,605
Partial collection	16.15	14,749
Full collection	7.52	13,842
Switches between 100 % FPL during study period	24.40	2,839
Subset of switches between 100% FPL during study period with cost obligation	29.62	2,339
Collection category (Switches between 100 % FPL during study period)		
None collected	29.23	995
Partial collection	35.17	875
Full collection	20.10	469
Always above 100% FPL	26.71	24,557
Subset of always below 100% FPL with cost obligation	30.93	21,208
Collection category (Always above 100% FPL)		
None collected	29.40	9,045
Partial collection	35.72	7,678
Full collection	25.80	4,485

Table 1.2 Regression Analysis of Predictors of Payment (Cross-sectional); Marginal Effects from Multivariable Ordered Logit Model

	No payment	Partial payment	Full payment	*p-value on regression coefficient*
Age				
Under 30	ref	ref	ref	
30 to 39	0.008	-0.003	-0.004	0.135
40 to 49	-0.059	0.022	0.038	< 0.001
Over 50	-0.206	0.047	0.158	< 0.001
Female	-0.004	0.001	0.003	0.233
Race				
White	ref	ref	ref	
Black	0.310	-0.129	-0.181	< 0.001
American Indian	0.200	-0.070	-0.130	< 0.001
Hispanic	0.142	-0.044	-0.098	< 0.001
Asian/Pacific Islander	-0.086	0.008	0.079	< 0.001
Unknown	0.031	-0.007	-0.024	< 0.001
FPL				
0-35 %	ref	ref	ref	
36-99 %	-0.024	0.007	0.017	< 0.001
100+ %	-0.044	0.011	0.033	< 0.001
Region				
Upper Peninsula	ref	ref	ref	
Northwest	0.003	-0.001	-0.002	0.780
Northeast	0.020	-0.004	-0.015	0.048
West	0.024	-0.006	-0.019	0.002
East Central	0.036	-0.009	-0.027	< 0.001
East	0.032	-0.008	-0.024	< 0.001
South Central	0.038	-0.009	-0.029	< 0.001
Southwest	0.060	-0.016	-0.045	< 0.001
Southeast	0.025	-0.006	-0.019	0.005
Detroit Metro	0.025	-0.006	-0.019	0.001
Total number of enrollees in model	80,743			

Enrollees in model if they have received a non-zero invoice and have no missing covariate values

Table 1.3 Subset of Enrollees who Ever Paid on Cost Sharing Obligation: Average Fraction Collected Over Time; Mean Collection Rates, with Frequency, by Period

6-month period of enrollment	Fraction collected	Number of non-missing observations in each period
7-12 months	0.71	52,259
13-18 months	0.63	54,380
19-24 months	0.64	33,227
25-30 months	0.66	11,485
Total n(obvs) = 42,098 **Total n(obvs/periods)=151,351**		

Table 1.3a Subset of Enrollees who Ever Paid on Cost Sharing Obligation: Average Fraction Collected Over Time; Mean Collection Rates, with Frequency, by Period

	Mean collection rates conditional on some collection, FPL <100		Mean collection rates conditional on some collection, FPL >=100	
	Fraction collected	**Number of non-missing observations**	**Fraction collected**	**Number of non-missing observations**
6-month period of enrollment				
7-12 months	0.72	34,972	0.70	17,287
13-18 months	0.64	35,333	0.63	19,047
19-24 months	0.64	21,590	0.64	11,637
25-30 months	0.66	7,813	0.65	3,672

Table 1.4 Predicted Percentage of Enrollees in Each Category of Collection Rate Category Among HMP Ever Payers, Ordered Logit Model, Bivariate and Multivariate Results

	Predicted percentage in each category per 6-month period of enrollment from ordered logit (Collection category on period; n= 151,351)				**Predicted percentage in each category per 6-month period of enrollment from ordered logit with demographic controls (Collection category on period; n= 148,784)***			
	No payment	**Partial payment**	**Full payment**	***p-value on regression coefficient***	**No payment**	**Partial payment**	**Full payment**	***p-value on regression coefficient***
Time period								
7-12 months	22.2%	13.0%	64.8%		22.2%	13.0%	64.8%	
13-18 months	29.7%	14.8%	55.5%	< 0.001	29.8%	14.8%	55.4%	< 0.001
19-24 months	29.8%	14.9%	55.3%	< 0.001	30.0%	14.9%	55.1%	< 0.001
25-30 months	29.0%	14.7%	56.4%	< 0.001	29.8%	14.8%	55.4%	< 0.001

*Controls for age (in categories), FPL (in categories), race, gender and region

Table 1.5 Fixed Effects Models of Fraction Paid and Propensity to Pay All or None of Obligations

	Log odds of ever-paying individual paying in full, by period		Log odds of an ever-payer individual paying nothing, by period		Change in fraction collected by period among HMP ever payers, OLS with FE	
	Paid in full	***p-value on regression coefficient***	**Paid nothing**	***p-value on regression coefficient***	**Marginal change in fraction paid, compared to reference**	***p-value on regression coefficient***
Time period						
7-12 months	ref		ref		ref	
13-18 months	-0.68	< 0.001	0.58	< 0.001	-0.09	< 0.001
19-24 months	-0.67	< 0.001	0.44	< 0.001	-0.07	< 0.001
25-30 months	-0.50	< 0.001	0.22	< 0.001	-0.04	< 0.001
Total observations (People/periods)	85,500		73,593		151,351	

Notes: The interpretation of the logit fixed effects models (for paid all or paid nothing) are in log odds of payment. For example, moving from the reference group of 7-12 months to 13-18 months in the paid in full panel changes the log odds of paying in full by -0.60.
OLS with FE = Ordinary least squares regression with fixed effects. The interpretation on these predictions is as the marginal change in the fraction of the total obligation paid, compared with the baseline period of 7-12 months after first enrolling. In a fixed effects mode, any unchanging characteristics of enrollees (gender or region, for example) are held constant.

Table 1.6 Demographic Characteristics of Select Subgroup: Ever-Payer HMP Enrollees with 25+ months of continuous eligibility and 3+ MI Health Account statements

	Continuously enrolled in HMP-MC 18+ months; non-exclusion population	HMP ever-payer population with 25 months or more of eligibility 3 MI Health Account statements (subset of population represented in left column)
Age		
22-34	30.0%	19.4%
35-44	21.8%	16.9%
45-54	29.9%	31.9%
55-64	18.3%	31.9%
Female	54.5%	65.3%
Race		
White	64.0%	80.1%
Black	24.2%	10.4%
American Indian/Alaskan Native	0.5%	0.3%
Hispanic	2.8%	2.1%
Asian/Pacific Islander	0.5%	0.6%
Other race	7.9%	6.5%
FPL		
0 %	51.1%	19.7%
1-35 %	7.2%	12.5%
36-99 %	25.7%	40.9%
100+ %	15.9%	26.9%
Region		
Upper Peninsula	3.6%	6.4%
Northwest	2.6%	4.1%
Northeast	3.2%	5.5%
West	12.0%	13.3%
East Central	6.7%	8.6%
East	11.5%	12.9%
Southeast	6.8%	7.9%
South Central	4.1%	4.5%
Southwest	7.1%	7.2%
Detroit Metro	42.3%	29.7%
Total enrollees	158,369	15,736

Exclusion from HMP if not enrolled for 18 months continuously or part of an exclusion population (hospice care, nursing home care, children's special health care services)
Unable currently to exclude pregnant women. There is a reduction reason for pregnancy so these enrollees should not show up in cost-sharing tables with positive invoices.

Table 1.7 Fixed Effects Models of Fraction Paid and Propensity to Pay All or None of Obligations, Subset of Long Enrolled and Frequent MI Health Account Statement

	Log odds of each category in Chamberlin fixed effects model		**Log odds of each category in Chamberlin fixed effects model**		**Fraction collected by period, ordinary least squares regression with fixed effects**	
	Full payment	***p-value on regression coefficient***	**No payment**	***p-value on regression coefficient***	**Marginal change in fraction paid, compared to reference**	***p-value on regression coefficient***
Time period						
7-12 months	0		0		0	
13-18 months	-0.583	< 0.001	0.823	< 0.001	-0.098	< 0.001
19-24 months	-0.816	< 0.001	0.742	< 0.001	-0.103	< 0.001
25-30 months	-0.525	< 0.001	0.418	< 0.001	-0.054	< 0.001
Total observations (People/periods)	39,954		33,489		67,478	

Notes: The interpretation of the logit fixed effects models (for paid all or paid nothing) are in log odds of payment. For example, in the 'paid in full' panel, moving from the reference group of 7-12 months to 13-18 months changes the log odds of paying in full by -0.44.
OLS with FE = Ordinary least squares regression with fixed effects. The interpretation on these predictions is as the marginal change in the fraction of the total obligation paid, compared with the baseline period of 7-12 months after first enrolling. In a fixed effects mode, any unchanging characteristics of enrollees (gender or region, for example) are held constant.

Table 1.8 Sample Characteristics of Eligible HMV Respondents (n=1,669)

Characteristic	n	%
Average billed quarterly premium contributions		
$0	1284	81.6
> $0 to $21	140	6.7
> $21	245	11.4
Average billed quarterly copayments		
$0	852	59.4
> $0 to $2	318	15.8
> $2	499	24.8
Payment of billed contributions and copayments in past 12 months (n=884)		
0%	345	43.1
1% to 95%	236	26.3
> 95%	303	30.6
FPL category		
0% to 35%	700	53.3
36% to 99%	584	28.5
≥ 100%	385	18.2
Female, %	998	53.2
Age, %		
18 to 34	441	34.1
35 to 50	515	33.6
51 to 64	713	32.3
Race, %		
White	1155	61.3
Black	328	27.0
Other	113	8.1
More than one	53	3.5
Married or partnered	396	19.7
Good, very good, or excellent health status	1101	67.0
Chronic condition	544	30.9

Table 1.9 Associations between billed premium contributions and survey measures of health care affordability

Characteristic	Outcomes[1]					
	Payments affordable[2] (n = 1,641)		Payments fair[3] (n = 1,641)		Foregone care due to cost[4] (n = 1,641)	
	Coefficient (95% CI)	*P*-value	Coefficient (95% CI)	*P*-value	Coefficient (95% CI)	*P*-value
Average billed quarterly premium contributions						
$0 (reference)						
> $0 to $21	.05	.11	.02	.55	.002	.94
> $21	-.02	.54	-.03	.55	-.02	.46
Average billed quarterly copayments						
$0 (reference)						
> $0 to $2	.02	.49	.02	.44	-.003	.88
> $2	.01	.74	.01	.57	.02	.28
FPL category						
0 to 35% (reference)						
36 to 99%	.005	.82	.01	.60	-.01	.50
≥ 100%	-0.56	.10	-.04	.29	-.01	.67
Female	-.02	.25	-.01	.57	.04	.02
Age						
18 to 34 (reference)						
35 to 50	.03	.26	.07	.02	-.02	.43
51 to 64	.05	.04	.06	.04	-.04	.06
Race						
White (reference)						
Black	-.05	.06	-.06	.04	-.02	.42
Other	-.08	.05	-.04	.39	.01	.69
More than one	-.04	.47	.01	.86s	.004	.93
Married or partnered	.04	.03	.02	.47	-.001	.95
G/VG/E health status	.05	.02	.04	.08	-.03	.15
Chronic condition	.01	.47	-.01	.74	.004	.84

CI = confidence interval; G = good; VG = very good; E = excellent

[1]Each column represents a different multivariable linear probability model. [2]Strongly agree or agree that payments affordable. [3]Strongly agree or agree that payments fair. [4]Went without health care in the past 12 months because 'you were worried about the cost,' 'you did not have health insurance,' 'the doctor or hospital wouldn't accept your health insurance,' or 'your health plan wouldn't pay for the treatment.'

Table 1.10 Associations between billed premium contributions and payments of bills for contributions and co-pays (n=867)

Characteristic	Coefficient (95%CI)[1]	*P*-value
Average billed quarterly premium contributions		
$0 (ref)		
> $0 to $21	.42	.07
> $21	.44	.03
Average billed quarterly copayments		
$0 (ref)		
> $0 to $2	.30	.32
> $2	.76	.007
FPL category		
0 to 35% (ref)		
36 to 99%	.28	.26
≥ 100%	-.13	.63
Female	.04	.80
Age		
18 to 34 (ref)		
35 to 50	-.03	.90
51 to 64	.76	< .001
Race		
White (ref)		
Black	-1.52	< .001
Other	-.38	.22
More than one	-.33	.61
Married or partnered	-.25	.16
Good, very good, or excellent health status	1.05	< .001
Chronic condition	-.05	.75

CI = confidence interval

[1]Coefficients represent the log-odds of being in a higher payment category relative to lower payment categories.

Table 1.11 Marginal Effects from Logit Regression of Demographics on Garnishment

	Coefficient	*p-value on regression coefficient*
Age		
Under 30	ref	
30 to 39	0.002	0.050
40 to 49	-0.001	0.380
Over 50	-0.004	< 0.001
Female	0.007	< 0.001
Race		
White	0.011	< 0.001
Black	-0.008	0.080
American Indian	0.003	0.101
Hispanic	-0.014	0.006
Asian/Pacific Islander	-0.001	0.499
Unknown	0.011	< 0.001
FPL		
0-35 %	ref	
36-99 %	0.008	< 0.001
100+ %	0.040	< 0.001
Region		
Upper Peninsula	ref	
Northwest	0.000	0.888
Northeast	0.000	0.940
West	-0.002	0.449
East Central	0.001	0.732
East	0.002	0.370
South Central	0.003	0.290
Southwest	0.000	0.886
Southeast	-0.001	0.573
Detroit Metro	-0.006	0.002
Total people	158,322	

Table 1.12 Number of Enrollees with Garnishments in 2016, by Collection Category

	No payment	Partial payment	Full payment	Totals
No garnishment	36,684	22,433	18,745	77,862
Garnishment	1,961	869	51	2,881

Figure 1.1 Mean Federal Poverty Level, Cross-Sectional. Average FPL per enrollee from enrollment data, with 0 FPL included

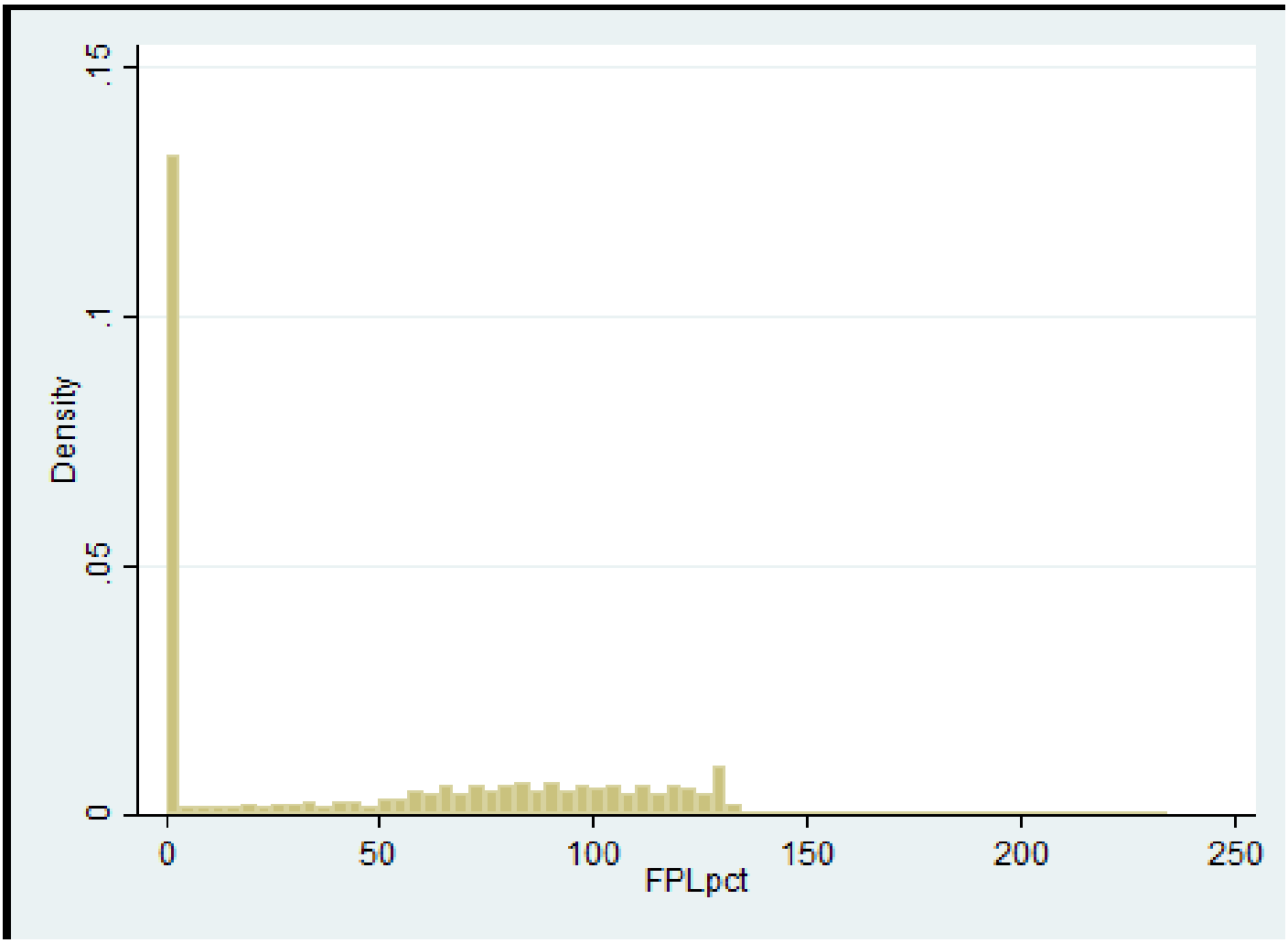


Figure 1.1a Mean Federal Poverty Level, Cross-Sectional. Average FPL per enrollee from enrollment data, without 0 FPL included

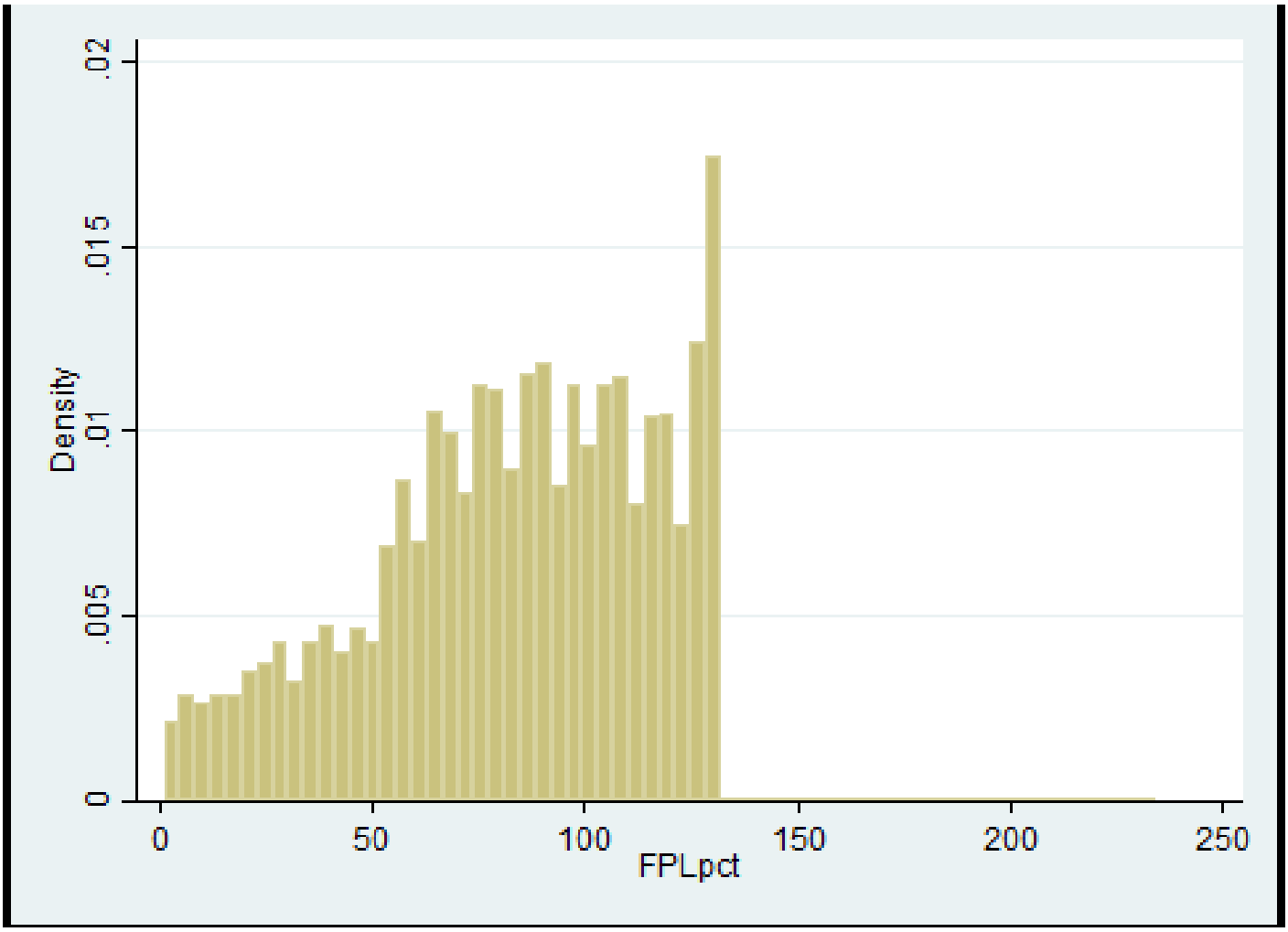


Figure 1.2 Percent Paid Over Time in 25+ Month Subset

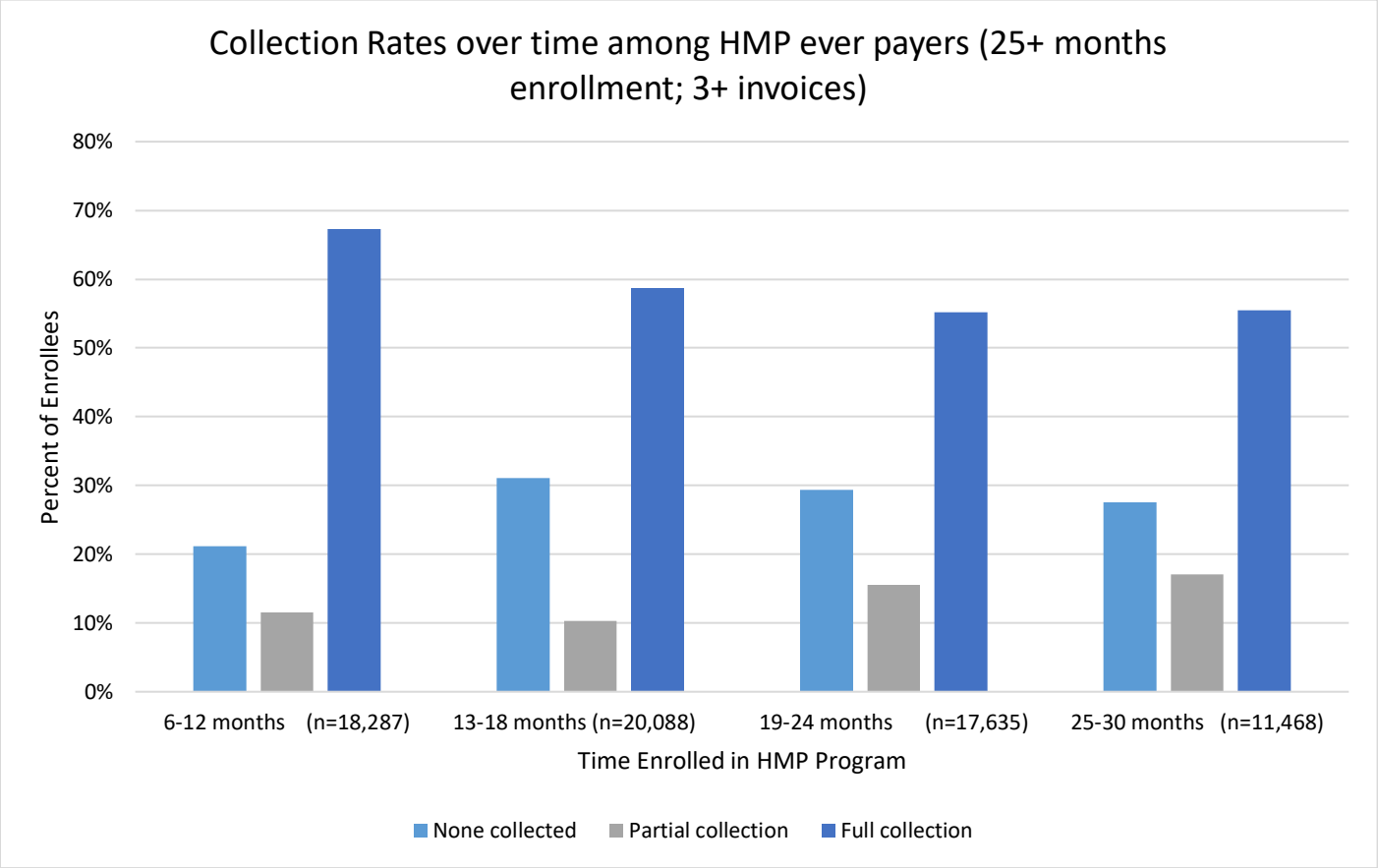
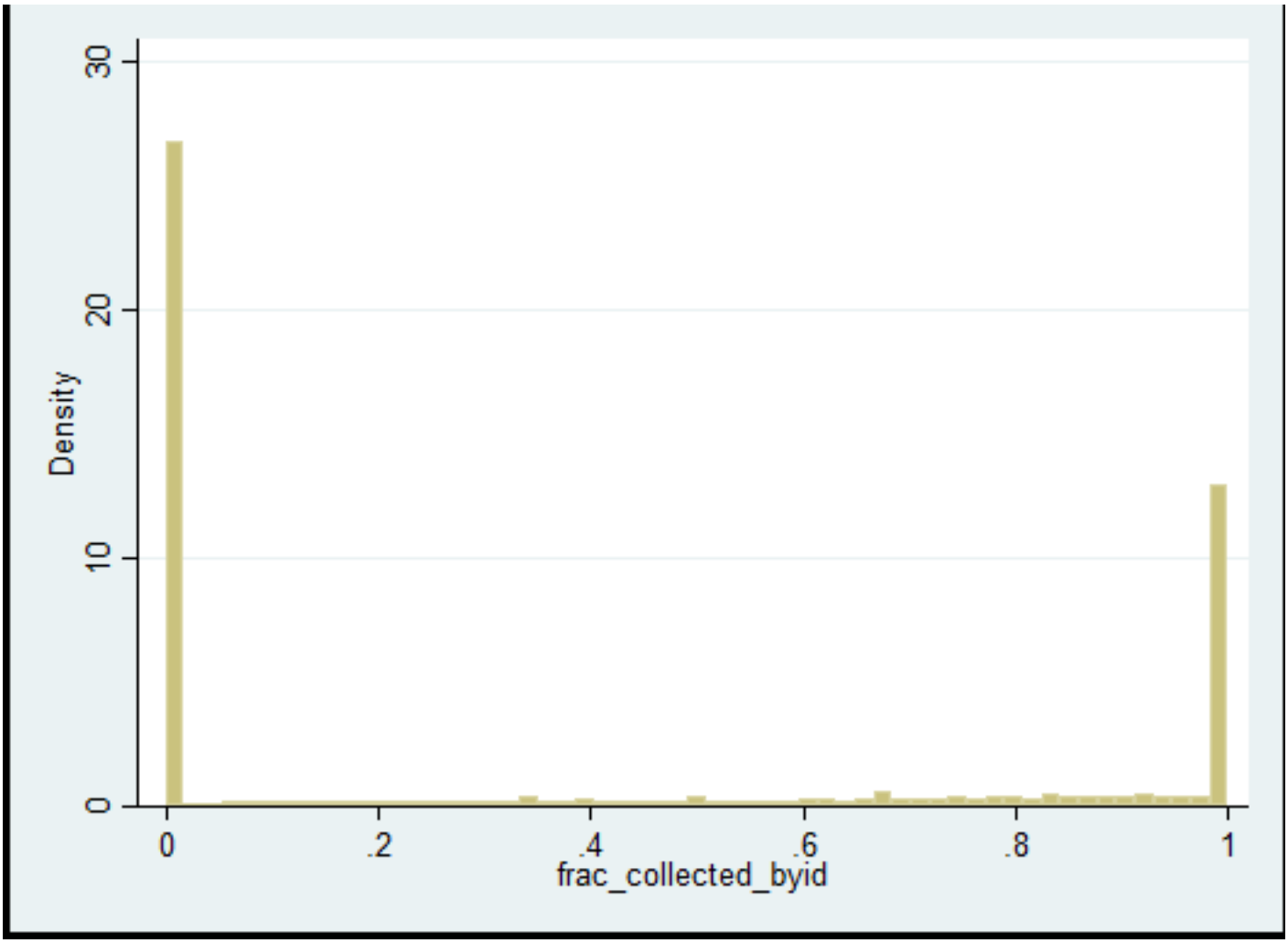


Figure 1.3 Payment Fraction Collected, Cross-Sectional Analysis



Note: In this graph the x-axis label, frac_collected_byid is the fraction of the invoice collected for each individual. This graph shows the density of collected fraction of invoices for HMP-MC individuals. The highest density (most individuals) have 0% of invoices collected, followed by 100% of invoice amounts collected. True fractions (between 0% and 100%) are more rare.

Hypothesis 1: Total Medical and Pharmaceutical Spending

Table 2.1 Cross-Sectional Descriptive Spending Results (April 2014 to Sept 2016)

	Overall	Mean FPL: 0-35 %	Mean FPL: 36-99 %	Mean FPL: 100+ %
Average monthly total spend	$ 360.04	$ 390.55	$ 313.32	$ 326.97
Average monthly medical spend	$ 238.44	$ 257.54	$ 209.66	$ 217.05
Average monthly Rx spend	$ 121.60	$ 133.01	$ 103.66	$ 109.92
Median monthly total spend	$ 135.63	$ 151.60	$ 122.07	$ 114.09
Median monthly medical spending	$ 90.61	$ 98.58	$ 83.53	$ 79.11
Median monthly Rx spending	$ 18.27	$ 21.72	$ 15.24	$ 14.42
Total enrollees	158,366	90,965	39,994	27,404

Table 2.2 Cross-Sectional Regression Analysis of Spending on Demographic Variables; Predicted Spending from GLM Regression

	Monthly total spending	*p-value on regression coefficient*	Monthly medical spending	*p-value on regression coefficient*	Monthly pharmaceutical spending	*p-value on regression coefficient*
Age						
Under 30	223.57		155.16		67.73	
30 to 39	295.32	< 0.01	191.45	< 0.01	103.06	< 0.01
40 to 49	408.62	< 0.01	262.88	< 0.01	145.99	< 0.01
Over 50	438.01	< 0.01	295.15	< 0.01	144.06	< 0.01
Gender						
Male	322.95		203.48		119.72	
Female	392.36	< 0.01	269.34	< 0.01	123.21	0.12
Race						
White	380.05		253.47		126.90	
Black	327.23	< 0.01	211.85	< 0.01	115.01	< 0.01
American Indian	560.96	0.11	417.77	0.11	141.91	0.20
Hispanic	342.06	0.01	219.04	< 0.01	122.37	0.67
Asian/Pacific Islander	247.71	< 0.01	159.12	< 0.01	89.17	0.02
Unknown	304.22	< 0.01	205.59	< 0.01	100.10	< 0.01
FPL						
0-35 %	396.05		263.67		133.18	
36-99 %	311.97	< 0.01	206.93	< 0.01	104.65	< 0.01
100+ %	314.44	< 0.01	206.24	< 0.01	107.48	< 0.01
Region						
Upper Peninsula	308.72	< 0.01	191.53	< 0.01	118.33	0.47
Northwest	322.63	< 0.01	206.43	< 0.01	116.93	0.38
Northeast	301.28	< 0.01	196.44	< 0.01	106.01	0.01
West	374.36	0.02	239.58	0.68	134.80	< 0.01
East Central	326.16	< 0.01	210.76	< 0.01	117.06	0.23
East	339.99	< 0.01	231.15	0.11	109.33	< 0.01
South Central	310.95	< 0.01	198.10	< 0.01	113.56	0.11
Southwest	356.18	0.53	236.96	0.87	120.44	0.60
Southeast	504.38	< 0.01	369.24	< 0.01	135.03	0.02
Detroit Metro	360.77		237.85		122.55	
Other health insurance						
No	353.50		234.52		119.38	
Yes	466.99	< 0.01	307.65	< 0.01	157.04	< 0.01
Total people	158,366					

Table 2.2a Coefficients from Other Regression Specifications of Spending

	Spending outcomes using ordinary least squares regression model (n=158,366)					Spending outcomes using generalized linear model -coefficients (n=158,366)					Marginal effects from generalized linear model- marginal effects (n=158,366)				
	Monthly spending	*p-value on regression coefficient*	Monthly medical spending	*p-value on regression coefficient*	Monthly pharmaceutical spending	*p-value on regression coefficient*	Monthly spending	*p-value on regression coefficient*	Monthly medical spending	*p-value on regression coefficient*	Monthly pharmaceutical spending	*p-value on regression coefficient*	Monthly spending	Monthly medical spending	Monthly pharmaceutical spending
Age															
Under 30	ref		ref		ref		ref		ref		ref		ref	ref	ref
30 to 39	74.69	< 0.01	38.55	< 0.01	36.15	< 0.01	0.28	< 0.01	0.21	< 0.01	0.42	< 0.01	71.75	36.29	35.34
40 to 49	186.84	< 0.01	106.98	< 0.01	79.86	< 0.01	0.60	< 0.01	0.53	< 0.01	0.77	< 0.01	185.06	107.72	78.27
Over 50	209.72	< 0.01	134.05	< 0.01	75.66	< 0.01	0.67	< 0.01	0.64	< 0.01	0.75	< 0.01	214.44	139.99	76.33
Gender															
Male	ref		ref		ref		ref		ref		ref		ref	ref	ref
Female	66.13	< 0.01	58.69	< 0.01	7.43	< 0.01	0.19	< 0.01	0.28	< 0.01	0.03	0.12	70.14	67.00	3.49
Race															
White	ref		ref		ref		ref		ref		ref		ref	ref	ref
Black	-56.53	< 0.01	-44.39	< 0.01	-12.14	< 0.01	-0.15	< 0.01	-0.18	< 0.01	-0.10	< 0.01	-52.82	-41.62	-11.88
American Indian	194.66	0.22	178.05	0.26	16.62	0.15	0.39	0.11	0.50	0.11	0.11	0.20	180.91	164.30	15.01
Hispanic	-45.70	< 0.01	-39.26	< 0.01	-6.43	0.44	-0.11	0.01	-0.15	< 0.01	-0.04	0.67	-37.99	-34.43	-4.52
Asian/Pacific Islander	-136.95	< 0.01	-101.52	< 0.01	-35.43	0.01	-0.43	< 0.01	-0.47	< 0.01	-0.35	0.02	-132.34	-94.35	-37.73
Unknown	-78.00	< 0.01	-51.96	< 0.01	-26.03	< 0.01	-0.22	< 0.01	-0.21	< 0.01	-0.24	< 0.01	-75.83	-47.88	-26.79
FPL															
0-35 %	ref		ref		ref		ref		ref		ref		ref	ref	ref
36-99 %	-84.46	< 0.01	-55.78	< 0.01	-28.68	< 0.01	-0.24	< 0.01	-0.24	< 0.01	-0.24	< 0.01	-84.08	-56.75	-28.54
100+ %	-75.01	< 0.01	-51.25	< 0.01	-23.76	< 0.01	-0.23	< 0.01	-0.25	< 0.01	-0.21	< 0.01	-81.61	-57.43	-25.70
Region															
Upper Peninsula	-59.65	< 0.01	-54.31	< 0.01	-5.34	0.34	-0.16	< 0.01	-0.22	< 0.01	-0.04	0.47	-52.05	-46.32	-4.22
Northwest	-42.57	< 0.01	-36.80	< 0.01	-5.77	0.37	-0.11	< 0.01	-0.14	< 0.01	-0.05	0.38	-38.14	-31.42	-5.63
Northeast	-60.02	< 0.01	-45.43	< 0.01	-14.59	0.01	-0.18	< 0.01	-0.19	< 0.01	-0.15	0.01	-59.49	-41.41	-16.54
West	16.22	0.01	0.98	0.82	15.24	< 0.01	0.04	0.02	0.01	0.68	0.10	< 0.01	13.59	1.73	12.25
East Central	-34.51	< 0.01	-28.41	< 0.01	-6.10	0.14	-0.10	< 0.01	-0.12	< 0.01	-0.05	0.23	-34.60	-27.09	-5.49
East	-21.56	< 0.01	-9.39	0.03	-12.17	< 0.01	-0.06	< 0.01	-0.03	0.11	-0.11	< 0.01	-20.78	-6.70	-13.23
South Central	-46.82	< 0.01	-40.92	< 0.01	-5.90	0.27	-0.15	< 0.01	-0.18	< 0.01	-0.08	0.11	-49.81	-39.76	-8.99
Southwest	-2.75	0.70	-1.93	0.73	-0.82	0.83	-0.01	0.53	< 0.01	0.87	-0.02	0.60	-4.59	-0.89	-2.12
Southeast	143.36	< 0.01	134.48	< 0.01	8.88	0.05	0.34	< 0.01	0.44	< 0.01	0.10	0.02	143.61	131.39	12.48
Detroit Metro	ref		ref		ref		ref		ref		ref		ref	ref	
Other health insurance															
No	ref		ref		ref		ref		ref		ref		ref	ref	ref
Yes	126.62	< 0.01	84.35	< 0.01	42.27	< 0.01	0.28	< 0.01	0.27	< 0.01	0.27	< 0.01	100.31	64.84	33.34

Table 2.3 Descriptive Spending by Year, with Poverty Level Splits

	Average per month total spending	Average per month medical spending	Average per month pharmaceutical spending	Enrollee/months
Overall				
Year 1	340.72	240.21	100.52	1,900,428
Year 2	377.87	235.12	142.75	1,597,191
Year 3	447.70	254.63	193.07	239,782
FPL 0-35 %				
Year 1	365.72	255.81	109.91	1,110,806
Year 2	423.89	264.39	159.50	949,918
Year 3	496.01	282.64	213.37	155,770
FPL 33-99 %				
Year 1	292.36	207.47	84.88	473,081
Year 2	311.12	195.38	115.73	392,257
Year 3	367.83	211.90	155.93	53,652
FPL 100+ %				
Year 1	325.31	234.40	90.91	316,505
Year 2	309.16	187.19	121.97	254,980
Year 3	341.12	186.49	154.63	30,342

Table 2.3a Descriptive Spending by 6-month Period

	Mean spending	Mean medical spending	Mean Pharmaceutical spending	Enrollee/months
Time period of enrollment				
All enrollees				
0-6 months	317.76	229.67	88.09	950,214
7-12 months	363.69	250.74	112.95	950,214
13-18 months	365.05	233.00	132.04	950,214
19-24 months	396.71	238.23	158.48	646,977
25-30 months	447.70	254.63	193.07	239,782
Enrollees with FPL 0-35 %				
0-6 months	340.99	244.61	96.38	554,530
7-12 months	390.37	266.96	123.40	556,276
13-18 months	409.03	262.19	146.83	560,021
19-24 months	445.23	267.55	177.68	389,897
25-30 months	496.01	282.64	213.37	155,770
Enrollees with FPL 36-99 %				
0-6 months	269.90	195.05	74.85	237,068
7-12 months	314.91	219.95	94.96	236,013
13-18 months	299.92	190.85	109.07	234,732
19-24 months	327.80	202.14	125.66	157,525
25-30 months	367.83	211.90	155.93	53,652
Enrollees with FPL 100+ %				
1-6 months	308.06	229.19	78.87	158,598
7-12 months	342.63	239.63	103.00	157,907
13-18 months	304.96	191.48	113.47	155,443
19-24 months	315.73	180.49	135.24	99,537
25-30 months	341.12	186.49	154.63	30,342

Table 2.4 Spending, including by Time Enrolled in Program, Predicted Effects from GLM Regression

	Predicted average monthly spending	*p-value on regression coefficient*	Predicted average monthly medical spending	*p-value on regression coefficient*	Predicted average monthly pharmaceutical spending	*p-value on regression coefficient*
Time period						
Months 0 -6	320.82		231.44		89.49	
Months 7-12	363.48	< 0.01	248.50	0.011	114.54	< 0.01
Months 13-18	368.30	< 0.01	236.60	0.248	132.23	< 0.01
Months 19-24	391.33	< 0.01	240.44	0.067	151.07	< 0.01
Months 25-30	422.98	< 0.01	243.24	0.028	179.46	< 0.01
FPL						
0-35 %	404.26		266.10		139.11	
36-99 %	309.40	0.922	202.32	0.220	106.69	< 0.01
100+ %	317.37	0.853	202.92	0.226	112.07	< 0.01
Age						
Under 30	229.18		156.85		71.67	
30 to 39	301.72	< 0.01	192.40	< 0.01	108.74	< 0.01
40 to 49	412.10	< 0.01	260.85	< 0.01	151.60	< 0.01
Over 50	440.08	< 0.01	293.48	< 0.01	147.05	< 0.01
Gender						
Male	329.41		204.24		125.09	
Female	398.24	< 0.01	270.09	< 0.01	128.37	0.020
Race						
White	385.81		253.10		132.48	
Black	331.91	< 0.01	213.45	< 0.01	119.12	< 0.01
American Indian	607.33	0.116	457.21	0.110	146.75	0.033
Hispanic	348.16	< 0.01	219.44	< 0.01	127.42	0.464
Asian/Pacific Islander	250.29	< 0.01	158.31	< 0.01	90.65	< 0.01
Unknown	312.98	< 0.01	208.55	< 0.01	105.74	< 0.01
Region						
Upper Peninsula	312.51	< 0.01	191.02	< 0.01	121.45	0.077
Northwest	331.41	< 0.01	208.94	< 0.01	122.57	0.159
Northeast	309.87	< 0.01	199.40	< 0.01	111.05	< 0.01
West	381.81	< 0.01	242.19	0.216	140.84	< 0.01
East Central	333.21	< 0.01	213.23	< 0.01	121.09	0.016
East	347.13	< 0.01	233.59	0.156	112.90	< 0.01
South Central	317.60	< 0.01	200.83	< 0.01	118.72	0.016
Southwest	362.11	0.510	239.00	0.864	124.78	0.119
Southeast	512.25	< 0.01	362.87	< 0.01	141.29	< 0.01
Detroit Metro	366.02		238.06		128.54	
Other health insurance						
No	365.08		238.88		126.28	
Yes	407.47	0.016	262.46	0.045	144.32	< 0.01
Total observations (Enrollee/periods)	681,712		681,712		681,712	

Table 2.4a Predicted Spending with FPL/Time Interactions and Demographics, Predicted Effects from GLM Regressions

	Total monthly spending	*p-value on regression coefficient*	Medical monthly spending	*p-value on regression coefficient*	Monthly pharmaceutical spending	*p-value on regression coefficient*
Time period and Federal poverty level						
0-6 Months: Below 35%	343.38		247.03		97.15	
0-6 Months: 36-99% FPL	271.79	< 0.01	194.88	< 0.01	76.79	< 0.01
0-6 Months: Above 100% FPL	305.12	0.114	222.59	0.233	79.68	< 0.01
7-12 Months: Below 35% FPL	388.46	< 0.01	264.99	0.013	123.75	< 0.01
7-12 Months: 36-99% FPL	320.22	0.358	219.75	0.360	98.22	0.909
7-12 Months: Above 100% FPL	329.18	0.613	224.76	0.603	103.71	0.586
13-18 Months: Below 35% FPL	413.06	< 0.01	268.29	< 0.01	145.55	< 0.01
13-18 Months: 36-99% FPL	307.08	0.022	195.35	0.014	111.69	0.447
13-18 Months: Above 100% FPL	306.32	0.020	191.42	0.010	114.88	0.346
19-24 Months: Below 35% FPL	445.17	< 0.01	277.76	< 0.01	168.04	< 0.01
19-24 Months: 36-99% FPL	321.46	0.011	199.08	0.018	122.41	0.033
19-24 Months: Above 100% FPL	314.41	< 0.015	179.01	< 0.01	134.41	0.648
25- 30 Months: Below 35% FPL	483.89	< 0.01	281.84	< 0.01	201.49	< 0.01
25- 30 Months: 36-99% FPL	348.52	0.010	201.87	0.031	147.28	0.141
25- 30 Months: Above 100% FPL	321.69	< 0.011	171.87	< 0.01	148.99	0.144
Age						
Under 30	228.85		156.48		71.70	
30 to 39	301.95	< 0.01	192.64	< 0.01	108.77	< 0.01
40 to 49	412.24	< 0.01	260.85	< 0.01	151.65	< 0.01
Over 50	440.07	< 0.01	293.29	< 0.01	147.13	< 0.01
Gender						
Male	329.50		204.11		125.14	
Female	398.30	< 0.01	270.08	< 0.01	128.43	0.019
Race						
White	253.07	< 0.01			132.53	0.011
Black	213.39	< 0.01		< 0.01	119.22	< 0.01
American Indian	451.02	0.113		0.107	146.87	0.033
Hispanic	219.39	< 0.01		< 0.01	127.42	0.457

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Asian/Pacific Islander	158.57	< 0.01		< 0.01	90.64	< 0.01
Unknown	208.65	< 0.01		< 0.01	105.77	< 0.01
Region						
Upper Peninsula	313.28	< 0.01	191.31	< 0.01	121.54	0.077
Northwest	331.42	< 0.01	209.31	< 0.01	122.52	0.148
Northeast	310.89	< 0.01	199.81	< 0.01	111.36	< 0.01
West	381.84	< 0.01	242.18	0.243	140.89	< 0.01
East Central	333.65	< 0.01	213.44	< 0.01	121.23	0.017
East	347.15	< 0.01	233.77	0.149	112.89	< 0.01
South Central	317.82	< 0.01	200.86	< 0.01	118.84	0.016
Southwest	362.21	0.483	238.81	0.924	124.87	0.122
Southeast	509.60	< 0.01	359.71	< 0.01	141.28	< 0.01
Detroit Metro	366.33	< 0.01	238.30		128.59	< 0.01
Other health insurance						
No	365.21		238.86		126.35	
Yes	405.21	0.018	260.90	0.057	143.96	< 0.01
Total observations (Enrollee/months)	681,697		681,697		681,697	

Table 2.4b Subset of HMP Enrollees with Cost Sharing Obligations: Predicted Spending with FPL and Time Interactions, Demographics and Collection Rates

	Total monthly spending	*p-value on regression coefficient*	Monthly medical spending	*p-value on regression coefficient*	Monthly pharmaceutical spending	*p-value on regression coefficient*
Collection category						
None collected	349.67		236.54		112.97	
Partial collection	364.43	0.027	231.56	0.328	134.88	< 0.01
Full collection	331.41	0.049	216.47	0.018	113.59	0.805
Time period						
Months 0-6	312.51		228.37		84.24	
Months 7-12	348.10	0.013	239.63	0.283	108.45	< 0.01
Months 13-18	351.82	< 0.01	227.85	0.941	124.46	< 0.01
Months 19-24	366.72	< 0.01	224.46	0.577	142.20	< 0.01
Months 25-30	396.78	< 0.01	226.71	0.823	169.65	< 0.01
FPL						
0-35 %	397.67		264.57		135.18	
36-99 %	325.68	< 0.01	214.60	< 0.01	111.36	< 0.01
100+ %	320.55	< 0.01	206.88	< 0.01	110.99	< 0.01
Age						
Under 30	228.21		158.74		66.59	
30 to 39	269.51	< 0.01	174.28	0.035	95.75	< 0.01
40 to 49	370.39	< 0.01	232.90	< 0.01	138.58	< 0.01
Over 50	444.03	< 0.01	298.45	< 0.01	146.12	< 0.01
Gender						
Male	322.01		196.65		125.64	
Female	364.36	< 0.01	248.11	< 0.01	116.31	< 0.01
Race						
White	360.75		239.80		120.74	
Black	329.72	< 0.01	208.47	< 0.01	122.29	0.576
American Indian	388.03	0.244	244.67	0.780	151.39	0.013
Hispanic	328.66	0.034	204.43	< 0.01	120.43	0.976
Asian/Pacific Islander	263.67	< 0.01	158.77	< 0.01	103.24	0.214
Unknown	303.29	< 0.01	205.07	< 0.01	101.53	< 0.01
Region						
Upper Peninsula	319.69	0.011	195.44	< 0.01	124.51	0.440
Northwest	321.87	0.019	208.36	0.014	113.23	0.184
Northeast	287.57	< 0.01	184.79	< 0.01	102.34	< 0.01
West	366.28	0.011	236.42	0.029	131.96	< 0.01
East Central	320.80	< 0.01	206.22	< 0.01	117.21	0.349
East	325.18	< 0.01	223.73	0.429	101.40	< 0.01
South Central	299.84	< 0.01	191.76	< 0.01	110.33	0.010
Southwest	350.17	0.649	228.70	0.748	123.09	0.440
Southeast	497.87	0.011	350.79	0.011	137.49	< 0.01
Detroit Metro	347.16		226.96		120.54	
Other health insurance						
No	348.84		229.74		119.12	
Yes	362.66	0.107	233.05	0.643	131.40	0.013
Total observations (Enrollee/periods)	340,254		340,254		340,254	

Table 2.5 Marginal Effects from a Fixed Effect Regression Model of Spending and Log of Spending

	Marginal difference in total monthly spending, compared to constant	***p-value on regression coefficient***	**Marginal effects of log of total monthly spending**	***p-value on regression coefficient***
Time period				
0-6 Months	ref		ref	
7-12 Months	45.91	< 0.01	-0.06	< 0.01
13-18 Months	48.47	< 0.01	-0.01	0.315
19-24 Months	74.11	< 0.01	-0.22	< 0.01
25-30 Months	110.09	< 0.01	-0.28	< 0.01
FPL				
0-35 %	ref		ref	
36-99 %	97.97	0.256	-0.02	0.566
100+ %	96.38	0.545	-0.04	0.194
Other health insurance				
No	ref		ref	
Yes	-71.26	0.479	-0.38	< 0.01
Constant	280.46		4.26	
Number enrollees	158,366		158,366	

Notes: The log of healthcare expenditures are often used in research rather than the actual dollar amounts because many people spend very little each month and a few people spend quite a bit. That spread of spending, particularly when a few numbers are much higher than most, has been shown difficult to model mathematically. Instead, using the log of the number, results in more accurate predictions. In this case, the log spending was taken by adding $1 to each spending outcome because the log of $0 is undefined.

Hypothesis 2: Medicaid Service Value – Medical Services

Table 3.1.1 Predicted Copay Exempt and Copay Likely Service Use from Probit Regression Model on Cross-Section of Enrollees; Predictions Signal Percent that ever used service during study period

	Copay exempt predicted use	*p-value on regression coefficient*	Copay likely predicted use	*p-value on regression coefficient*
FPL				
0-35 %	81.2%	ref	56.8%	ref
36-99 %	81.9%	0.01	55.8%	< 0.01
100+ %	81.7%	0.07	55.5%	< 0.01
Age				
Under 30	73.4%	ref	46.4%	ref
30 to 39	76.4%	< 0.01	52.4%	< 0.01
40 to 49	83.7%	< 0.01	59.8%	< 0.01
Over 50	87.3%	< 0.01	61.7%	< 0.01
Gender				
Male	73.3%	ref	50.7%	ref
Female	88.4%	< 0.01	61.1%	< 0.01
Race				
White	82.1%	ref	58.8%	ref
Black	79.8%	< 0.01	51.0%	< 0.01
American Indian	85.0%	0.02	37.1%	< 0.01
Hispanic	81.2%	0.10	55.9%	< 0.01
Asian/Pacific Islander	83.6%	0.25	55.4%	0.05
Unknown	81.1%	0.01	53.9%	< 0.01
Region				
Upper Peninsula	73.9%	< 0.01	54.5%	
Northwest	81.0%	< 0.01	52.7%	0.08
Northeast	79.7%	< 0.01	54.2%	0.79
West	80.8%	< 0.01	57.8%	< 0.01
East Central	81.0%	< 0.01	52.4%	0.01
East	83.1%	0.64	55.4%	0.20
South Central	78.2%	< 0.01	55.4%	0.32
Southwest	78.3%	< 0.01	49.3%	< 0.01
Southeast	79.2%	< 0.01	57.5%	< 0.01
Detroit Metro	83.2%	ref	58.4%	ref
Other health insurance				
No	81.5%	ref	56.5%	ref
Yes	81.4%	0.79	53.8%	< 0.01
Total enrollees	158,322		158,322	

Table 3.1.2 Predicted Copay Exempt and Copay Likely Service Use from Probit Regression Model on Repeated Cross-Sections of Enrollees; Predictions Signal Percent that ever used service in a time period since enrollment

	Copay exempt service use	*p-value on regression coefficient*	Copay likely service use	*p-value on regression coefficient*
Time period				
Months 0-6	56.6%		28.7%	
Months 7-12	43.5%	< 0.01	24.4%	< 0.01
Months 13-18	46.3%	< 0.01	22.8%	< 0.01
Months 19-24	36.0%	< 0.01	17.1%	< 0.01
Months 25-30	33.2%	< 0.01	16.7%	< 0.01
FPL				
0-35 %	44.8%		23.0%	
36-99 %	44.6%	0.11	22.5%	< 0.01
100+ %	44.3%	< 0.01	22.5%	< 0.01
Age				
Under 30	34.8%		17.3%	
30 to 39	37.5%	< 0.01	20.5%	< 0.01
40 to 49	46.8%	< 0.01	24.7%	< 0.01
Over 50	52.5%	< 0.01	25.5%	< 0.01
Gender				
Male	47.9%		19.4%	
Female	64.2%	< 0.01	25.6%	< 0.01
Race				
White	44.9%		24.1%	
Black	43.9%	< 0.01	20.0%	< 0.01
American Indian	46.9%	0.01	12.8%	< 0.01
Hispanic	45.6%	0.04	22.3%	< 0.01
Asian/Pacific Islander	46.7%	0.02	21.0%	< 0.01
Unknown	44.3%	< 0.01	21.1%	< 0.01
Region				
Upper Peninsula	37.6%	< 0.01	20.9%	< 0.01
Northwest	43.3%	< 0.01	22.0%	< 0.01
Northeast	42.1%	< 0.01	21.7%	< 0.01
West	44.1%	< 0.01	25.1%	< 0.01
East Central	44.1%	< 0.01	19.4%	< 0.01
East	46.4%	0.29	21.2%	< 0.01
South Central	41.1%	< 0.01	21.6%	< 0.01
Southwest	41.6%	< 0.01	18.9%	< 0.01
Southeast	42.3%	< 0.01	23.6%	< 0.01
Detroit Metro	46.6%		24.0%	< 0.01
Other health insurance				0.07
No	44.8%		22.9%	
Yes	39.9%	< 0.01	16.9%	< 0.01
Total observations (Enrollee/periods)	681,530		681,530	

Table 3.1.2a Predicted Copay Exempt and Copay Likely Service Use from Probit Regression Model on Repeated Cross-Sections of Enrollees; With Interactions for Time Period and Above/Below 100% FPL

	Copay exempt service use	*p-value on regression coefficient*	Copay likely service use	*p-value on regression coefficient*
Time period and Federal poverty level				
Months 0-6: Below 100% FPL	56.5%		28.9%	
Months 0-6: Above 100% FPL	57.0%	0.152	27.1%	< 0.01
Months 7-12: Below 100% FPL	43.4%	< 0.01	24.4%	< 0.01
Months 7-12: Above 100% FPL	43.2%	0.145	23.8%	0.026
Months 13-18: Below 100% FPL	46.2%	< 0.01	22.7%	< 0.01
Months 13-18: Above 100% FPL	46.3%	0.493	22.8%	< 0.01
Months 19-24: Below 100% FPL	36.3%	< 0.01	17.1%	< 0.01
Months 19-24: Above 100% FPL	33.9%	< 0.01	17.1%	< 0.01
Months 25-30: Below 100% FPL	33.9%	< 0.01	16.9%	< 0.01
Months 25-30: Above 100% FPL	29.3%	< 0.01	15.3%	0.516
Age				
Under 30	34.8%		17.3%	
30 to 39	37.5%	< 0.01	20.5%	< 0.01
40 to 49	46.7%	< 0.01	24.7%	< 0.01
Over 50	52.4%	< 0.01	25.4%	< 0.01
Gender				
Male	36.4%		19.4%	
Female	51.4%	< 0.01	25.5%	< 0.01
Race				
White	44.8%		24.1%	
Black	43.9%	< 0.01	19.9%	< 0.01
American Indian	46.7%	0.017	12.9%	< 0.01
Hispanic	45.5%	0.076	22.1%	< 0.01
Asian/Pacific Islander	46.7%	0.022	21.3%	< 0.01
Unknown	44.3%	0.017	21.1%	< 0.01
Region				
Upper Peninsula	37.5%	< 0.01	20.9%	< 0.01
Northwest	43.3%	< 0.01	21.9%	< 0.01
Northeast	42.0%	< 0.01	21.6%	< 0.01
West	44.0%	< 0.01	25.1%	< 0.01
East Central	44.0%	< 0.01	19.4%	< 0.01
East	46.3%	0.334	21.2%	< 0.01
South Central	41.0%	< 0.01	21.5%	< 0.01
Southwest	41.4%	< 0.01	18.8%	< 0.01
Southeast	42.3%	< 0.01	23.6%	0.072
Detroit Metro	46.5%		24.0%	

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Other health insurance				
No	44.7%		22.9%	
Yes	39.9%	< 0.01	16.9%	< 0.01
Total observations (Enrollee/periods)	669,398		669,398	

Note: The N here is slightly less than above because this regression excludes those who switch between < 100% FPL and > 100% FPL.

Table 3.1.2b Predicted Average Monthly Spending on Copay Exempt/ Copay Likely Services from Generalized Linear Model Regression

	Copay exempt medications	*p-value on regression coefficient*	Copay likely service spending	*p-value on regression coefficient*
Time period				
Months 0-6	30.54		10.03	
Months 7-12	22.85	*< 0.01*	9.03	*< 0.01*
Months 13-18	24.82	*< 0.01*	8.47	*< 0.01*
Months 19-24	22.75	*< 0.01*	6.66	*< 0.01*
Months 25-30	23.06	*< 0.01*	7.55	*< 0.01*
FPL				
0-35 %	25.87	*< 0.01*	8.92	*< 0.01*
36-99 %	23.96	*< 0.01*	7.98	*< 0.01*
100+ %	23.99	*< 0.01*	7.80	*< 0.01*
Age				
Under 30	17.15		5.47	
30 to 39	18.51	*< 0.01*	6.85	*< 0.01*
40 to 49	26.16	*< 0.01*	9.56	*< 0.01*
Over 50	32.31	*< 0.01*	10.25	*< 0.01*
Gender				
Male	17.74	*0.168*	7.17	*< 0.01*
Female	31.32	*< 0.01*	9.61	*< 0.01*
Race				
White	24.44	*0.121*	9.27	*< 0.01*
Black	26.67	*< 0.01*	7.02	*< 0.01*
American Indian	25.45	*0.458*	3.73	*< 0.01*
Hispanic	28.36	*< 0.01*	7.44	*< 0.01*
Asian/Pacific Islander	23.69	*0.548*	11.36	*0.576*
Unknown	23.90	*0.146*	7.53	*< 0.01*
Region				
Upper Peninsula	15.45	*< 0.01*	6.47	
Northwest	21.64	*< 0.01*	7.78	*0.040*
Northeast	21.31	*< 0.01*	6.47	*0.990*
West	23.47	*< 0.01*	10.10	*< 0.01*
East Central	19.85	*< 0.01*	5.63	*0.054*
East	24.89	*< 0.01*	7.50	*0.047*
South Central	21.89	*< 0.01*	8.79	*0.141*
Southwest	22.53	*< 0.01*	7.58	*0.062*
Southeast	22.57	*< 0.01*	9.90	*< 0.01*
Detroit Metro	28.86		9.12	*0.234*
Other health insurance				
No	25.17		8.57	
Yes	22.37	*< 0.01*	6.09	*< 0.01*
Total Enrollee/periods	681,530		681,530	

Table 3.1.2c Predicted Copay Exempt and Copay Likely Service Use from Probit Regression Model on Repeated Cross-Sections of Enrollees; With Interactions for Time Period and FPL Category

	Copay exempt service use	*p-value on regression coefficient*	Copay likely service use	*p-value on regression coefficient*
Time Period and Federal poverty level				
Months 0-6: Below 35% FPL	56.4%		29.5%	
Months 0-6: 36-99% FPL	56.7%	0.394	27.5%	< 0.01
Months 0-6: Above 100% FPL	57.3%	0.012	27.7%	< 0.01
Months 7-12: Below 35% FPL	43.4%	< 0.01	24.6%	< 0.01
Months 7-12: 36-99% FPL	43.4%	0.616	24.1%	< 0.01
Months 7-12: Above 100% FPL	43.7%	0.264	24.2%	< 0.01
Months 13-18: Below 35% FPL	46.0%	< 0.01	22.6%	< 0.01
Months 13-18: Above 36-99% FPL	46.6%	0.393	22.9%	< 0.01
Months 13-18: Above 100% FPL	46.6%	0.579	23.0%	< 0.01
Months 19-24: Below 35% FPL	36.6%	< 0.01	16.9%	< 0.01
Months 19-24: 36-99% FPL	35.9%	0.026	17.4%	< 0.01
Months 19-24: Above 100% FPL	34.4%	< 0.01	17.3%	< 0.01
Months 25-30: Below 35% FPL	34.7%	< 0.01	17.0%	< 0.01
Months 25-30: 36-99% FPL	31.7%	< 0.01	16.6%	< 0.01
Months 25-30: Above 100% FPL	29.4%	< 0.01	15.4%	0.510
Age				
Under 30	34.8%		17.3%	
30 to 39	37.5%	< 0.01	20.5%	< 0.01
40 to 49	46.8%	< 0.01	24.7%	< 0.01
Over 50	52.5%	< 0.01	25.5%	< 0.01
Gender				
Male	36.5%		19.4%	
Female	51.5%	< 0.01	25.6%	< 0.01
Race				
White	44.9%		24.1%	
Black	43.9%	< 0.01	20.0%	< 0.01
American Indian	46.9%	0.013	12.8%	< 0.01
Hispanic	45.6%	0.039	22.3%	< 0.01
Asian/Pacific Islander	46.7%	0.022	21.0%	< 0.01
Unknown	44.3%	0.016	21.1%	< 0.01
Region				
Upper Peninsula	37.6%	< 0.01	20.9%	< 0.01
Northwest	43.3%	< 0.01	22.0%	< 0.01
Northeast	42.1%	< 0.01	21.7%	< 0.01
West	44.1%	< 0.01	25.1%	< 0.01
East Central	44.1%	< 0.01	19.4%	< 0.01
East	46.4%	0.303	21.2%	< 0.01
South Central	41.1%	< 0.01	21.6%	< 0.01

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Southwest	41.6%	< 0.01	18.9%	< 0.01
Southeast	42.3%	< 0.01	23.6%	0.070
Detroit Metro	46.6%		24.0%	
Other health insurance				
No	44.8%		22.9%	
Yes	39.9%	< 0.01	16.9%	< 0.01
Total observations (Enrollee/periods)	681,530		681,530	

Table 3.1.3 Subset with Cost-Sharing Obligation: Predicted Copay Exempt and Copay Likely Service Use from Probit Regression Model on Repeated Cross-Sections of Enrollees

	Copay exempt service use	*p-value on regression coefficient*	Copay likely service use	*p-value on regression coefficient*
Collection category*				
None collected	43.8%		22.2%	
Partial collection	50.2%	< 0.001	27.1%	< 0.001
Full collection	52.2%	< 0.001	26.3%	< 0.001
Time period				
Months 0-6	60.5%		30.7%	
Months 7-12	46.5%	< 0.001	26.7%	< 0.001
Months 13-18	50.1%	< 0.001	25.0%	< 0.001
Months 19-24	38.2%	< 0.001	18.4%	< 0.001
Months 25-30	33.3%	< 0.001	17.1%	< 0.001
FPL				
0-35 %	49.2%		25.4%	
36-99 %	47.9%	< 0.001	25.1%	0.071
100+ %	45.5%	< 0.001	23.0%	< 0.001
Age				
Under 30	39.3%		20.1%	
30 to 39	40.4%	< 0.001	22.5%	< 0.001
40 to 49	49.3%	< 0.001	26.2%	< 0.001
Over 50	55.7%	< 0.001	27.3%	< 0.001
Gender				
Male	39.1%		21.3%	
Female	52.2%	< 0.001	26.4%	< 0.001
Race				
White	46.7%		25.4%	
Black	50.7%	< 0.001	22.6%	< 0.001
American Indian	51.7%	< 0.001	16.1%	< 0.001
Hispanic	48.8%	< 0.001	23.6%	< 0.001
Asian/Pacific Islander	50.7%	< 0.001	22.7%	0.004
Unknown	47.7%	0.001	22.9%	< 0.001
Region				
Upper Peninsula	40.1%	< 0.001	22.8%	< 0.001
Northwest	45.7%	< 0.001	24.5%	0.001
Northeast	44.3%	< 0.001	22.7%	< 0.001
West	46.7%	< 0.001	27.6%	< 0.001
East Central	46.8%	< 0.001	21.4%	< 0.001
East	48.8%	< 0.001	22.6%	< 0.001
South Central	44.6%	< 0.001	23.6%	< 0.001
Southwest	45.3%	< 0.001	21.2%	< 0.001

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Southeast	45.2%	< 0.001	25.7%	0.460
Detroit Metro	50.6%		25.9%	
Other health insurance				
No	47.9%		24.9%	
Yes	41.7%	< 0.001	18.1%	< 0.001
Total observations (Enrollee/periods)	347,172		347,172	

*Collection category based on aggregate collection over life in program through Q3 2016. Full collection = > 95% of invoice collected

Table 3.1.3a Subset with Cost-Sharing Obligation: Predicted Copay Exempt and Copay Likely Service Use from Probit Regression Model on Repeated Cross-Sections of Enrollees with Interaction of Above/Below 100% FPL and Time Period

	Copay exempt service use	*p-value on regression coefficient*	Copay likely service use	*p-value on regression coefficient*
Collection category				
None collected	43.7%		22.2%	
Partial collection	50.1%	*< 0.001*	27.1%	*< 0.001*
Full collection	52.2%	*< 0.001*	26.3%	*< 0.001*
Time period and Federal poverty level				
Months 0-6: Below 100% FPL	61.2%		31.6%	
Months 0-6: Above 100% FPL	58.5%	*< 0.001*	28.0%	*< 0.001*
Months 7-12: Below 100% FPL	47.2%	*< 0.001*	27.4%	*< 0.001*
Months 7-12: Above 100% FPL	44.2%	*0.757*	24.5%	*0.425*
Months 13-18: Below 100% FPL	50.8%	*< 0.001*	25.7%	*< 0.001*
Months 13-18: Above 100% FPL	47.7%	*0.500*	23.3%	*0.055*
Months 19-24: Below 100% FPL	39.3%	*< 0.001*	18.8%	*< 0.001*
Months 19-24: Above 100% FPL	35.1%	*0.004*	17.5%	*0.001*
Months 25-30: Below 100% FPL	34.6%	*< 0.001*	17.7%	*< 0.001*
Months 25-30: Above 100% FPL	29.8%	*0.001*	15.5%	*0.580*
Age				
Under 30	39.4%	*< 0.001*	20.1%	*< 0.001*
30 to 39	40.4%	*< 0.001*	22.5%	*< 0.001*
40 to 49	49.3%	*< 0.001*	26.2%	*< 0.001*
Over 50	55.6%	*< 0.001*	27.2%	*< 0.001*
Gender				
Male	39.0%		21.3%	
Female	52.2%	*< 0.001*	26.4%	*< 0.001*
Race				
White	46.6%	*0.004*	25.4%	*< 0.001*
Black	50.7%	*< 0.001*	22.5%	*< 0.001*
American Indian	51.6%	*< 0.001*	16.4%	*< 0.001*
Hispanic	48.6%	*< 0.001*	23.5%	*< 0.001*
Asian/Pacific Islander	50.9%	*< 0.001*	23.2%	*0.022*
Unknown	47.8%	*< 0.001*	22.9%	*< 0.001*
Region				
Upper Peninsula	40.0%	*< 0.001*	22.7%	*< 0.001*
Northwest	45.6%	*< 0.001*	24.6%	*0.002*
Northeast	44.1%	*< 0.001*	22.6%	*< 0.001*
West	46.7%	*< 0.001*	27.6%	*< 0.001*
East Central	46.7%	*< 0.001*	21.4%	*< 0.001*
East	48.8%	*< 0.001*	22.6%	*< 0.001*
South Central	44.6%	*< 0.001*	23.5%	*< 0.001*
Southwest	45.2%	*< 0.001*	21.1%	*< 0.001*
Southeast	45.2%	*< 0.001*	25.7%	*0.470*
Detroit Metro	50.5%	*< 0.001*	25.9%	*< 0.001*

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Other health insurance				
No	47.8%		24.8%	
Yes	41.8%	*< 0.001*	18.3%	*< 0.001*
Total observations (Enrollee/periods)	337,131		337,131	

*Collection category based on aggregate collection over life in program through Q3 2016. Full collection = > 95% of invoice collected

Table 3.1.4 Marginal Effects from Fixed Effects Regression of Service Use

	Copay exempt service use	*p-value on regression coefficient*	Copay likely service use	*p-value on regression coefficient*
Time period				
Months 0-6				
Months 7-12	-13.2%	< 0.001	-4.9%	< 0.001
Months 13-18	-10.3%	< 0.001	-7.0%	< 0.001
Months 19-24	-20.8%	< 0.001	-13.2%	< 0.001
Months 25-30	-27.1%	< 0.001	-16.8%	< 0.001
FPL				
0-35 %				
36-99 %	2.0%	0.029	3.7%	< 0.001
100+ %	2.8%	0.004	7.1%	< 0.001
Other health insurance				
No	-7.0%		-8.5%	
Yes	-1.5%	< 0.001	-6.2%	< 0.001
Total enrollees	681,789		681,789	

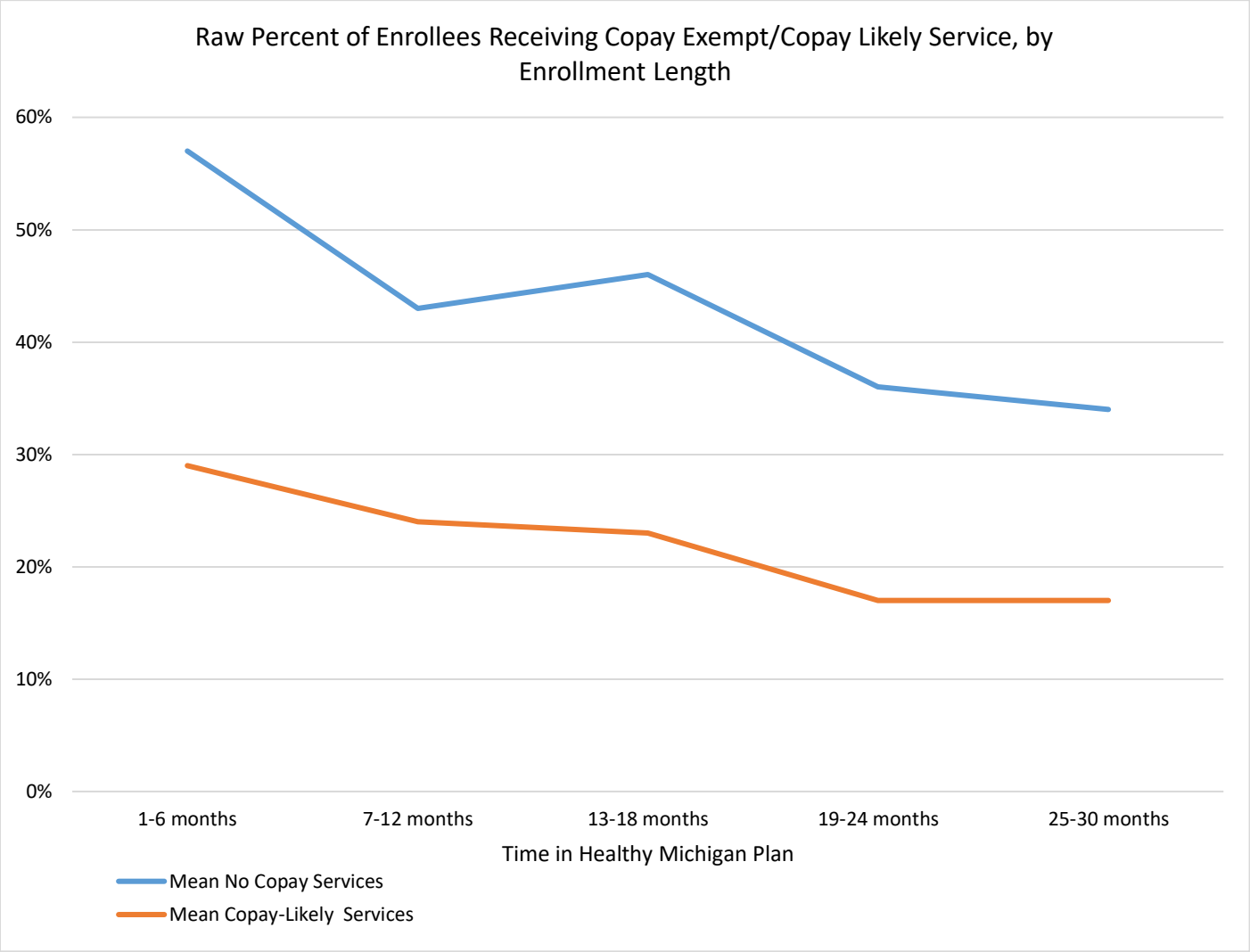
Note: The interpretation on these predictions is as the change in an individual's likelihood of service use compared with the baseline at Months 1-6, 0 to 35% of poverty and with no other health insurance. In this model, any unchanging characteristics of enrollees (gender or region, for example) are held constant.

Table 3.1.4a Marginal Effects from Fixed Effects Regression on Log Spending

	Log spending on no copay	***p-value on regression coefficient***	**Log spending on services with copay**	***p-value on regression coefficient***
Time period				
Months 0-6				
Months 7-12	-0.48	< 0.01	-0.14	< 0.01
Months 13-18	-0.34	< 0.01	-0.19	< 0.01
Months 19-24	-0.63	< 0.01	-0.36	< 0.01
Months 25-30	-0.78	< 0.01	-0.44	< 0.01
FPL				
0-35 %		0.72		
36-99 %	0.06	0.07	0.13	< 0.01
100+ %	0.10	0.01	0.23	< 0.01
Other health insurance				
No				
Yes	-0.57	< 0.01	-0.16	< 0.01
Total enrollees	681,789		681,789	

Notes: 1) The log of healthcare expenditures are often used in research rather than the actual dollar amounts because many people spend very little each month and a few people spend quite a bit. That spread of spending, particularly when a few numbers are much higher than most, has been shown difficult to model mathematically. Instead, using the log of the number, results in more accurate predictions. In this case, the log spending was taken by adding $1 to each spending outcome because the log of $0 is undefined.
2) The interpretation on these predictions is as the change in an individual's likelihood of service use compared with the baseline at Months 1-6, 0 to 35% of poverty and with no other health insurance. In this model, any unchanging characteristics of enrollees (gender or region, for example) are held constant.

Figure 3.1.1 Average Percent of Enrollees Using No Copay/Copay-Likely Services Over Time



Hypothesis 2: Medicaid Service Value – Pharmaceuticals

Table 3.2.1 Predicted Use of Copay-Exempt and Copay-Likely Medications from a Cross-Sectional Probit Regression with Demographic Characteristics

	Predicted percent using copay exempt medications	*p-value on regression coefficient*	Predicted percent using copay likely medications	*p-value on regression coefficient*
FPL				
0-35 %	55.5%		2.4%	
36-99 %	50.9%	< 0.001	1.6%	< 0.001
100+ %	49.7%	< 0.001	1.4%	< 0.001
Age				
Under 30	26.4%		2.5%	
30 to 39	41.3%	< 0.001	2.5%	0.571
40 to 49	60.4%	< 0.001	2.1%	< 0.001
Over 50	70.4%	< 0.001	1.4%	< 0.001
Gender				
Male	51.1%		2.1%	
Female	55.3%	< 0.001	1.9%	0.017
Race				
White	53.4%		2.3%	
Black	54.1%	0.022	1.4%	< 0.001
American Indian	60.2%	< 0.001	0.8%	0.002
Hispanic	52.1%	0.074	1.7%	0.003
Asian/Pacific Islander	48.3%	0.002	2.1%	0.601
Unknown	50.7%	< 0.001	1.6%	< 0.001
Region				
Upper Peninsula	49.5%	< 0.001	2.8%	ref
Northwest	51.1%	0.004	2.3%	0.091
Northeast	52.7%	0.341	1.8%	< 0.001
West	53.9%	0.217	2.3%	0.035
East Central	55.3%	< 0.001	1.9%	< 0.001
East	54.4%	0.011	1.9%	< 0.001
South Central	50.0%	< 0.001	1.7%	< 0.001
Southwest	54.5%	0.027	2.2%	0.012
Southeast	52.7%	0.160	2.1%	0.006
Detroit Metro	53.4%	ref	1.9%	<0.001
Other health insurance				
No	53.2%		2.0%	
Yes	55.1%	< 0.001	2.9%	< 0.001
Total enrollees	158,322		158,322	

Table 3.2.2 Predicted Use of Copay Exempt and Copay-Likely Medications By Time Period from Probit Regression

	Copay exempt medication use	*p-value on regression coefficient*	Copay likely medication use	*p-value on regression coefficient*
Time period				
Months 0-6	39.8%		1.1%	
Months 7-12	41.7%	< 0.01	1.2%	< 0.01
Months 13-18	43.0%	< 0.01	1.1%	0.51
Months 19-24	41.9%	< 0.01	0.8%	< 0.01
Months 25-30	43.4%	< 0.01	0.5%	< 0.01
FPL				
0-35 %	43.4%		1.2%	
36-99 %	39.6%	< 0.01	0.8%	< 0.01
100+ %	39.2%	< 0.01	0.7%	< 0.01
Age				
Under 30	16.3%		1.2%	
30 to 39	27.7%	< 0.01	1.2%	0.70
40 to 49	46.7%	< 0.01	1.0%	< 0.01
Over 50	58.2%	< 0.01	0.7%	< 0.01
Gender				
Male	39.9%		1.0%	
Female	43.3%	< 0.01	0.9%	< 0.01
Race				
White	41.7%		1.1%	
Black	42.5%	< 0.01	0.7%	< 0.01
American Indian	46.9%	< 0.01	0.4%	< 0.01
Hispanic	41.0%	0.05	0.9%	< 0.01
Asian/Pacific Islander	39.6%	0.01	0.9%	0.24
Unknown	40.0%	< 0.01	0.7%	< 0.01
Region				
Upper Peninsula	38.5%	< 0.01	1.6%	< 0.01
Northwest	40.5%	0.02	1.3%	< 0.01
Northeast	41.2%	0.73	0.8%	0.48
West	43.3%	< 0.01	1.2%	< 0.01
East Central	44.2%	< 0.01	0.9%	0.48
East	42.5%	< 0.01	0.9%	0.68
South Central	38.8%	< 0.01	0.7%	0.09
Southwest	42.7%	< 0.01	1.1%	0.95
Southeast	41.4%	0.78	1.1%	0.02
Detroit Metro	41.4%		0.9%	
Other health insurance				
No	41.8%		1.0%	
Yes	42.0%	0.47	1.3%	< 0.01
Total observations (Enrollee/months)	666,582		666,582	

Table 3.2.2a Copay Exempt and Copay-Likely Medication Use, with Time and Above/Below 100% FPL Interaction, Predicted Effects from Probit Regression

	Copay exempt medication use	*p-value on regression coefficient*	Copay likely medication use	*p-value on regression coefficient*
Time period and Federal poverty level				
Months 0-6: Below 100% FPL	40.2%		1.1%	
Months 0-6: Above 100% FPL	36.8%	< 0.001	0.7%	< 0.001
Months 7-12: Below 100% FPL	42.1%	< 0.001	1.3%	0.007
Months 7-12: Above 100% FPL	38.6%	0.705	0.7%	0.788
Months 13-18: Below 100% FPL	43.4%	< 0.001	1.2%	0.595
Months 13-18: Above 100% FPL	39.9%	0.844	0.7%	0.544
Months 19-24: Below 100% FPL	42.4%	< 0.001	0.8%	< 0.001
Months 19-24: Above 100% FPL	38.6%	0.410	0.6%	0.039
Months 25-30: Below 100% FPL	44.1%	< 0.001	0.5%	< 0.001
Months 25-30: Above 100% FPL	39.4%	0.031	0.7%	< 0.001
Age				
Under 30	16.3%		1.2%	
30 to 39	27.6%	< 0.001	1.2%	0.825
40 to 49	46.8%	< 0.001	1.0%	< 0.001
Over 50	58.0%	< 0.001	0.7%	< 0.001
Gender				
Male	40.0%		1.1%	
Female	43.1%	< 0.001	0.9%	< 0.001
Race				
White	41.5%		1.1%	
Black	42.6%	< 0.001	0.7%	< 0.001
American Indian	46.8%	< 0.001	0.4%	< 0.001
Hispanic	40.5%	0.004	0.9%	0.001
Asian/Pacific Islander	38.9%	0.001	0.9%	0.142
Unknown	39.9%	< 0.001	0.7%	< 0.001
Region				
Upper Peninsula	38.1%	< 0.001	1.5%	< 0.001
Northwest	40.2%	0.003	1.2%	< 0.001
Northeast	40.8%	0.195	0.8%	0.394
West	43.2%	< 0.001	1.2%	< 0.001
East Central	44.0%	< 0.001	0.9%	0.472
East	42.3%	< 0.001	0.9%	0.855
South Central	38.6%	< 0.001	0.8%	0.046
Southwest	42.7%	< 0.001	1.1%	< 0.001
Southeast	41.3%	0.996	1.1%	< 0.001
Detroit Metro	41.3%		0.9%	
Other health insurance				
No	41.7%		1.0%	
Yes	41.5%	0.690	1.3%	< 0.001
Total observations (Enrollee/periods)	654,689		654,689	

Table 3.2.2b Predicted Spending on Copay Exempt Medications by Period, Predicted Monthly Spending from GLM Regression

	Copay exempt medications	*p-value on regression coefficient*
Time period		
Months 0-6	29.73	
Months 7-12	36.63	< 0.001
Months 13-18	41.41	< 0.001
Months 19-24	46.75	< 0.001
Months 25-30	54.52	< 0.001
FPL		
0-35 %	41.47	
36-99 %	36.97	< 0.001
100+ %	38.47	< 0.001
Age		
Under 30	19.27	
30 to 39	29.35	< 0.001
40 to 49	46.60	< 0.001
Over 50	50.92	< 0.001
Gender		
Male	48.94	
Female	32.40	< 0.001
Race		
White	36.34	
Black	51.00	< 0.001
American Indian	48.88	0.001
Hispanic	45.93	< 0.001
Asian/Pacific Islander	23.75	< 0.001
Unknown	32.95	< 0.001
Region		
Upper Peninsula	38.62	0.014
Northwest	37.92	0.018
Northeast	33.40	< 0.001
West	47.82	< 0.001
East Central	35.52	< 0.001
East	27.74	< 0.001
South Central	37.67	0.005
Southwest	42.40	0.530
Southeast	44.21	0.051
Detroit Metro	41.71	
Other health insurance		
No	39.98	
Yes	41.35	0.405
Total observations (Enrollee/periods)	666,582	

Notes: Copay-likely medications not included as regression specification was not possible due to computational traction (likely related to overall utilization and spending)

Table 3.2.3 Subset with Cost-Sharing Obligation: Average Medication Use by Time Period, Predictions from Probit Regression

	Copay exempt medication use	*p-value on regression coefficient*	Copay likely medication use	*p-value on regression coefficient*
Collection category*				
None collected	41.0%		0.9%	
Partial collection	43.1%	< 0.001	1.0%	0.003
Full collection	40.7%	0.160	0.8%	0.354
Time period				
Months 0-6	39.6%		0.9%	
Months 7-12	41.5%	< 0.001	0.9%	0.106
Months 13-18	42.8%	< 0.001	1.0%	0.019
Months 19-24	41.8%	< 0.001	0.9%	0.723
Months 25-30	42.5%	< 0.001	0.9%	0.892
FPL				
0-35 %	44.1%		1.2%	
36-99 %	41.1%	< 0.001	0.8%	< 0.001
100+ %	38.9%	< 0.001	0.7%	< 0.001
Age				
Under 30	15.9%		1.2%	
30 to 39	26.3%	< 0.001	1.1%	0.418
40 to 49	45.9%	< 0.001	0.9%	< 0.001
Over 50	60.7%	< 0.001	0.7%	< 0.001
Gender				
Male	41.6%		1.0%	
Female	41.5%	0.391	0.8%	< 0.001
Race				
White	40.7%		1.0%	
Black	45.4%	< 0.001	0.7%	< 0.001
American Indian	46.4%	< 0.001	0.6%	0.085
Hispanic	41.0%	0.569	0.8%	0.147
Asian/Pacific Islander	41.4%	0.496	0.9%	0.821
Unknown	39.9%	0.010	0.7%	< 0.001
Region				
Upper Peninsula	38.7%	< 0.001	1.6%	< 0.001
Northwest	39.6%	< 0.001	1.5%	< 0.001
Northeast	40.4%	0.006	0.7%	0.892
West	42.6%	< 0.001	1.1%	< 0.001
East Central	43.2%	< 0.001	0.9%	0.006
East	41.8%	0.321	0.8%	0.922
South Central	39.1%	< 0.001	0.7%	0.521
Southwest	43.2%	< 0.001	1.0%	< 0.001

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Southeast	40.7%	0.007	0.9%	0.002
Detroit Metro	41.6%		0.7%	
Other health insurance				
No	41.6%		0.9%	
Yes	40.8%	0.041	1.2%	0.001
Total observations (Enrollee/period)	340,254		340,254	

*Collection category based on aggregate collection over life in program through Q3 2016. Full collection = > 95% of invoice collected

Table 3.2.3a Subset with Cost-Sharing Obligation: Average Medication Use, Predictions from Probit Regression with Interaction between Above/Below 100% FPL and Time Period

	Copay exempt medication use	*p-value on regression coefficient*	Copay likely medication use	*p-value on regression coefficient*
Collection category*				
None collected	40.8%		0.9%	
Partial collection	42.9%	< 0.001	1.0%	0.003
Full collection	40.5%	0.225	0.8%	0.389
Time period and Federal poverty level				
Months 0-6: Below 100% FPL	40.3%		0.9%	
Months 0-6: Above 100% FPL	36.6%	< 0.001	0.7%	< 0.001
Months 7-12: Below 100% FPL	42.4%	< 0.001	1.0%	0.100
Months 7-12: Above 100% FPL	38.2%	0.586	0.7%	0.784
Months 13-18: Below 100% FPL	43.7%	< 0.001	1.1%	0.017
Months 13-18: Above 100% FPL	39.5%	0.558	0.7%	0.682
Months 19-24: Below 100% FPL	42.7%	< 0.001	0.9%	0.864
Months 19-24: Above 100% FPL	38.5%	0.502	0.6%	0.493
Months 25-30: Below 100% FPL	43.6%	< 0.001	0.9%	0.917
Months 25-30: Above 100% FPL	39.0%	0.309	0.7%	0.636
Age				
Under 30	15.9%		1.2%	
30 to 39	26.3%	< 0.001	1.1%	0.188
40 to 49	45.9%	< 0.001	0.9%	< 0.001
Over 50	60.4%	< 0.001	0.7%	< 0.001
Gender				
Male	41.4%		1.0%	
Female	41.3%	0.592	0.8%	< 0.001
Race				
White	40.4%		1.0%	
Black	45.4%	< 0.001	0.7%	< 0.001
American Indian	46.4%	< 0.001	0.6%	0.116
Hispanic	40.3%	0.739	0.8%	0.062
Asian/Pacific Islander	40.7%	0.804	0.8%	0.555
Unknown	39.7%	0.026	0.7%	< 0.001
Region				
Upper Peninsula	38.5%	< 0.001	1.6%	< 0.001
Northwest	39.4%	< 0.001	1.4%	< 0.001
Northeast	40.0%	0.002	0.7%	0.978
West	42.5%	< 0.001	1.1%	< 0.001
East Central	42.8%	< 0.001	0.9%	0.002
East	41.5%	0.412	0.8%	0.750
South Central	38.8%	< 0.001	0.7%	0.893

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Southwest	43.1%	< 0.001	1.0%	< 0.001
Southeast	40.4%	0.007	1.0%	< 0.001
Detroit Metro	41.3%		0.7%	
Other health insurance				
No	41.3%		0.9%	
Yes	40.3%	0.021	1.2%	< 0.001
Total observations (Enrollee/periods)	330,382		330,382	

Notes: Collection category based on aggregate collection over life in program through Q3 2016. Full collection = > 95% of invoice collected

Table 3.2.3b Predicted Use of Copay Exempt and Copay Likely Medications from Probit Regression with Interactions on Time Period and FPL

	Copay exempt medication use	*p-value on regression coefficient*	Copay likely medication use	*p-value on regression coefficient*
Time period and Federal poverty level				
Months 0-6: Below 35% FPL	41.3%		1.3%	
Months 0-6: 36-99% FPL	37.7%	< 0.001	0.8%	< 0.001
Months 0-6: Above 100% FPL	37.6%	< 0.001	0.7%	< 0.001
Months 7-12: Below 35% FPL	43.3%	< 0.001	1.4%	0.038
Months 7-12: 36-99% FPL	39.5%	0.674	0.9%	0.690
Months 7-12: Above 100% FPL	39.4%	0.707	0.8%	0.762
Months 13-18: Below 35% FPL	44.6%	< 0.001	1.3%	0.926
Months 13-18: Above 36-99% FPL	40.7%	0.528	0.9%	0.275
Months 13-18: Above 100% FPL	40.5%	0.356	0.7%	0.660
Months 19-24: Below 35% FPL	43.6%	< 0.001	0.9%	< 0.001
Months 19-24: 36-99% FPL	39.8%	0.543	0.8%	< 0.001
Months 19-24: Above 100% FPL	38.9%	0.038	0.6%	0.004
Months 25-30: Below 35% FPL	45.5%	< 0.001	0.4%	< 0.001
Months 25-30: 36-99% FPL	40.8%	0.041	0.7%	< 0.001
Months 25-30: Above 100% FPL	39.5%	0.001	0.6%	< 0.001
Age				
Under 30	16.3%	< 0.001	1.2%	0.141
30 to 39	27.7%	< 0.001	1.2%	0.699
40 to 49	46.7%	< 0.001	1.0%	< 0.001
Over 50	58.2%	< 0.001	0.7%	
Gender				
Male	39.9%		1.0%	
Female	43.3%	< 0.001	0.9%	< 0.001
Race				
White	41.7%		1.1%	
Black	42.5%	< 0.001	0.7%	< 0.001
American Indian	46.9%	< 0.001	0.4%	< 0.001
Hispanic	41.0%	0.048	0.9%	0.004
Asian/Pacific Islander	39.6%	0.006	0.9%	0.247
Unknown	40.0%	< 0.001	0.7%	< 0.001
Region				
Upper Peninsula	38.5%	< 0.001	1.6%	< 0.001
Northwest	40.5%	0.017	1.3%	< 0.001
Northeast	41.2%	0.738	0.8%	0.466
West	43.3%	< 0.001	1.2%	< 0.001
East Central	44.2%	< 0.001	0.9%	0.487
East	42.5%	< 0.001	0.9%	0.963
South Central	38.8%	< 0.001	0.7%	0.022
Southwest	42.7%	< 0.001	1.1%	< 0.001
Southeast	41.4%	0.774	1.0%	< 0.001
Detroit Metro	41.4%		0.9%	

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Other health insurance				
No	41.8%		1.0%	
Yes	42.0%	0.508	1.4%	< 0.001
Total observations (Enrollee/periods)	666,582		666,582	

Table 3.2.4a Marginal Effects of Time and FPL from Fixed Effects Regression of Medication Use

	Copay exempt medications	*p-value on regression coefficient*	Copay likely medications	*p-value on regression coefficient*
Time period				
Months 0-6				
Months 7-12	1.9%	< 0.001	0.08%	< 0.001
Months 13-18	3.2%	< 0.001	-0.02%	0.474
Months 19-24	1.9%	< 0.001	-0.36%	< 0.001
Months 25-30	1.3%	< 0.001	-0.82%	< 0.001
FPL				
0-35 %				
36-99 %	0.5%	0.438	-0.15%	0.413
100+ %	0.7%	0.267	-0.47%	0.004
Other health insurance				
No				
Yes	-2.8%	< 0.001	-0.12%	0.254
Total enrollees	158,366		158,366	

Notes: The interpretation on these predictions is as the change in an individual's likelihood of service use compared with the baseline at Months 1-6, 0 to 35% of poverty and with no other health insurance. In this model, any unchanging characteristics of enrollees (gender or region, for example) are held constant.

Table 3.2.4b Fixed Effects Regression of Spending

	Change in log spending on copay exempt medications	***p-value on regression coefficient***	**Change in log spending on copay likely medications**	***p-value on regression coefficient***
Time period				
Months 0-6				
Months 7-12	0.10	< 0.01	0.07	< 0.01
Months 13-18	0.17	< 0.01	0.13	< 0.01
Months 19-24	0.18	< 0.01	0.13	< 0.01
Months 25-30	0.20	< 0.01	0.13	< 0.01
FPL				
0-35 %				
36-99 %	0.02	0.48	0.00	0.96
100+ %	-0.02	0.38	-0.02	0.38
Other health insurance				
No				
Yes	-0.10	< 0.01	-0.04	< 0.01
Total enrollees	158,366		158,366	

Notes: 1) The log of healthcare expenditures are often used in research rather than the actual dollar amounts because many people spend very little each month and a few people spend quite a bit. That spread of spending, particularly when a few numbers are much higher than most, has been shown difficult to model mathematically. Instead, using the log of the number, results in more accurate predictions. In this case, the log spending was taken by adding $1 to each spending outcome because the log of $0 is undefined.
2) The interpretation on these predictions is as the change in an individual's likelihood of service use compared with the baseline at Months 1-6, 0 to 35% of poverty and with no other health insurance. In this model, any unchanging characteristics of enrollees (gender or region, for example) are held constant.

Figure 3.2.1 Percent of the Population Receiving a High- or Copay- likely Medication

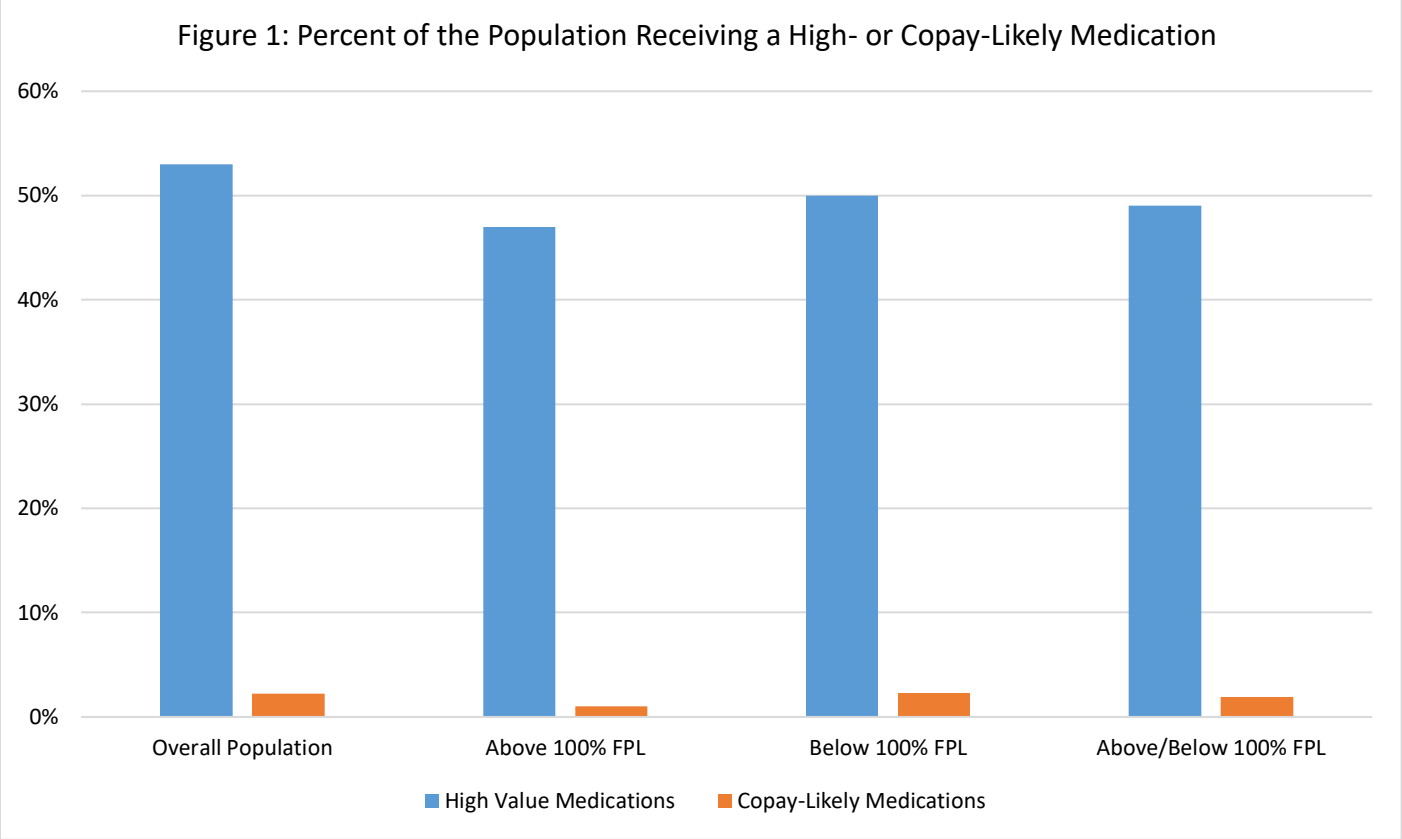
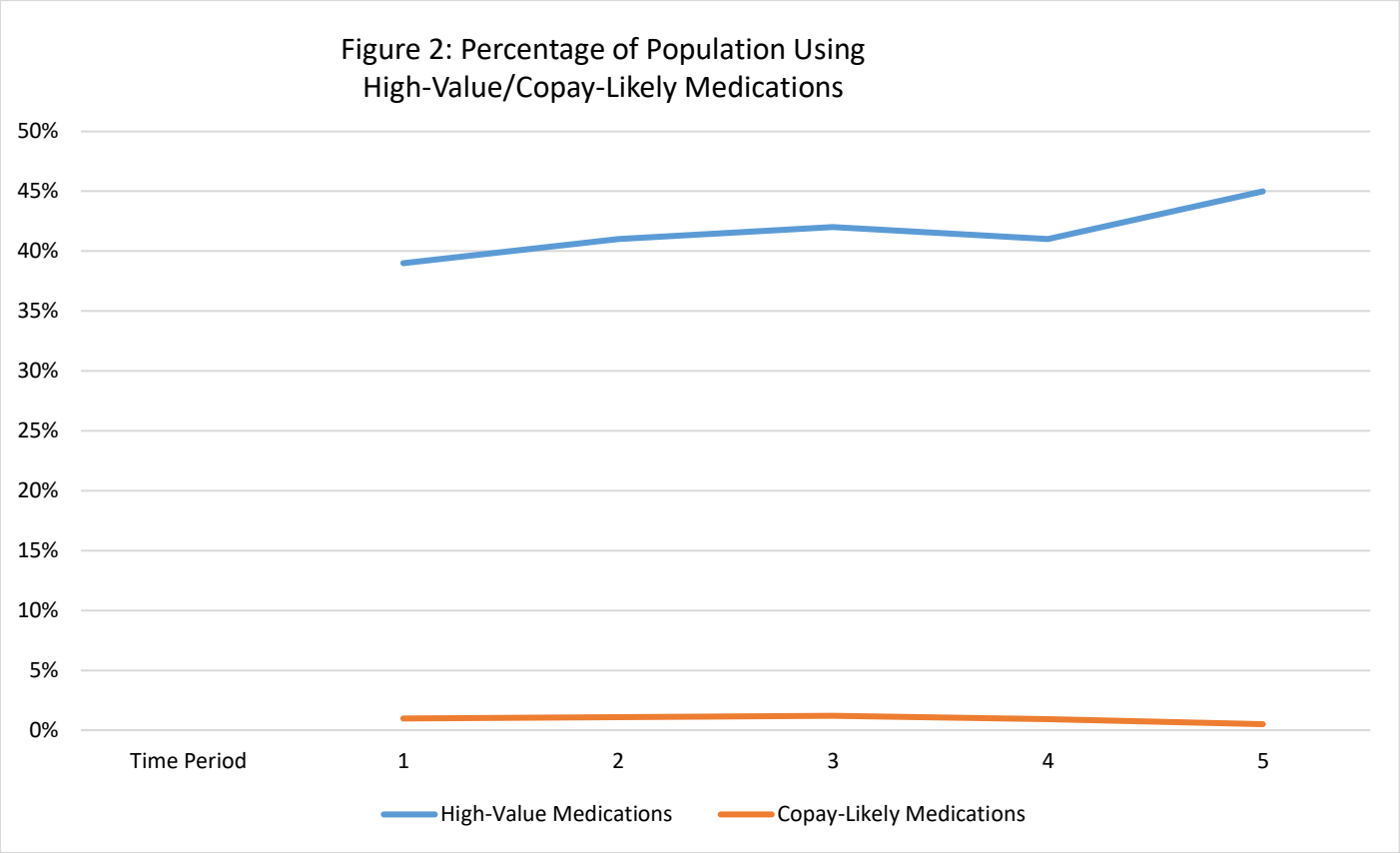


Figure 3.2.2 Percentage of Population Using High-Value/Copay-Likely Medications



Hypothesis 2: Medicaid Service Value – Emergency Department (ED) Use

Table 3.3.1 Number of ED Visits and Likelihood of Copay

	ED type A		ED type B	
	Percent of visits with copay	**Total visits**	**Percent of visits with copay**	**Total visits**
Visit severity				
High	0.01%	209,528	9.76%	1,486
Medium	0.06%	124,082	14.65%	3,645
Low	0.33%	32,264	52.19%	1,667
Total	0.05%	365,874	22.8%	6,798

Table 3.3.2 Predicted Likelihood of Copayment by ED Type and Severity from Probit Regression of Enrollee Month that Includes ED Claim

	No time period effects		Time period effects	
	Copay flag	***p-value on regression coefficient***	**Copay flag**	***p-value on regression coefficient***
Visit severity				
Low	7.8%	< 0.001	7.8%	< 0.001
Medium	0.5%	0.877	0.5%	0.905
High	0.5%		0.5%	
Emergency room type				
24/7 Hospital affiliated (type A)	0.1%		0.1%	
Urgent Care associated with hospital (type B)	22.2%	< 0.001	22.2%	< 0.001
Time period				
Months 0-6			0.8%	
Months 7-12			0.7%	0.328
Months 13-18			0.7%	0.902
Months 19-24			0.7%	0.046
Months 25-30			0.8%	0.584
Total enrollee months with ED claims	229,246		229,246	

Regression level is enrollee/months and this regression is limited to months in which there is an ED claim. So, interpretation is tricky but close to visit level, i.e. 6.2% low severity visits incur a copay, controlling for other things.

Table 3.3.3 Predicted Emergency Department Use over Time from Probit Regression on whether Enrollee had at least one claim in a month

	Predicted total ED use	*p-value on regression coefficient*	Type A visits	*p-value on regression coefficient*	Type B visits	*p-value on regression coefficient*
Time period						
Months 0-6	25.5%		25.2%		1.0%	
Months 7-12	25.0%	0.001	24.7%	0.001	0.9%	0.563
Months 13-18	25.0%	< 0.001	24.6%	< 0.001	0.8%	< 0.001
Months 19-24	19.9%	< 0.001	19.7%	< 0.001	0.5%	< 0.001
Months 25-30	17.3%	< 0.001	17.0%	< 0.001	0.3%	< 0.001
Age						
Under 30	26.8%		26.3%		1.1%	
30 to 39	25.9%	< 0.001	25.4%	< 0.001	0.9%	< 0.001
40 to 49	25.0%	< 0.001	24.6%	< 0.001	0.8%	< 0.001
Over 50	18.9%	< 0.001	18.7%	< 0.001	0.5%	< 0.001
Gender						
Male	21.1%		20.9%		0.6%	
Female	25.2%	< 0.001	24.8%	< 0.001	0.9%	< 0.001
Race						
White	21.6%		21.2%		0.7%	
Black	28.9%	< 0.001	28.7%	< 0.001	1.1%	< 0.001
American Indian	25.6%	< 0.001	25.2%	< 0.001	0.8%	0.267
Hispanic	24.0%	< 0.001	23.6%	< 0.001	0.6%	0.741
Asian/Pacific Islander	12.6%	< 0.001	12.4%	< 0.001	0.3%	0.003
Unknown	20.3%	< 0.001	20.1%	< 0.001	0.6%	0.047
FPL						
0-35 %	25.6%		25.3%		0.8%	
36-99 %	20.6%	< 0.001	20.2%	< 0.001	0.7%	< 0.001
100+ %	19.5%	< 0.001	19.1%	< 0.001	0.8%	0.026
Region						
Upper Peninsula	22.9%	0.224	22.9%	0.013	0.0%	< 0.001
Northwest	22.1%	0.170	20.1%	< 0.001	3.1%	< 0.001
Northeast	20.8%	< 0.001	20.8%	< 0.001	0.1%	< 0.001
West	27.4%	< 0.001	26.1%	< 0.001	2.2%	< 0.001
East Central	24.2%	< 0.001	24.2%	< 0.001	0.0%	< 0.001
East	20.4%	< 0.001	20.2%	< 0.001	0.3%	< 0.001
South Central	21.5%	< 0.001	21.5%	0.007	0.0%	< 0.001
Southwest	27.0%	< 0.001	27.0%	< 0.001	0.0%	< 0.001
Southeast	25.2%	< 0.001	25.3%	< 0.001	0.0%	< 0.001
Detroit Metro	22.5%		22.2%		0.9%	

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Other health insurance						
No	0.8%		23.1%		25.2%	
Yes	0.7%	< 0.001	20.6%	< 0.001	16.8%	0.115
Total observations (Person/period)	681,697		681,697		681,697	

Table 3.3.3a Predicted Average Monthly Spending on Emergency Department Visits, over time using GLM Regression Models

	Spending on all ED visits	*p-value on regression coefficient*	Spending on ED type A visits	*p-value on regression coefficient*	Spending on ED type B visits	*p-value on regression coefficient*
Time period						
Months 0-6	21.93		21.74		0.20	
Months 7-12	22.84	0.002	22.64	0.002	0.20	0.573
Months 13-18	22.95	< 0.001	22.77	< 0.001	0.17	0.072
Months 19-24	21.29	0.041	21.17	0.073	0.12	< 0.001
Months 25-30	20.72	0.003	20.63	0.007	0.10	< 0.001
Age						
Under 30	24.04		23.79		0.25	
30 to 39	24.58	0.090	24.39	0.061	0.19	< 0.001
40 to 49	24.78	0.026	24.60	0.014	0.17	< 0.001
Over 50	17.76	< 0.001	17.65	< 0.001	0.11	< 0.001
Gender						
Male	18.62		18.49		0.12	
Female	25.07	< 0.001	24.86	< 0.001	0.21	< 0.001
Race						
White	21.41		21.26		0.15	
Black	25.00	< 0.001	24.77	< 0.001	0.24	< 0.001
American Indian	26.94	0.001	26.77	0.001	0.17	0.584
Hispanic	22.61	0.048	22.46	0.048	0.15	0.887
Asian/Pacific Islander	10.80	< 0.001	10.75	< 0.001	0.05	< 0.001
Unknown	19.34	< 0.001	19.22	< 0.001	0.13	0.103
FPL						
0-35 %	25.38		25.20		0.18	
36-99 %	18.07	< 0.001	17.93	< 0.001	0.14	< 0.001
100+ %	16.61	< 0.001	16.43	< 0.001	0.18	0.981
Region						
Upper Peninsula	18.22	< 0.001	18.19	< 0.001	0.03	< 0.001
Northwest	20.92	0.343	20.20	0.065	0.72	< 0.001
Northeast	17.95	< 0.001	17.88	< 0.001	0.07	< 0.001
West	25.28	< 0.001	24.82	< 0.001	0.46	< 0.001
East Central	22.47	0.017	22.46	0.005	0.02	< 0.001
East	20.33	0.001	20.26	0.004	0.07	< 0.001
South Central	21.20	0.553	21.19	0.811	0.01	< 0.001
Southwest	25.89	< 0.001	25.88	< 0.001	0.01	< 0.001
Southeast	24.49	< 0.001	24.47	< 0.001	0.01	< 0.001
Detroit Metro	21.50		21.31		0.19	
Other health insurance						
No	22.17		22.00		0.17	
Yes	20.98	0.201	20.81		0.17	0.821
Total observations (Person/period)	681,697		681,697		681,697	

Table 3.3.3b Average Severity of Visit; Marginal Effects from Linear Regression and Probit Model

	Linear regression	*p-value on regression coefficient*	Probit (Prob medium or high severity visit)	*p-value on regression coefficient*
Time period				
Months 0-6	ref		ref	
Months 7-12	-0.002	0.403	-0.002	0.35
Months 13-18	0.004	0.068	0.003	0.07
Months 19-24	0.108	< 0.01	0.081	< 0.01
Months 25-30	0.184	< 0.01	0.137	< 0.01
Age				
Under 30	ref		ref	
30 to 39	0.004	0.055	0.003	0.01
40 to 49	-0.012	< 0.01	-0.009	< 0.01
Over 50	-0.036	< 0.01	-0.029	< 0.01
Gender				
Male	ref		ref	
Female	0.024	< 0.01	0.019	< 0.01
Race				
White	ref		ref	
Black	-0.007	0.001	-0.004	0.02
American Indian	0.009	0.424	0.011	0.25
Hispanic	-0.002	0.666	-0.002	0.70
Asian/Pacific Islander	-0.029		-0.036	
Unknown	0.003	0.380	0.001	0.65
FPL				
0-35 %	ref		ref	
36-99 %	-0.034	< 0.01	-0.028	< 0.01
100+ %	-0.041	< 0.01	-0.033	< 0.01
Region				
Upper Peninsula	-0.016	0.001	-0.013	< 0.01
Northwest	-0.004	0.455	-0.002	0.72
Northeast	-0.022	< 0.01	-0.016	< 0.01
West	0.010	< 0.01	0.012	< 0.01
East Central	0.012	0.001	0.013	< 0.01
East	0.007	0.035	0.005	0.04
South Central	0.022	< 0.01	0.018	< 0.01
Southwest	0.012	0.001	0.010	< 0.01
Southeast	0.015	< 0.01	0.014	< 0.01
Detroit Metro	ref		ref	
Other health insurance				
No	ref		ref	
Yes	0.008	0.160	0.005	0.19
ED type B visit				
No	ref		ref	
Yes	0.002	0.739	0.002	0.55

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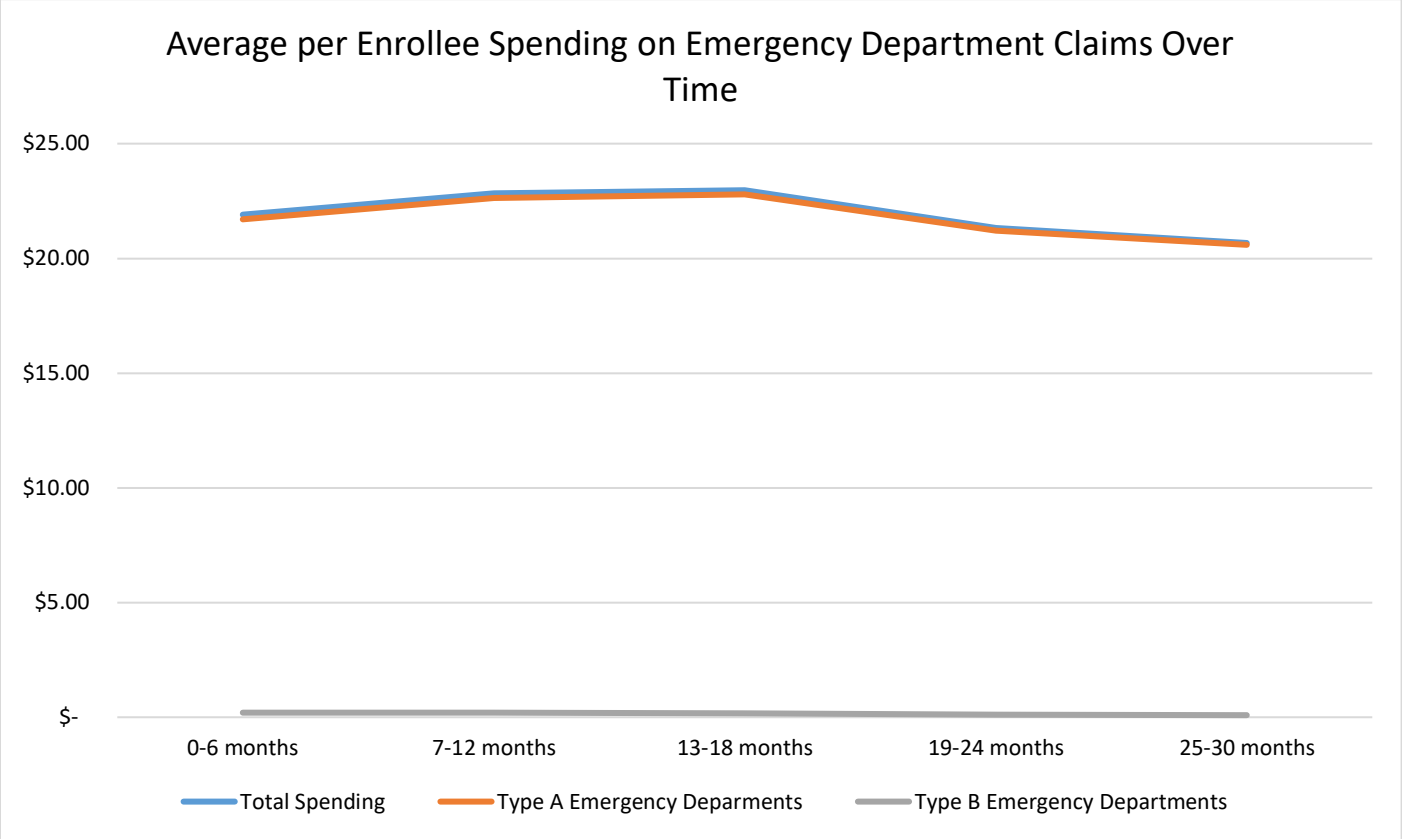
Constant	1.080			
Total observations (Person/period)	159,170		159,170	

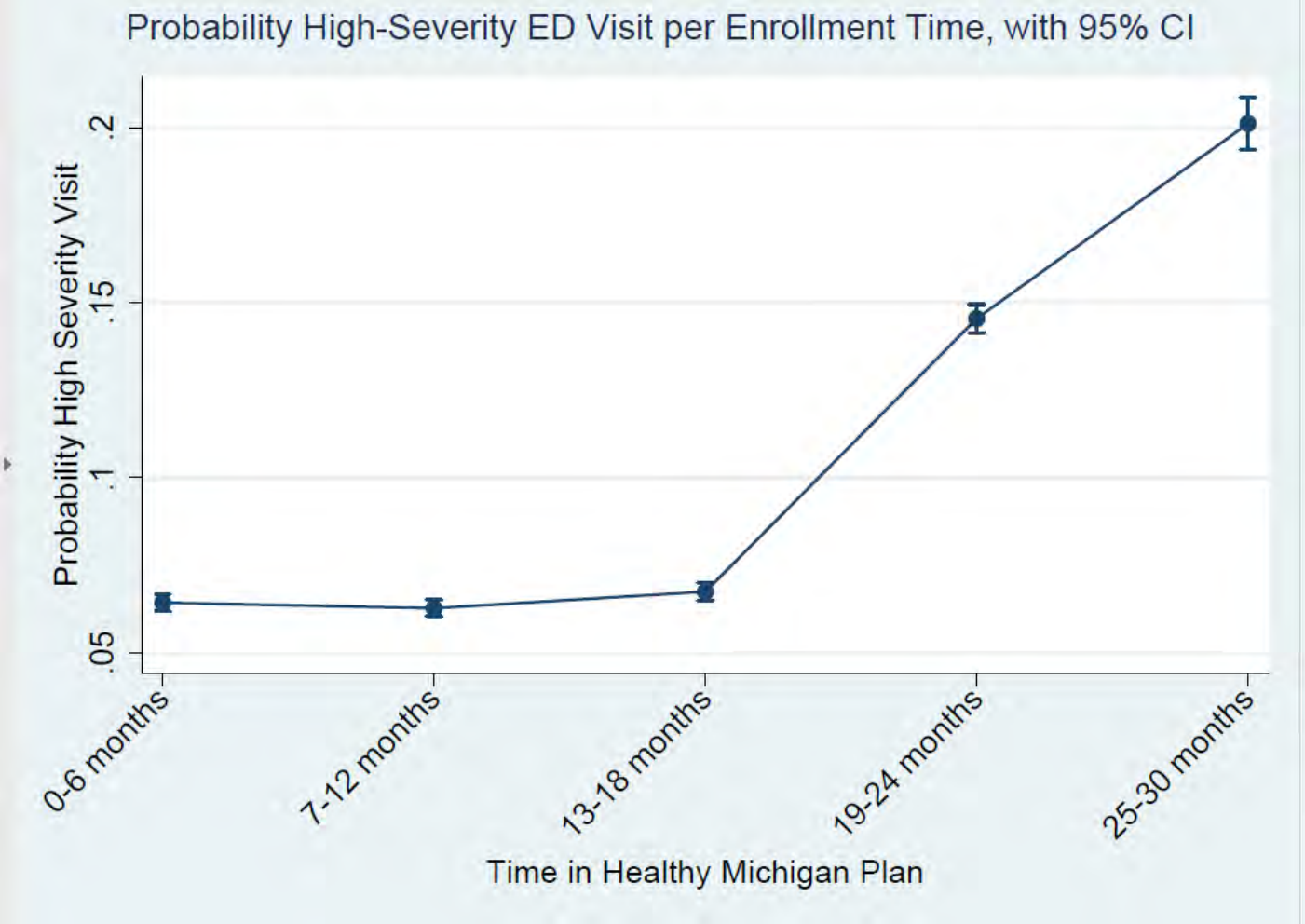
Ordinal logit was tried but no specification was tractable, likely due to low number of high/medium visits compared to low severity. Low severity > 90% of visits

Figure 3.3.1 Average per Enrollee Spending on Emergency Department Claims Over Time



	0-6 months	7-12 months	13-18 months	19-24 months	25-30 months
Total spending	$ 21.90	$ 22.83	$ 22.97	$ 21.33	$ 20.67
Type A emergency departments	$ 21.71	$ 22.62	$ 22.79	$ 21.21	$ 20.59
Type B emergency departments	$ 0.20	$ 0.20	$ 0.18	$ 0.12	$ 0.09

Figure 3.3.2 Probability of Medium/High Severity Visit



Note: Margins from a probit regression of probability of medium or high severity visit on time period, type of ED visit and same set of demographic characteristics as above. All periods are significantly different from baseline except for period 2 (7-12 months).

The hypothesis being tested is whether ED severity goes up over time, a possible indication that lower severity issues are being dealt with in other settings. This graph shows predictive margins from a probit regression of the probability of a visit coded as medium or high severity, conditional on an ED visit.

Hypothesis 3: Disenrollment Analyses

Table 4.1 Demographics of those Without Insurance Compared with Those with Insurance, Post HMP-enrollment, Unadjusted analysis

	Uninsured since HMP	Insured since HMP	*p-value on regression coefficient from adjusted Wald test of difference in proportions*
Age			
Under 30	41.2%	44.6%	0.416
30 to 39	19.7%	17.2%	0.443
40 to 49	19.4%	19.2%	0.952
Over 50	19.7%	19.0%	0.817
Gender			
Male			
Female	34.2%	44.2%	< 0.019
Race			
White	55.2%	58.5%	0.429
Black	21.6%	23.2%	0.672
American Indian	0.9%	0.6%	0.586
Hispanic	4.2%	3.0%	
Asian/Pacific Islander	0.7%	0.8%	0.872
Unknown	17.3%	13.9%	0.278
FPL			
0-35 %	63.6%	60.1%	0.326
36-99 %	23.2%	23.2%	0.996
100+ %	13.2%	16.7%	0.101
Region			
Upper Peninsula	3.1%	3.0%	0.923
Northwest	3.3%	3.3%	0.969
Northeast	1.7%	2.3%	0.294
West	8.3%	12.3%	0.079
East Central	5.0%	7.5%	0.137
East	11.5%	9.7%	0.458
South Central	3.7%	4.5%	0.629
Southwest	7.9%	7.3%	0.773
Southeast	10.9%	7.9%	0.224
Detroit Metro	44.8%	42.2%	0.534
Total enrollees	373	687	

Table 4.2 Predicted Percentage of Insurance Post-HMP from No Longer Enrolled Survey from Probit Regression

	Predicted percent with insurance including average quarterly invoice	*p-value on regression coefficient*	Predicted percent with insurance including flag for cost obligation	*p-value on regression coefficient*	Subset with cost obligation: predicted percent with insurance including compliance with obligation	*p-value on regression coefficient*
Age						
Under 30	64.1%		63.8%		73.2%	
30 to 39	58.7%	0.323	58.8%	0.355	70.1%	0.726
40 to 49	61.5%	0.621	61.8%	0.689	68.4%	0.562
Over 50	57.9%	0.209	58.1%	0.249	57.0%	0.026
Gender						
Male	57.8%		57.9%		67.4%	
Female	66.9%	0.018	66.8%	0.020	68.8%	0.814
Race						
White	62.4%		62.3%		65.1%	
Black	63.9%	0.786	64.0%	0.760	70.9%	0.492
American Indian	48.6%	0.505	48.0%	0.492		
Hispanic	50.1%	0.247	50.6%	0.272	91.1%	0.061
Asian/Pacific Islander	60.5%	0.923	57.9%	0.809	84.7%	0.417
Unknown	57.6%	0.395	57.5%	0.394	73.1%	0.306
FPL						
0-35 %	62.1%		62.6%		77.7%	
36-99 %	57.2%	0.247	58.9%	0.377	64.2%	0.135
100+ %	65.0%	0.598	60.6%	0.683	63.6%	0.106
Region						
Upper Peninsula	61.3%	0.890	59.8%	0.961	62.8%	0.534
Northwest	61.4%	0.870	61.6%	0.844	73.4%	0.815
Northeast	67.7%	0.376	68.3%	0.331	82.9%	0.305
West	71.3%	0.081	71.6%	0.074	80.7%	0.347
East Central	70.3%	0.185	0.705	0.173	63.0%	0.587
East	55.9%	0.503	56.2%	0.539	67.7%	0.755
South Central	66.5%	0.547	65.8%	0.602	62.8%	0.702
Southwest	57.6%	0.746	57.3%	0.721	58.4%	0.356
Southeast	55.2%	0.500	55.3%	0.511	62.4%	0.486
Detroit Metro	60.2%		60.1%		70.7%	

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Category of Average Invoice						
$0	58.5%					
$0.01 - $15	75.2%	< 0.01				
$15.01 +	62.0%	0.569				
Cost Obligation						
No			58.1%			
Yes			69.9%	< 0.014		
Collection category						
None collected					57.5%	
Partial collection					73.0%	0.062
Full collection					84.3%	< 0.01
Total enrollees	1,060		1,060		314	

Adjusted by survey weights and stratum. Results are predicted prevalence of each category, controlling for other covariates in the model

Table 4.3 Predicted Likelihood of Disenrollment in Period

	Cost obligation in prior period	*p-value on regression coefficient*	Invoice amount in prior period	*p-value on regression coefficient*	Invoice amount in prior period (quadratic specification for invoice)	*p-value on regression coefficient*	Invoice amount in prior period (quadratic specification with interactions on above/below 100% FPL)	*p-value on regression coefficient*
FPL								
0-35 %	14.3%		14.5%		14.4%			
36-99 %	12.7%	0.000	11.8%	0.000	11.9%	0.000		
100+ %	16.0%	0.000	16.9%	0.000	17.2%	0.000		
Age								
Under 30	20.3%		20.6%		20.6%		20.4%	
30 to 39	14.6%	0.000	14.7%	0.000	14.7%	0.000	14.6%	0.000
40 to 49	12.1%	0.000	12.1%	0.000	12.1%	0.000	12.1%	0.000
Over 50	10.8%	0.000	10.7%	0.000	10.7%	0.000	10.8%	0.000
Gender								
Male	17.0%		17.2%		17.1%		17.1%	
Female	11.5%	0.000	11.4%	0.000	11.4%	0.000	11.4%	0.000
Race								
White	13.2%		13.1%		13.2%		13.1%	
Black	13.3%	0.281	13.4%	0.009	13.4%	0.027	13.4%	0.002
American Indian	15.3%	0.000	15.8%	0.000	15.8%	0.000	15.7%	0.000
Hispanic	15.0%	0.000	15.0%	0.000	15.0%	0.000	15.0%	0.000
Asian/Pacific Islander	17.1%	0.000	17.1%	0.000	17.1%	0.000	16.8%	0.000
Unknown	22.2%	0.000	22.4%	0.000	22.4%	0.000	22.2%	0.000
Region								
Upper Peninsula	13.1%	0.000	12.9%	0.000	13.0%	0.000	12.9%	0.000
Northwest	15.2%	0.001	15.1%	0.000	15.1%	0.000	15.1%	0.000
Northeast	12.5%	0.000	12.4%	0.000	12.4%	0.000	12.5%	0.000
West	14.7%	0.000	14.7%	0.000	14.7%	0.000	14.7%	0.000
East Central	13.0%	0.000	12.9%	0.000	12.9%	0.000	12.9%	0.000
East	**13.6%**	**0.000**	**13.5%**	**0.000**	**13.5%**	**0.000**	**13.6%**	**0.000**
South Central	15.8%	0.049	15.8%	0.004	15.8%	0.005	15.8%	0.021

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Southwest	**15.9%**	**0.000**	**16.0%**	**0.000**	**16.0%**	**0.000**	**16.0%**	**0.000**
Southeast	15.6%	0.000	15.7%	0.000	15.7%	0.000	15.7%	0.000
Detroit Metro	13.8%	0.000	13.9%	0.000	13.9%	0.000	13.9%	0.000
Cost obligation in prior period								
No	15.8%							
Yes	7.3%	0.000						
Invoice amount in prior period								
$0			15.2%	0.000	15.4%	0.000		0.000
$5			14.9%		14.9%			
$10			14.6%		14.5%			
$15			14.4%		14.1%			
$25			13.8%		13.3%			
$35			13.3%		12.7%			
$50			12.5%		11.7%			
$65			11.8%		10.9%			
$75			11.4%		10.4%			
$85			10.9%		10.0%			
$100			10.3%		9.4%			
$150			8.4%		7.9%			
$200			6.8%		7.0%			
$300			4.4%		6.7%			
Interaction (Always 100 X invoice prior)								
Always Below 100: $0							15.4%	0.000
Always Above 100: $0							15.4%	
Always Below 100: $5							14.1%	
Always Above 100: $5							15.6%	
Always Below 100: $10							13.0%	
Always Above 100: $10							15.9%	
Always Below 100: $15							12.0%	
Always Above 100: $15							16.1%	
Always Below 100: $25							10.2%	
Always Above 100: $25							16.6%	
Always Below 100: $35							8.8%	
Always Above 100: $35							**16.9%**	
Always Below 100: $50							7.1%	

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Always Above 100: $50							**17.2%**	
Always Below 100: $65							5.9%	
Always Above 100: $65							17.4%	
Always Below 100: $75							5.3%	
Always Above 100: $75							17.4%	
Always Below 100: $85							4.8%	
Always Above 100: $85							17.3%	
Always Below 100: $100							4.3%	
Always Above 100: $100							16.9%	
Always Below 100: $150							3.4%	
Always Above 100: $150							14.6%	
Always Below 100: $200							3.7%	
Always Above 100: $200							10.9%	
Always Below 100: $300							10.8%	
Always Above 100: $300							3.7%	
Total observations	879,228		879,228		879,228		879,228	

Notes: 1) Prior period invoice is operationalized as a continuous variable and thus has only 1 p-value indicating the statistical significance of the relationship. In the quadratic specification, both prior invoice and (prior invoice)^2 have $p < 0.001$

2) This is the result of 4 separate regressions run with dependent variable of disenrollment in t+1 (next time period):

a) using cost obligation in t to predict disenrollment (t+1) in first 3 periods

b) using invoice amount (as a continuous variable) to predict disenrollment in (t+1) categories reported were generated using predictive margins

Table 4.3a Predicted Likelihood of Disenrollment in Period--Using Contribution

	Contribution Obligation in Prior Period	p-value	Contribution Amount in Prior Period	p-value	Quadratic in Contribution Amount in Prior Period	p-value	Quadratic in Contribution Amount in Prior Period and Interacting Above/Below 100 FPL	p-value
Federal Poverty Level Category			14.6%		14.7%			
0-35%	10.1%	0.000	11.8%	0.000	11.8%	0.000		
36-99%	8.1%	0.000	16.3%	0.000	16.1%	0.000		
100% +	8.7%							
Age			20.7%		20.7%		20.7%	
Under 30	13.0%	0.000	14.7%	0.000	14.7%	0.000	14.6%	0.000
30 to 39	9.5%	0.000	12.1%	0.000	12.1%	0.000	12.1%	0.000
40 to 49	8.2%	0.000	10.6%	0.000	10.6%	0.000	10.7%	0.000
Over 50	7.3%							
Gender			17.3%		17.3%		17.4%	
Male	11.4%	0.000	11.3%	0.000	11.3%	0.000	11.3%	0.000
Female	7.5%							
Race			13.1%		13.1%		13.1%	
White	8.7%	0.000	13.4%	0.001	13.4%	0.000	13.6%	0.000
Black	9.0%	0.000	16.0%	0.000	16.0%	0.000	16.1%	0.000
American Indian	10.5%	0.000	15.0%	0.000	15.0%	0.000	15.0%	0.000
Hispanic	9.7%	0.000	17.1%	0.000	17.1%	0.000	16.8%	0.000
Asian/Pacific Islander	11.1%	0.000	22.5%	0.000	22.5%	0.000	22.4%	0.000
Unknown	14.2%							
Region			12.9%		12.9%		12.8%	
Upper Penninsula	8.6%	0.000	15.1%	0.000	15.1%	0.000	15.0%	0.000
Northwest	9.7%	0.003	12.3%	0.000	12.3%	0.000	12.3%	0.000
Northeast	8.2%	0.000	14.7%	0.000	14.7%	0.000	14.8%	0.000
West	9.7%	0.000	12.9%	0.000	12.9%	0.000	12.9%	0.000
East Central	8.6%	0.000	13.5%	0.000	13.5%	0.000	13.5%	0.000
East Central	9.0%	0.017	15.8%	0.003	15.8%	0.002	15.8%	0.007

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South Central	10.4%	0.000	16.0%	0.000	16.0%	0.000	16.1%	0.000
Southwest	10.5%	0.000	15.7%	0.000	15.7%	0.000	15.7%	0.000
Southeast	10.2%	0.000	13.9%	0.000	13.9%	0.000	13.9%	2.82E-33
Detroit Metro	9.2%							
Contribution Obligation in Prior Period								
No	9.0%							
Yes	13.2%	0.000						
Invoice Amount in Prior Period			14.8%	0.000	14.7%	0.000		
$0			14.6%		14.6%			
$5			14.4%		14.5%			
$10			14.2%		14.4%			
$15			13.8%		14.2%			
$25			13.4%		13.9%			
$35			12.9%		13.5%			
$50			12.3%		13.0%			
$65			12.0%		12.7%			
$75			11.6%		12.3%			
$85			11.1%		11.8%			
$100			9.6%		9.9%			
$150			8.3%		8.0%			
$200			6.1%		4.4%			0.000
$300								
Interaction Always100 # Invoice Prior								
Always Below 100: $0							14.6%	0.000
Always Above 100: $0							14.6%	
Always Below 100: $5							13.8%	
Always Above 100: $5							15.0%	
Always Below 100: $10							13.1%	
Always Above 100: $10							15.4%	

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Always Below 100: $15							12.5%	
Always Above 100: $15							15.8%	
Always Below 100: $25							11.3%	
Always Above 100: $25							16.5%	
Always Below 100: $35							10.3%	
Always Above 100: $35							17.1%	
Always Below 100: $50							9.0%	
Always Above 100: $50							17.8%	
Always Below 100: $65							8.0%	
Always Above 100: $65							18.2%	
Always Below 100: $75							7.5%	
Always Above 100: $75							18.3%	
Always Below 100: $85							7.0%	
Always Above 100: $85							18.3%	
Always Below 100: $100							6.5%	
Always Above 100: $100							18.0%	
Always Below 100: $150							5.5%	
Always Above 100: $150							15.2%	
Always Below 100: $200							5.6%	
Always Above 100: $200							10.6%	
Always Below 100: $300							9.6%	
Always Above 100: $300							2.5%	
Total Observations			879,228		879,228		879,228	
	1,327,596							

Table 4.3b Predicted Likelihood of Disenrollment in the Period--Using Copay

	Copay Obligation in Prior Period	p-value	Copay Amount in Prior Period	p-value	Quadratic in Copay Amount in Prior Period	p-value	Quadratic in Copay Amount in Prior Period and Interacting Above/Below 100 FPL	p-value
Federal Poverty Level Category								
0-35%	9.9%		14.3%		14.2%			
36-99%	8.0%	0.000	12.9%	0.000	13.0%	0.000		
100% +	9.7%	0.015	15.8%	0.000	15.9%	0.000		
Age								
Under 30	12.9%		20.0%		20.0%		20.0%	
30 to 39	9.5%	0.000	14.5%	0.000	14.5%	0.000	14.5%	0.000
40 to 49	8.2%	0.000	12.2%	0.000	12.2%	0.000	12.2%	0.000
Over 50	7.4%	0.000	10.9%	0.000	10.9%	0.000	11.0%	0.000
Gender								
Male	11.3%		16.8%		16.8%		16.8%	
Female	7.6%	0.000	11.6%	0.000	11.7%	0.000	11.7%	0.000
Race								
White	8.8%		13.2%		13.3%		13.3%	
Black	8.9%	0.015	13.2%	0.817	13.2%	0.610	13.2%	0.000
American Indian	10.3%	0.000	15.3%	0.000	15.2%	0.000	15.2%	0.000
Hispanic	9.7%	0.000	14.9%	0.000	14.9%	0.000	14.9%	0.000
Asian/Pacific Islander	11.1%	0.000	17.0%	0.000	17.0%	0.000	17.0%	0.000
Unknown	14.1%	0.000	22.2%	0.000	22.2%	0.000	22.2%	0.000
Region								
Upper Penninsula	8.7%		12.9%		12.9%		13.0%	
Northwest	9.8%	0.002	15.1%	0.000	15.1%	0.000	15.1%	0.000
Northeast	8.3%	0.000	12.5%	0.000	12.6%	0.000	12.6%	0.000
West	9.7%	0.000	14.5%	0.000	14.5%	0.000	14.6%	0.000
East Central	8.6%	0.000	13.0%	0.000	13.0%	0.000	13.0%	0.000
East	9.0%	0.000	13.6%	0.000	13.6%	0.000	13.6%	0.000

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South Central	10.4%	0.067	15.9%	0.021	15.9%	0.026	15.9%	0.007
Southwest	10.5%	0.000	15.9%	0.000	15.9%	0.000	15.9%	0.000
Southeast	10.2%	0.000	15.6%	0.000	15.6%	0.000	15.6%	0.000
Detroit Metro	9.2%	0.000	13.9%	0.000	13.9%	0.000	13.9%	
Cost Obligation in Prior Period								
No	9.5%							
Yes	9.0%	0.000		0.000				
Invoice Amount in Prior Period								
$0			15.9%		16.1%	0.000		
$5			12.8%		12.3%			
$10			10.2%		9.4%			
$15			8.0%		7.3%			
$25			4.9%		4.6%			
$35			3.0%		3.1%			
$50			1.4%		2.0%			
$65			0.6%		1.5%			
$75			0.4%		1.4%			
$85			0.2%		1.4%			
$100			0.1%		1.7%			
$150			0.0%		11.3%			
$200			0.0%		87.8%			
$300								
Interaction Always100 # Invoice Prior								
Always Below 100: $0							16.1%	0.000
Always Above 100: $0							16.1%	
Always Below 100: $5							12.0%	
Always Above 100: $5							12.9%	
Always Below 100: $10							9.1%	
Always Above 100: $10							10.4%	
Always Below 100: $15							6.9%	
Always Above 100: $15							8.4%	

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Always Below 100: $25							4.2%	
Always Above 100: $25							5.6%	
Always Below 100: $35							2.8%	
Always Above 100: $35							3.9%	
Always Below 100: $50							1.8%	
Always Above 100: $50							2.5%	
Always Below 100: $65							1.4%	
Always Above 100: $65							1.7%	
Always Below 100: $75							1.3%	
Always Above 100: $75							1.5%	
Always Below 100: $85							1.4%	
Always Above 100: $85							1.3%	
Always Below 100: $100							1.7%	
Always Above 100: $100							1.2%	
Always Below 100: $150							15.7%	
Always Above 100: $150							2.3%	
Always Below 100: $200							95.0%	
Always Above 100: $200							14.9%	
Always Below 100: $300							n/a	
Always Above 100: $300							n/a	
Total Observations	1,327,596		879,228		879,228		879,228	

Table 4.4 Detailed Statistical Summary of Average Quarterly Invoice

	Values at Each Percentile of Distribution
1%	0
5%	0
10%	0
25%	0
50%	0
75%	0
90%	26
95%	72
99%	145

Measure	Values
Observations	1,328,015
Mean	9.08
Std. Dev.	27.58
Variance	760.58
Smallest 4 values	0, 0, 0, 0
Largest 4 values	294, 317, 318, 336

Table 4.4a Marginal Effects from a Logit Disenrollment Model that Includes Invoice and Number of Chronic Disease Claims

Marginal Effects from a Logit Disenrollment Model that Includes Invoice and Number of Chronic Disease Claims		
	Marginal Effects	p-value on coefficient
Prior Period Invioce Amount (in dollars)	-0.08%	0.000
Total Chronic Disease Claims (# of claims): 0	ref	
Total Chronic Disease Claims (# of claims): 1-3	-5.00%	0.000
Total Chronic Disease Claims (# of claims): 4-10	-7.92%	0.000
Total Chronic Disease Claims (# of claims): 11+	-10.50%	0.000
Age		
Under 30	ref	
30 to 39	-4.81%	0.000
40 to 49	-6.40%	0.000
Over 50	-7.40%	
Federal Poverty Level Category		
0-35%	ref	0.000
36-99%	-2.98%	0.000
100% +	2.16%	0.000
Gender		
Male	ref	
Female	-5.20%	0.000
Race		
White	ref	
Black	0.02%	0.793
American Indian	3.06%	0.000
Hispanic	1.66%	0.000
Asian/Pacific Islander	3.14%	0.000
Unknown	8.71%	0.000
Region		
Upper Penninsula	-1.32%	0.000
Northwest	1.30%	0.000
Northeast	-1.44%	0.000
West	0.90%	0.000
East Central	-0.70%	0.000
East Central	-0.21%	0.099
South Central	1.68%	0.000
Southwest	2.17%	0.000
Southeast	1.59%	0.000
Detroit Metro	ref	
Total Observations	879,228	

Table 4.5 Predicted Disenrollment by Chronic Disease Claims and Total Spending (Plan and Cost Sharing)

	Any Claim in Prior Period	p-value	Conditional on Chronic Disease Claim: Amount of Claims	p-value	Any Spending in Prior Period	p-value	Amount of Spending	p-value on regression coefficient
Federal Poverty Level Category								
0-35%	10.1%		10.5%		9.9%		15.1%	
36-99%	7.8%	0.000	8.7%	0.000	8.0%	0.000	11.8%	0.000
100% +	9.4%	0.000	11.3%	0.000	9.6%	0.000	14.4%	0.000
Age								
Under 30	11.6%		15.1%		12.3%		19.1%	
30 to 39	9.1%	0.000	10.9%	0.000	9.3%	0.000	14.2%	0.000
40 to 49	8.6%	0.000	9.1%	0.000	8.4%	0.000	12.6%	0.000
Over 50	8.2%	0.000	8.5%	0.000	7.7%	0.000	11.4%	0.000
Gender								
Male	11.0%		12.1%		10.6%		16.3%	
Female	7.8%	0.000	8.7%	0.000	8.1%	0.000	12.1%	0.000
Race								
White	8.8%		9.6%		8.9%		13.4%	
Black	8.8%	0.868	9.2%	0.001	8.6%	0.000	13.0%	0.000
American Indian	11.1%	0.000	11.7%	0.000	11.0%	0.000	17.2%	0.000
Hispanic	9.7%	0.000	10.7%	0.000	9.7%	0.000	14.8%	0.000
Asian/Pacific Islander	10.5%	0.000	12.3%	0.000	10.7%	0.000	16.2%	0.000
Unknown	14.0%	0.000	16.8%	0.000	14.0%	0.000	21.8%	0.000
Region								
Upper Penninsula	8.2%	0.000	9.1%	0.000	8.6%	0.000	12.5%	
Northwest	10.0%	0.000	10.8%	0.001	9.9%	0.000	15.0%	0.000
Northeast	8.4%	0.000	9.2%	0.001	8.4%	0.000	12.3%	0.000
West	9.8%	0.000	10.6%	0.005	9.9%	0.000	15.0%	0.000
East Central	8.9%	0.000	9.3%	0.000	8.7%	0.000	12.9%	0.000
East Central	9.2%	0.008	9.9%	0.000	9.2%	0.000	13.6%	0.000

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South Central	10.2%	0.672	11.2%	0.676	10.3%	0.809	15.4%	0.002
Southwest	10.6%	0.000	11.6%	0.000	10.4%	0.000	15.9%	0.000
Southeast	10.0%	0.000	10.9%	0.000	10.2%	0.000	15.5%	0.000
Detroit Metro	9.2%	0.000	10.0%	0.000	9.2%	0.000	13.9%	0.000
Claim in Prior Period								
No	18.1%							
Yes	5.3%	0.000						
Conditional on Claim: Number of Claims								
1			11.5%	0.000				
5			10.1%					
15			7.2%					
25			5.1%					
35			3.6%					
50			2.1%					
65			1.2%					
75			0.8%					
100			0.3%					
Any Spending in Prior Period								
No					24.3%			
Yes					7.5%	0.000		
Total Spending in Prior								
No Spending							23.6%	
$1 - $19							16.9%	0.000
$20-$40							15.5%	0.000
$50 - $99							13.5%	0.000
$100 - $349							11.0%	0.000
$350 +							8.1%	0.000
Total Observations	1327596		463634		1327596		879226	

Table 4.6 Descriptive Table of Population Used in Regression Discontinuity Regressions (up to 13 Months Follow-up)

Descriptive Statistics -- 13 Months Follow-up			
	Disenroller	Continuously Enrolled	P-value from two-sample ttest
Female (%)	51.1	63.1	<0.001
Age (mean)	37.6	40.4	<0.001
First enrollment month	Nov-14	Oct-14	<0.001
FPL percent	85	76.4	<0.001
Region			
Northern Michigan	9.9	10.4	0.003
Central Michigan	30.9	31.1	0.451
Southern Michigan	22.9	19.4	<0.001
Detroit	36.3	39.1	<0.001
Race			
White	61.8	66.6	<0.001
Black	17.7	19.8	<0.001
Other	20.5	13.5	<0.001
Monthly medical spending (mean $)	165.67	296.51	<0.001
Monthly number of chronic disease claims (mean)	0.24	0.42	<0.001
Received contribution statement (%)	24.5	20.1	<0.001
Received copay statement (%)	27.4	40.4	<0.001
Contribution Invoice (mean $)	3.17	2.09	<0.001
Copay Invoice (mean $)	0.35	0.54	<0.001
Total Number	39,289	156,206	
Notes:			
Inclusion Criteria: 1) Not part of special population 2) Between 22 and 62 years of age 3) Enrolled in HMP-MC before Sept 2015, so that we have at least 13 months of potential observation 4) At least 7 months of continuous HMP-MC enrollment 5) Income between 1% and 133% FPL			
Disenroller: Drops HMP-MC after a spell of at least 7 months in the program up to 13 months in program. Disenrollers must not come back to any Michigan Medicaid program for at least 6 months. Must have dropped from HMP-MC, i.e. not switched into another program and then dropped.			

Table 4.7 Basic Statistics for RD Population

13-month total follow-up		
	Percent	Total Number in Group
Percent with Contribution with FPL rounded to nearest 1…..		
99 to 100	22.8	1766
100 to 101	41.2	1791
Contribution Amount	Mean	
Overall	2.31	195,495
90 to 100	1.56	18,411
100 to 110	4.49	20,970
95 to 100	1.81	9,067
100 to 105	4.36	11,810
Percent Disenroller	Percent	
Overall	20.1	195,495
< 100 % FPL	17.9	131,120
>= 100% FPL	24.6	64,375
100 to < 115 FPL	22.8	28,121
85 to < 100 FPL	20.6	28,457
100 to < 105	22.7	9,977
95 to < 100	19.5	9,067
Subgroup with Lower than Median Medical Spending (1st 7 Months)		
Overall	25.9	98,203
< 100 % FPL	23.5	64,582
>= 100% FPL	30.6	33,621
100 to < 115 FPL	28.4	14,788
85 to < 100 FPL	25.5	14,858
100 to < 110	27.8	10,159
90 to < 100	24.3	9,623
Subgroup with Higher than Median Medical Spending (1st 7 Months)		
Overall	14.2	97292
< 100 % FPL	12.4	66538
>= 100% FPL	18.1	30754
100 to < 115 FPL	16.5	13333
85 to < 100 FPL	15.2	13599
100 to < 110	16.1	9038
90 to < 100	15.1	8788
Subgroup with No Chronic Disease Claims (1st 7 Months)		
Overall	25.1	92359
< 100 % FPL	22.8	61181
>= 100% FPL	29.8	31178
100 to < 115 FPL	27.5	13799

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85 to < 100 FPL	**25.0**	**14161**
100 to < 110	27.1	9505
90 to < 100	24.3	9177
Subgroup with at least 1 Chronic Disease Claim (1st 7 Months)		
Overall	15.6	103,136
< 100 % FPL	13.6	69,939
>= 100% FPL	19.8	33,197
100 to < 115 FPL	18.2	14,322
85 to < 100 FPL	16.2	14,296
100 to < 110	17.6	9,692
90 to < 100	15.6	9,234

Table 4.8 Regression Discontinuity Estimates, 13 Month

Population followed 13 Months						
Total sample N=195495; Income sample (85 – 115%: 56,578						
Bandwidth selector: linear sharp: MSERD (12.4) CER (6.7); quadratic, sharp: MSERD: 11.1, CER: 5.5)						
Bandwidth selector: linear fuzzy: MSERD (8.3) CER (4.5); quadratic fuzzy: MSERD: (16.3) CER: (8.1)						
RUNNING VARIABLE: AVERAGE FPL PERCENT						
Specification	Bandwidth (equal on both sides)	Covariates?	Estimate (in percentage points)	p-value	First stage coefficient (ppts)	p-value
SHARP: rdrobust, linear	6.749 (CER optimal, triangular kernel	Y	0.8	>0.1		
SHARP: rdrobust, linear	6.5 (CER optimal, uniform kernel)	Y	2.9	<0.01		
SHARP: rdrobust, linear	7	Y	1.02	0.378		
SHARP: rdrobust, linear	10	Y	2.3	0.015		
SHARP: rdrobust, linear	12	Y	2.6	0.002		
SHARP: rdrobust, linear	15	Y	2.5	0.001		
SHARP: rdrobust, linear	12.4	Y	2.7	<=0.01		
SHARP: rdrobust, quadratic	6	Y	-7.6	0.001		
SHARP: rdrobust, quadratic	10	Y	-0.87	0.558		
SHARP: rdrobust, quadratic	12	Y	0.36	0.786		
SHARP: rdrobust, quadratic	15	Y	2.02	0.079		
SHARP: regress, linear	10	Y	4.6	<0.001	p-value on coefficient plus100	
SHARP: regress, linear	15	Y	4.4	0.228	p-value on coefficient plus100	
FUZZY: rdrobust, linear	4.5 (CER optimal, triangular kernel)	Y	-17.6	<=0.1	16	<0.01
FUZZY: rdrobust, linear	4.5 (CER optimal, uniform kernel)	Y	-6.7	>0.1	19	<0.01
FUZZY: rdrobust, linear	5	Y	-14.7	0.086	17	<0.001
FUZZY: rdrobust, linear	8.3	Y	9.4	<=0.1	19.1	<0.001
FUZZY: rdrobust, linear	10	Y	11.6	0.016	19	<0.001
FUZZY: rdrobust, linear	12	Y	13.2	0.002	20	<0.001
FUZZY: rdrobust, linear	15	Y	12.4	0.001	20.3	<0.001
FUZZY: rdrobust, quadratic	8	Y	-25.3	0.02	16	<0.001
FUZZY: rdrobust, quadratic	10	Y	-5.1	0.556	17	<0.001

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FUZZY: rdrobust, quadratic	**12**	**Y**	**2**	**0.787**	**18**	**<0.001**
FUZZY: rdrobust, quadratic	15		11	0.084	18	<0.001
FUZZY: rdrobust, quadratic	16	y	11	0.068	18	<0.001
FUZZY: 2sls, linear	none	Y	4.3	<0.001		
RUNNING VARIABLE: MINIMUM REPORTED FPL						
Bandwidth selector: linear sharp: MSERD (9) CER (5); quadratic, sharp: MSERD: (9), CER: (4)						
Bandwidth selector: linear fuzzy: MSERD (7) CER (4); quadratic fuzzy: MSERD: (12) CER: (6)						
SHARP: rdrobust, linear	5	Y	-3.7	0.021		
SHARP: rdrobust, linear	9	Y	1.6	0.134		
SHARP: rdrobust, linear	10	Y	2	0.54		
SHARP: rdrobust, linear	12	Y	2.5	0.007		
SHARP: rdrobust, quadratic	10	Y	-1.8	0.29		
SHARP: rdrobust, quadratic	12	Y	-0.39	0.79		
FUZZY: rdrobust, linear	5	Y	-18.8	0.02	20	<0.001
FUZZY: rdrobust, linear	7	Y	2.6	0.649	22	<0.001
FUZZY: rdrobust, linear	10	Y	8.5	0.056	23	<0.001
FUZZY: rdrobust, linear	12	Y	10.6	0.008	23	<0.001
FUZZY: rdrobust, quadratic	10	Y	-8.8	0.286	20	<0.001
FUZZY: rdrobust, quadratic	12	Y	-1.8	0.79	21	<0.001
FUZZY: rdrobust, quadratic	15	Y	10.2	0.003	24	<0.001
FUZZY: 2sls, linear	none	N	-9.3	<0.001		

Table 4.9 Subgroup Analyses on RD Estimates, Medical Claims

	Specification	Bandwidth (equal on both sides)	Covariates?	Estimate (in percentage points)	p-value	First stage coefficient	p-value
Chronic Disease Claims							
No Chronic Disease Claims (n=92,359)							
	Sharp: rdrobust linear	10	Y	3.4 (0.014)	0.013		
	Sharp: rdrobust linear	10.73 (mse chosen)	Y	3.5 (0.013)	0.008		
	Fuzzy: rdrobust linear	10	Y	14.6 (0.060)	0.015	0.23 (0.014)	<0.001
	Fuzzy: rdrobust linear	12	Y	15.0(0.053)	0.005	0.24 (0.013)	<0.001
	Fuzzy: rdrobust linear	8.4 (mse; chosen)	Y	14.1 (0.068)	0.038	.23 (0.016)	<0.001
Chronic Disease Claims (n=103,136)							
	Sharp: rdrobust linear	5.66 (mse chosen)	Y	-2.4 (0.017)	0.169		
	Sharp: rdrobust linear	6	Y	-2.21 (0.017)	0.221		
	Sharp: rdrobust linear	10	Y	0.72 (0.012)	0.555		
	Fuzzy: rdrobust linear	6	Y	-14.3 (0.12)	0.219	0.15 (0.020)	<0.001
	Fuzzy: rdrobust linear	10	Y	4.8 (0.081)	0.56	0.15 (0.014)	<0.001
	Fuzzy: rdrobust linear	12	Y	8.1 (0.073)	0.267	0.15 (0.013)	<0.001
	Fuzzy: rdrobust linear	8.5mse; chosen	Y	1.1 (0.090)	.902	0.15 (0.015)	<0.001
Using Contribution Amount							
No Chronic Disease Claims	Contribution Amount (FPL at 100)	8.93 (mse chosen)	Y	1.23 (0.0055)	.027	2.71 (0.0177)	<0.001
	Contribution Amount (FPL at 100)	10	Y	1.24 (.0051)	0.015	2.75 (0.17)	<0.001
Chronic Disease Claims	Contribution Amount (FPL at 100)	8.65 (mse chosen)	Y	0.14 (0.0078)	.863	1.70 (0.18)	<0.001
	Contribution Amount (FPL at 100)	10	Y	0.42 (0.0072)	.588	1.71 (0.164)	<0.001

Table 4.10 Estimates Using Monthly Contribution Statement Amounts

Estimates Using Monthly Contribution Statement Amount (not just indicator)								
Specification	Outcome	Independent variable (Instrument)	Estimate (ppts)	Covariates	p-value	Bandwidth (Imputed?)	First Stage Estimate	P-value
Sharp: rdrobust	contribution amount	FPL	2.22	N	<0.001	7.7 (N)		
Sharp: rdrobust	contribution amount	FPL	2.03	N	<0.001	5 (Y)		
Sharp: rdrobust	contribution amount	FPL	2.25	N	<0.001	10 (Y)		
Sharp: rdrobust	contribution amount	FPL	2.02	Y	<0.001	5 (Y)		
Sharp: rdrobust	contribution amount	FPL	2.25	Y	<0.001	10 (Y)		
Fuzzy: rdrobust	disenroller	Contribution Amount (FPL at 100)	0.97	N	0.03	9.162 (N)	2.23	<0.001
Fuzzy: rdrobust	disenroller	Contribution Amount (FPL at 100)	0.803	Y	0.088	8.244(N)	2.22	<0.001
Fuzzy: rdrobust	disenroller	Contribution Amount(FPL at 100)	1.044	N	0.013	10 (Y)	2.25	<0.001
Fuzzy: rdrobust	disenroller	Contribution Amount (FPL at 100)	1.007	Y	0.016	10(Y)	2.25	<0.001
Fuzzy: rdrobust	Disenrollller	Contribution Amount (FPL at 100)`	1.1	Y	<=0.05	15(Y)	2.31	<0.001
Regress	disenroller	Contribution Amount	0.65	Y	<0.001			
Subgroup Analyses								
Below Median Spending	Disenroller	Contribution Amount (FPL at 100)	1.15	Y	0.048	7.867 (N)	2.834	<0.001
	Disenroller	Contribution Amount (FPL at 100)	1.251	Y	0.008	10(Y)	2.917	<0.001
Above Median Spending	Disenroller	Contribution Amount (FPL at 100)	0.568	Y	.448	11.889(N)	1.48	<0.001
	Disenroller	Contribution Amount (FPL at 100)	0.367	Y	.659	10(Y)	1.47	<0.001
No Chronic Disease Claims	Disenroller	Contribution Amount (FPL at 100)	1.29	Y	.020	8.937(N)	2.720	<0.001
	Disenroller	Contribution Amount (FPL at 100)	1.453	Y	.005	10(Y)	2.77	<0.001

Chronic Disease Claims	Disenroller	Contribution Amount (FPL at 100)	0.089	Y	.910	8.607(N)	1.70	<0.001
	Disenroller	Contribution Amount (FPL at 100)	0.389	Y	.589	10(Y)	1.71	<0.001

Table 4.11 Alternative Specifications and Sensitivity Checks

	Effect of exceeding cutoff on				Treatment effect of	
	Any contribution (1/0)	Contribution Amount ($)	Disenrolled		Any Contribution (1/0)	Contribution Amount ($)
	(percentage points)		(percentage points)		(percentage points)	(percentage points)
Standard errors in italics						
CER Bandwidth (triangular kernel)	16*** (4.6) *0.016*	2.03*** (5.0) *0.18*	0.71 (6.7) *0.012*		-16.2* (4.6) *0.090*	-1.4* (4.6) *0.0076*
CER Bandwidth (uniform kernel)	19*** (4.6) *0.015*	2.26*** (4.6) *0.17*	2.9*** (6.5) *0.11*		-6.5 (4.6) *0.072*	-0.54 (4.6) *0.0061*
Global linear (2sls)	36*** *0.0021*	4.34*** *0.028*			5.7*** *0.0099*	0.83*** *0.00082*
Retaining Average FPL 0% (n=410,295)						
MSE-Optimal Bandwidth (in brackets)	19*** (7.8) *0.012*	2.21*** (7.7) *0.13*	-4.0** (3.8) *0.017*		8.1 (7.8) *0.057*	0.67 (7.7) *0.0049*
BW = 10	19*** *0.010*	2.24*** *0.12*	2.2** *0.0093*		11.3** *0.049*	0.98 *0.0042*
BW = 15	20*** *0.0081*	2.31*** *0.095*	2.4*** *0.0075*		12*** *0.037*	1.1*** *0.0033*
Using 12-month follow up (MSE-optimal) (n=166,014)	20*** (7.0) *0.015*	2.31 (8.9) *0.14*	1.9* (10.1) *0.011*		3.4 (7.0) *0.067*	0.7 (8.9) *0.0050*
Using 12-month follow up, BW=10	22*** *0.012*	2.35*** *0.14*	1.9* *0.011*		8.6* *0.050*	0.81* *0.0046*
Using 12-month follow up, BW=15	23*** *0.0098*	2.45*** *0.11*	1.8** *0.0086*		7.8** *0.038*	0.73** *0.0036*
Running variable of minimum reported FPL, MSE-optimal bandwidth	22*** (7.5) *0.012*	2.62*** (7.3) *0.14*	1.8* (9.6) *0.010*		4.6 (7.5) *0.054*	0.35 (7.3) *0.0047*
Running variable of minimum reported FPL, BW=10	23*** *0.010*	2.68*** *0.12*	1.9* *0.010*		8.3* *0.045*	0.71* *0.0038*

Notes: Each row shows estimates using a different bandwidth. Columns 1-3 present estimates of a "sharp" regression discontinuity design on the probability an enrollee faces any premium (column 1), the amount of premium they are asked to contribute (column 2), and the probability that they disenroll (column 3). Columns 4 and 5 scale the disenrollment effect by the probability of receiving a premium (column 4) or the premium amount (column 5), presenting the "treatment on the treated" effect of these measures. Significance levels: *=0.10, **=0.05, ***=0.01.

Table 4.12 Sensitivity Check: Descriptive Statistics for Population Followed up to 19 Months

	Disenroller	Continuously Enrolled	P-value from two-sample ttest
Female (%)	52	63.4	<0.001
Age (mean)	38.2	40.4	<0.001
First enrollment month	Aug-14	Aug-14	<0.001*
FPL percent	81.3	71.9	<0.001
Region			
Northern Michigan	10.2	10.3	0.64
Central Michigan	31.7	31.2	0.095
Southern Michigan	23	19.3	<0.001
Detroit	35.1	39.2	<0.001
Race			
White	62.2	66.1	<0.001
Black	18.5	20.8	<0.001
Other	19.4	13.1	<0.001
Monthly medical spending (mean)	186.52	296.19	<0.001
Monthly number of chronic disease claims (mean)	0.26	0.42	<0.001
Received contribution statement (%)	22.7	25.4	<0.001
Received copay statement (%)	29.8	50.9	<0.001
Contribution Invoice (mean)	2.75	2.36	<0.001
Copay Invoice (mean)	0.37	0.62	<0.001
Total Number	35,283	130,731	
Notes:			
Inclusion Criteria: 1) Not part of special population 2) Between 22 and 62 years of age 3) Enrolled in HMP-MC before March 2015, so that we have at least 19 months of potential observation 4) At least 7 months of continuous HMP-MC enrollment 5) Income between 1% and 133% FPL			
Disenroller: Drops HMP-MC after a spell of at least 7 months in the program up to 13 months in program. Disenrollers must not come back to any Michigan Medicaid program for at least 6 months. Must have dropped from HMP-MC, i.e. not switched into another program and then dropped.			
*These are different because disenrollers tend to enroll toward end of month (6.5) while enrollers are toward beginning of month (6.1) likely suggesting more enrollers in earlier parts of program			

Table 4.13 Sensitivity Check--Basic Statistics 19 Months Enrollment

19 month total follow up		
	Percent	Total Number in Group
Percent with Contribution with FPL rounded to nearest 1…..		
99 to 100	31.8	1352
100 to 101	48.1	1394
Percent Disenroller		
Overall	19.4	166,014
< 100 % FPL	16.6	118,252
>= 100% FPL	26.2	47,762
100 to < 115 FPL	23.6	21,308
85 to < 100 FPL	21.3	22, 373
100 to < 105	23	7,664
95 to < 100	20.4	7,011

Table 4.14 Sensitivity Check: RD Estimates from Population Followed for up to 19 Months

Sample followed 19 Months						
Total sample N=166,014						
Bandwidth selector: linear sharp: MSERD (10) CER (6); quadratic, sharp: MSERD: 13, CER: 7)						
Bandwidth selector: linear fuzzy: MSERD (7) CER (4); quadratic fuzzy: MSERD: (16) CER: (8)						
RUNNING VARIABLE: AVERAGE FPL PERCENT						
Specification	Bandwidth (equal on both sides)	Covariates?	Estimate (in percentage points)	p-value	First stage coefficient	p-value
SHARP: rdrobust, linear	7	Y	0.65	0.627		
SHARP: rdrobust, linear	10	Y	1.9	0.077		
SHARP: rdrobust, linear	12	Y	2	0.038		
SHARP: rdrobust, linear	15	Y	1.8	0.035		
SHARP: rdrobust, quadratic	5	Y	-0.14	0.68		
SHARP: rdrobust, quadratic	10	Y	-0.85	0.626		
SHARP: rdrobust, quadratic	12	Y	0.46	0.766		
SHARP: rdrobust, quadratic	15	Y	1.8	0.178		
SHARP: regress, linear	10	Y	4.5	<0.001		
SHARP: regress, linear	15	Y	4.5	0.545		
FUZZY: rdrobust, linear	5	Y	-9.5	0.337	0.168	<0.001
FUZZY: rdrobust, linear	8	Y	5.9	0.315	0.21	<0.001
FUZZY: rdrobust, linear	10	Y	8.6	0.082	0.22	<0.001
FUZZY: rdrobust, linear	12	Y	9	0.041	0.224	<0.001
FUZZY: rdrobust, linear	15	Y	7.9	0.038	0.231	<0.001
FUZZY: rdrobust, quadratic	5	Y	-22.2	0.673	0.061	0.094
FUZZY: rdrobust, quadratic	10	Y	-4.9	0.623	0.174	<0.001
FUZZY: rdrobust, quadratic	12	Y	2.33	0.767	0.195	<0.001
FUZZY: rdrobust, quadratic	15		8.75	0.186	0.204	<0.001
FUZZY: 2sls, linear	none	Y	4	<0.001		

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RUNNING VARIABLE: MINIMUM REPORTED FPL						
Bandwidth selector: linear sharp: MSERD (11) CER (6); quadratic, sharp: MSERD: (12), CER: (6)						
Bandwidth selector: linear fuzzy: MSERD (6) CER (4); quadratic fuzzy: MSERD: (14) CER: (7)						
SHARP: rdrobust, linear	5	Y	-3.1	0.106		
SHARP: rdrobust, linear	9	Y	1.6	0.221		
SHARP: rdrobust, linear	10	Y	1.8	0.131		
SHARP: rdrobust, linear	12	Y	1.9	0.074		
SHARP: rdrobust, quadratic	10	Y	-1.2	0.535		
SHARP: rdrobust, quadratic	12	Y	0.29	0.866		
FUZZY: rdrobust, linear	5	Y	-14.5	0.1	0.21	<0.001
FUZZY: rdrobust, linear	7	Y	2.7	0.667	0.24	<0.001
FUZZY: rdrobust, linear	10	Y	6.9	0.136	0.26	<0.001
FUZZY: rdrobust, linear	12	Y	7.2	0.078	0.27	<0.001
FUZZY: rdrobust, quadratic	10	Y	-5.7	0.531	0.21	<0.001
FUZZY: rdrobust, quadratic	12	Y	1.2	0.867	0.23	<0.001
FUZZY: rdrobust, quadratic	15	Y	6.3	0.072	0.28	<0.001
FUZZY: 2sls, linear	none	N				

Table 4.15 Effect of Premiums on Medicaid Disenrollment

	Effect of exceeding cutoff on				Treatment effect of	
	Any contribution (1/0) (percentage points)	**Contribution Amount ($)**	**Disenrolled (percentage points)**		**Any contribution (1/0) (percentage points)**	**Contribution Amount ($) (percentage points)**
Full Sample						
MSE-Optimal BW	19.1***	2.22***	2.6***		9.4*	0.82*
(in brackets)	(8.3)	(8.4)	(12.3)		(8.3)	(8.4)
	0.011	0.13	0.0083		0.055	0.0046
BW=10	19***	2.24***	2.2**		11.6**	0.98**
	0.010	0.12	0.0093		0.049	0.0042
BW=15	20***	2.31***	2.4***		12.4***	1.1***
	0.0081	0.095	0.0075		0.037	0.0033
Sample Split by Spending in first 7 months enrollment						
Above Median Spending (>$77/month)						
MSE-Optimal BW	14***	1.48***	.023		2.1	0.60
(in brackets)	(9.2)	(11.9)	(8.4)		(9.2)	(11.9)
	0.015	0.16	0.013		0.092	0.0075
BW=10	14***	1.48***	0.57		4.1	0.41
	0.015	0.18	0.012		0.088	0.0084
Below Median Spending (<$77/month)						
MSE-Optimal BW	24***	2.82***	-1.9†		12.8*	1.06*
(in brackets)	(8.0)	(7.9)	(4.2)		(8.0)	(7.9)
	0.016	0.18	0.023		0.067	0.0056
BW=10	24***	2.90***	3.4***		14.3***	1.19***
	0.014	0.16	0.14		0.058	
Means of Dependent Variable below/above cutoff, full sample (FPL split in brackets)	22.8/41.2 (99/100-101)	1.81/4.36 (95-99/100-105)	19.5/22.7 (95-99/100-105)			

Notes: Each row shows estimates using a different bandwidth. Columns 1-3 present estimates of a "sharp" regression discontinuity design on the probability an enrollee faces any premium (column 1), the amount of premium they are asked to contribute (column 2), and the probability that they disenroll (column 3). Columns 4 and 5 scale the disenrollment effect by the probability of receiving a premium (column 4) or the premium amount (column 5), presenting the "treatment on the treated" effect of these measures. BW=bandwidth. Significance levels: *<=0.10, **<=0.05, ***<=0.01. †This number is sensitive to kernel specification around the cutoff. Estimate shown, like others, uses a triangular kernel density specification. With a uniform kernel, the MSE-optimal bandwith is 7.5, estimate is 3.7 and statistically significant (p=0.01).

Table 4.16 Donut Estimator Using MSE-Optimal Bandwidths

	All Eligible					
Dropped FPL	First Stage Estimate	Standard Error	P-value	Treatment Estimate	Standard Error P-value	p-value
95	0.181	0.013	0.000	0.021	0.066	0.753
96	0.186	0.013	0.000	0.053	0.064	0.400
97	0.183	0.013	0.000	0.019	0.066	0.773
98	0.192	0.015	0.000	-0.025	0.071	0.729
99	0.203	0.016	0.000	0.251	0.081	0.002
100	0.204	0.014	0.000	-0.039	0.062	0.525
101	0.189	0.013	0.000	0.247	0.067	0.000
102	0.177	0.012	0.000	-0.039	0.063	0.537
103	0.193	0.012	0.000	0.098	0.057	0.084
104	0.189	0.012	0.000	0.079	0.058	0.172
105	0.189	0.012	0.000	0.074	0.058	0.198
98/99	0.349	0.035	0.000	0.235	0.109	0.032
101/102	0.167	0.015	0.000	0.094	0.082	0.248

Table 4.17 Donut Estimator, Using MSE-Optimal Bandwidths, Split by Medical Spend

	Lower than Median Spend					
Dropped FPL	First Stage Estimate	Standard Error	P-value	Treatment Estimate	Standard Error P-value	P-value
95	0.238	0.014	0.000	0.148	0.061	0.016
96	0.236	0.017	0.000	0.124	0.073	0.087
97	0.231	0.016	0.000	0.117	0.069	0.087
98	0.241	0.015	0.000	0.100	0.064	0.115
99	0.257	0.017	0.000	0.328	0.072	0.000
100	0.253	0.019	0.000	-0.016	0.073	0.827
101	0.242	0.015	0.000	0.305	0.067	0.000
102	0.221	0.017	0.000	0.024	0.076	0.754
103	0.243	0.015	0.000	0.165	0.063	0.010
104	0.237	0.016	0.000	0.129	0.069	0.060
105	0.237	0.016	0.000	0.131	0.068	0.053
98/99	0.277	0.021	0.000	0.377	0.089	0.000
101/102	0.214	0.017	0.000	0.200	0.080	0.012
	Higher than Median Spend					
95	0.133	0.017	0.000	-0.041	0.107	0.705
96	0.135	0.017	0.000	-0.018	0.104	0.865
97	0.124	0.018	0.000	-0.090	0.119	0.451
98	0.150	0.019	0.000	-0.005	0.107	0.959
99	0.142	0.021	0.000	0.157	0.126	0.215
100	0.150	0.021	0.000	-0.083	0.112	0.458
101	0.123	0.022	0.000	-0.026	0.148	0.862
102	0.127	0.018	0.000	-0.168	0.117	0.151
103	0.139	0.016	0.000	0.009	0.098	0.926
104	0.142	0.015	0.000	0.034	0.087	0.694
105	0.139	0.015	0.000	0.029	0.090	0.743
98/99	0.235	0.025	0.000	0.359	0.108	0.001
101/102	0.114	0.019	0.000	-0.034	0.136	0.805

Table 4.18 Donut Estimator, Using MSE-Optimal Bandwidths, Split by Chronic Disease Diagnosis

No Chronic Disease Diagnoses						
Dropped FPL	First Stage Estimate	Standard Error	P-value	Treatment Estimate	Standard Error P-value	P-value
95	0.217	0.018	0.000	0.092	0.084	0.270
96	0.230	0.016	0.000	0.145	0.068	0.034
97	0.222	0.016	0.000	0.122	0.074	0.102
98	0.233	0.017	0.000	0.112	0.073	0.127
99	0.244	0.020	0.000	0.322	0.089	0.000
100	0.242	0.019	0.000	0.060	0.075	0.424
101	0.237	0.016	0.000	0.302	0.070	0.000
102	0.214	0.018	0.000	0.019	0.083	0.823
103	0.229	0.016	0.000	0.154	0.072	0.033
104	0.231	0.015	0.000	0.150	0.067	0.025
105	0.226	0.016	0.000	0.131	0.073	0.072
98/99	0.310	0.030	0.000	0.407	0.121	0.001
101/102	0.211	0.021	0.000	0.165	0.097	0.089
Chronic Disease Diagnoses						
95	0.150	0.015	0.000	0.027	0.085	0.752
96	0.150	0.016	0.000	0.002	0.090	0.985
97	0.138	0.016	0.000	-0.061	0.103	0.549
98	0.161	0.017	0.000	0.000	0.094	0.998
99	0.157	0.023	0.000	0.171	0.133	0.199
100	0.156	0.017	0.000	-0.078	0.092	0.393
101	0.144	0.017	0.000	0.182	0.108	0.090
102	0.137	0.018	0.000	-0.166	0.113	0.141
103	0.162	0.014	0.000	0.080	0.074	0.284
104	0.151	0.016	0.000	0.011	0.089	0.906
105	0.150	0.015	0.000	0.018	0.088	0.840
98/99	0.236	0.023	0.000	0.369	0.098	0.000
101/102	0.122	0.020	0.000	0.003	0.143	0.981

Table 4.19 Estimated Change at 100 percent FPL for Demographic Covariates (MSE-optimal bandwidths; triangular kernel)

Estimate of jump at 100% FPL	Standard error	p-value	Bandwidth
0.77	0.28	0.005	9.228
-0.29	0.010	0.004	11.773
-0.0098	0.0084	0.25	14.663
0.0020	0.0074	0.79	12.444
0.0053	0.0068	0.44	14.548
-0.011	0.0073	0.140	8.941
0.0127	0.010	0.220	10.416
0.0052	0.0089	0.561	10.548
-0.0076	0.0100	0.444	11.115
Estimated from RD local linear equations where each covariate is a dependent variable and covariates not in the same demographic category are covariates in regressions.			

Table 4.20 Total Spending Regressions; Predicted Monthly Spending by Covariates

	Total Spending		**Medical Spending**		**Rx Spending**		**Total Spending: Disenroller interacted with Above 100**	
	Estimate	pvalue	Estimate	pvalue	Estimate	pvalue	Estimate	pvalue
Disenroller								
No	$ 293.15		$ 215.74		$ 77.86			
Yes	$ 175.84	0.000	$ 132.46	0.000	$ 43.57	0.000		
Gender								
Male	$ 242.83		$ 167.99		$ 75.01		$ 242.83	
Female	$ 289.20	0.000	$ 220.80	0.000	$ 69.13	0.000	$ 289.20	0.000
Age in Bands (under 30 reference)								
30 to 39	$ 296.86	0.036	$ 204.95	0.647	$ 98.10	0.000	$ 296.84	0.033
40 to 49	$ 378.60	0.000	$ 261.50	0.000	$ 125.63	0.000	$ 378.61	0.000
over 50	$ 422.99	0.000	$ 303.95	0.000	$ 128.00	0.000	$ 423.00	0.000
Region of Residence (Detroit reference)								
UP/Northern Michigan	$ 237.90	0.000	$ 175.68	0.000	$ 63.39	0.000	$ 237.90	0.000
Region: Central Mich.	$ 257.67	0.000	$ 193.98	0.017	$ 65.34	0.000	$ 257.67	0.000
Region: Southern Mich.	$ 318.91	0.002	$ 245.65	0.001	$ 72.74	0.487	$ 318.92	0.002
Race (White reference)								
Black	$ 243.26	0.000	$ 172.52	0.000	$ 69.62	0.301	$ 243.28	0.000
Other	$ 239.57	0.000	$ 177.93	0.005	$ 61.94	0.000	$ 239.55	0.000
FPL_percent		0.000		0.000		0.000		0.000
25	$ 463.78		$ 387.43		$ 90.88		$ 467.40	
50	$ 366.13		$ 291.27		$ 81.24		$ 367.86	
75	$ 289.05		$ 218.97		$ 72.61		$ 289.52	
100	$ 228.19		$ 164.62		$ 64.91		$ 227.87	
125	$ 180.15		$ 123.76		$ 58.02		$ 179.34	
Disenroller								
No: Above 100% FPL							$ 291.66	0.933
No: Below 100% FPL							$ 293.90	
Yes: Above 100% FPL							$ 174.53	0.959
Yes: Below 100% FPL							$ 176.54	0.000

Notes: Spending reflects both plan and patient payments to medical providers and pharmacies adjudicated through the claims process. Regression specified as a generalized linear model with a log link and gamma family. Predictions obtained using marginal effects at acutal values through the *margins* command in Stata 14.2

Figure 4.1 Unadjusted Probability of Disenrollment by Prior Period Invoice Amount

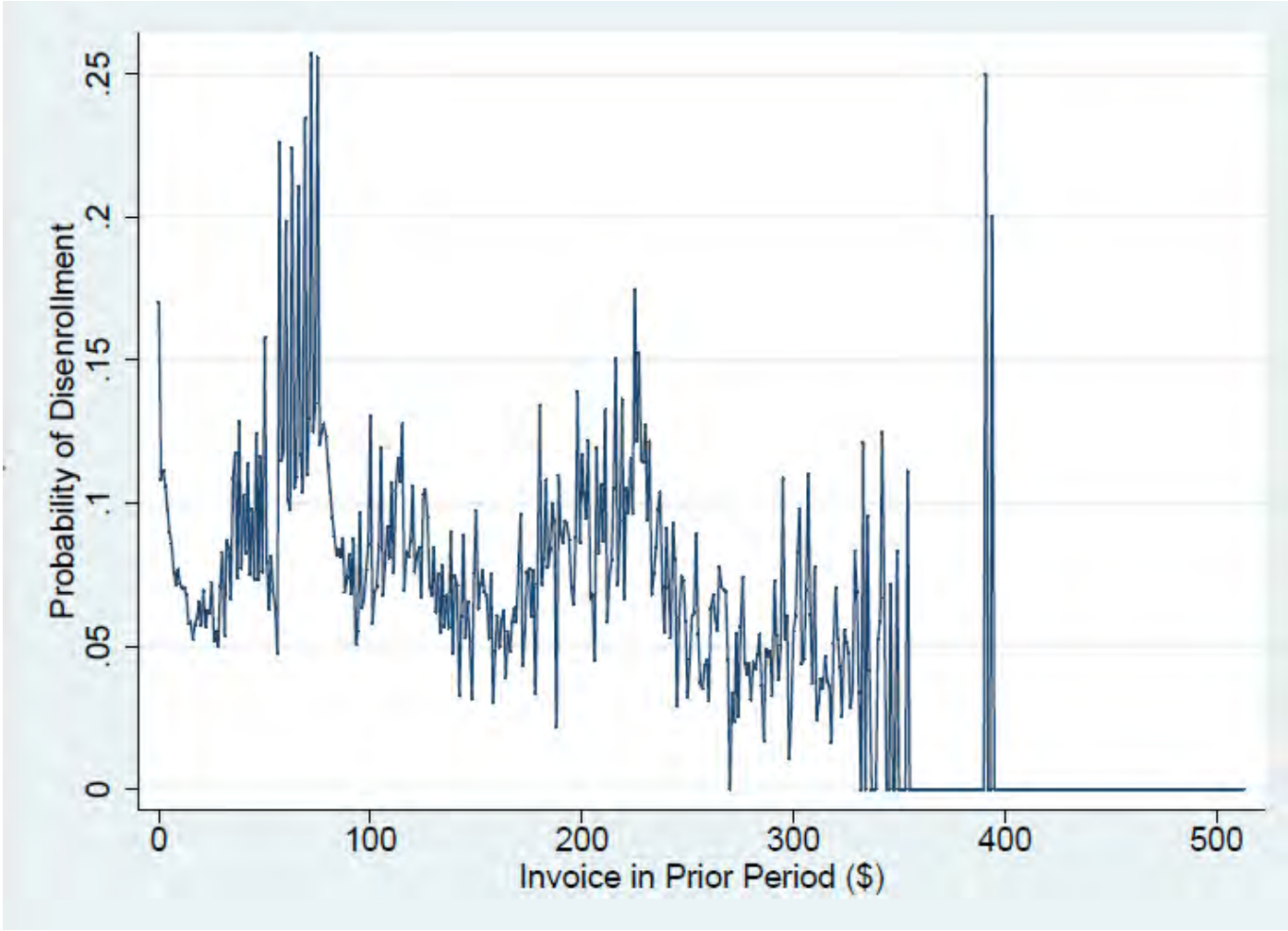


Figure 4.1a Unadjusted Probability of Disenrollment by Prior Period Invoice Amount, Invoice <= $150

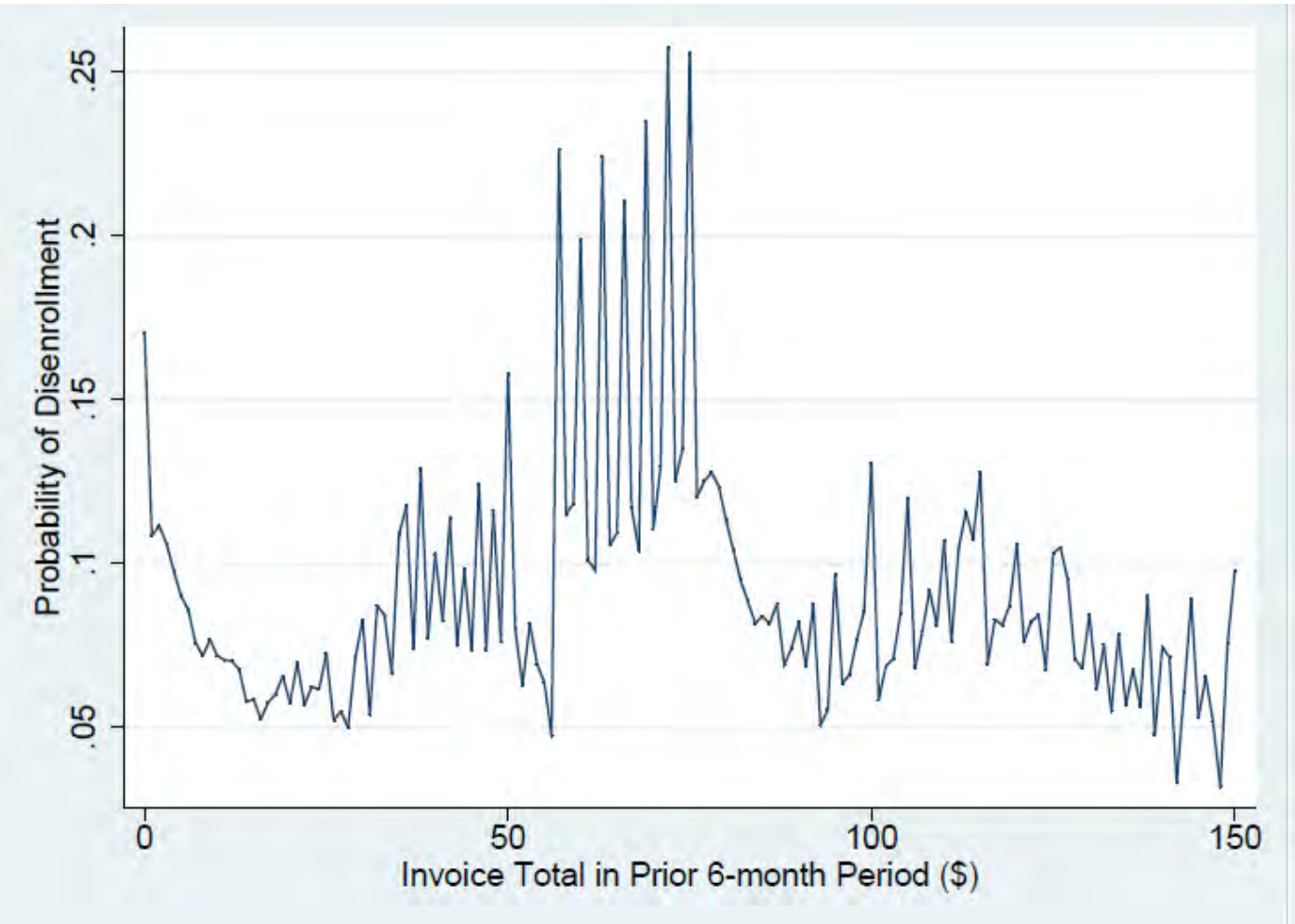


Figure 4.2 Predicted Probability of Disenrollment by Prior Period Invoice Amount, Logit Regression with Invoice Specified Linearly

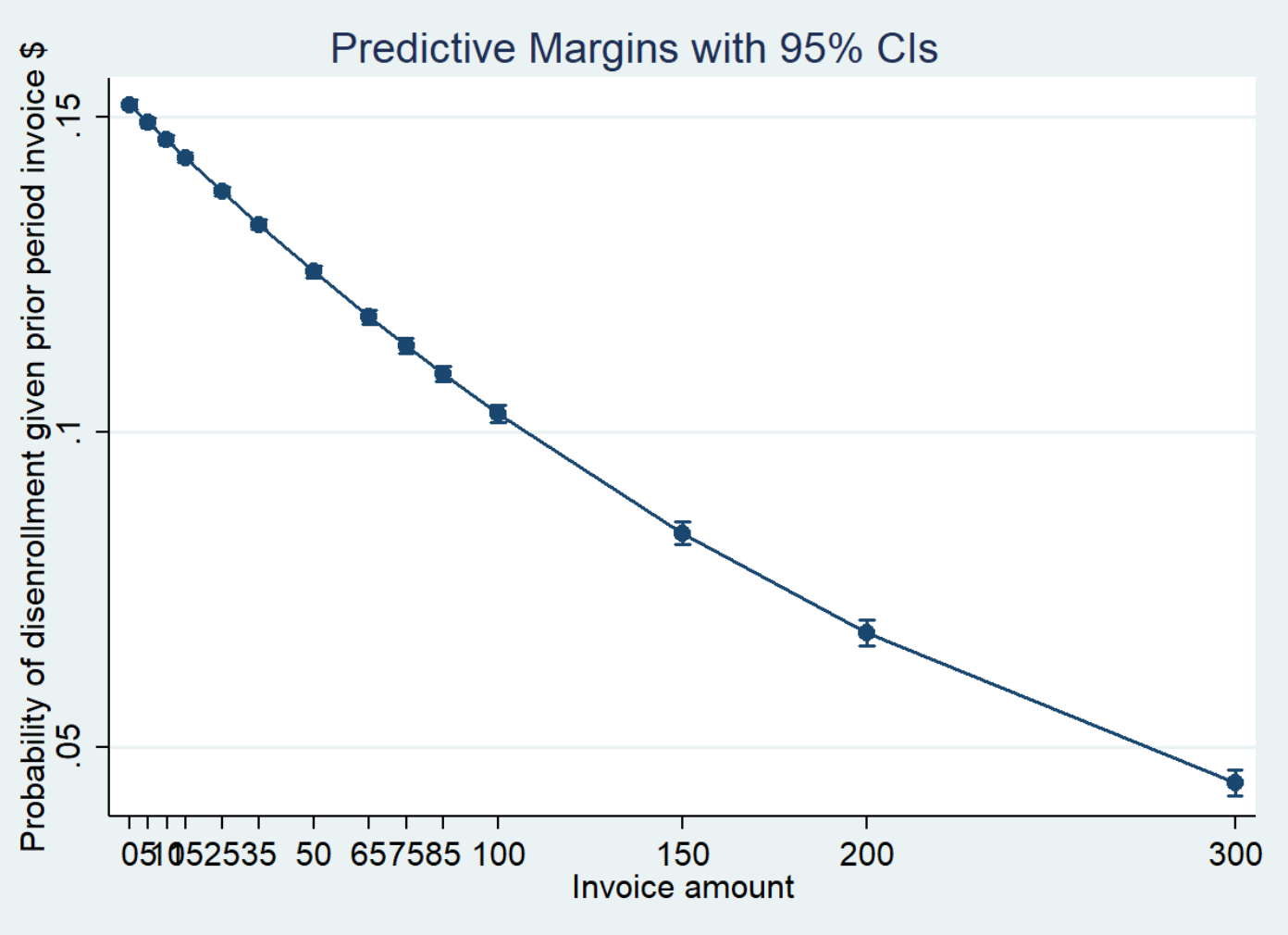


Figure 4.2a Predicted Probability of Disenrollment by Prior Period Invoice Amount Logit Regression with Invoice Specified Quadratically

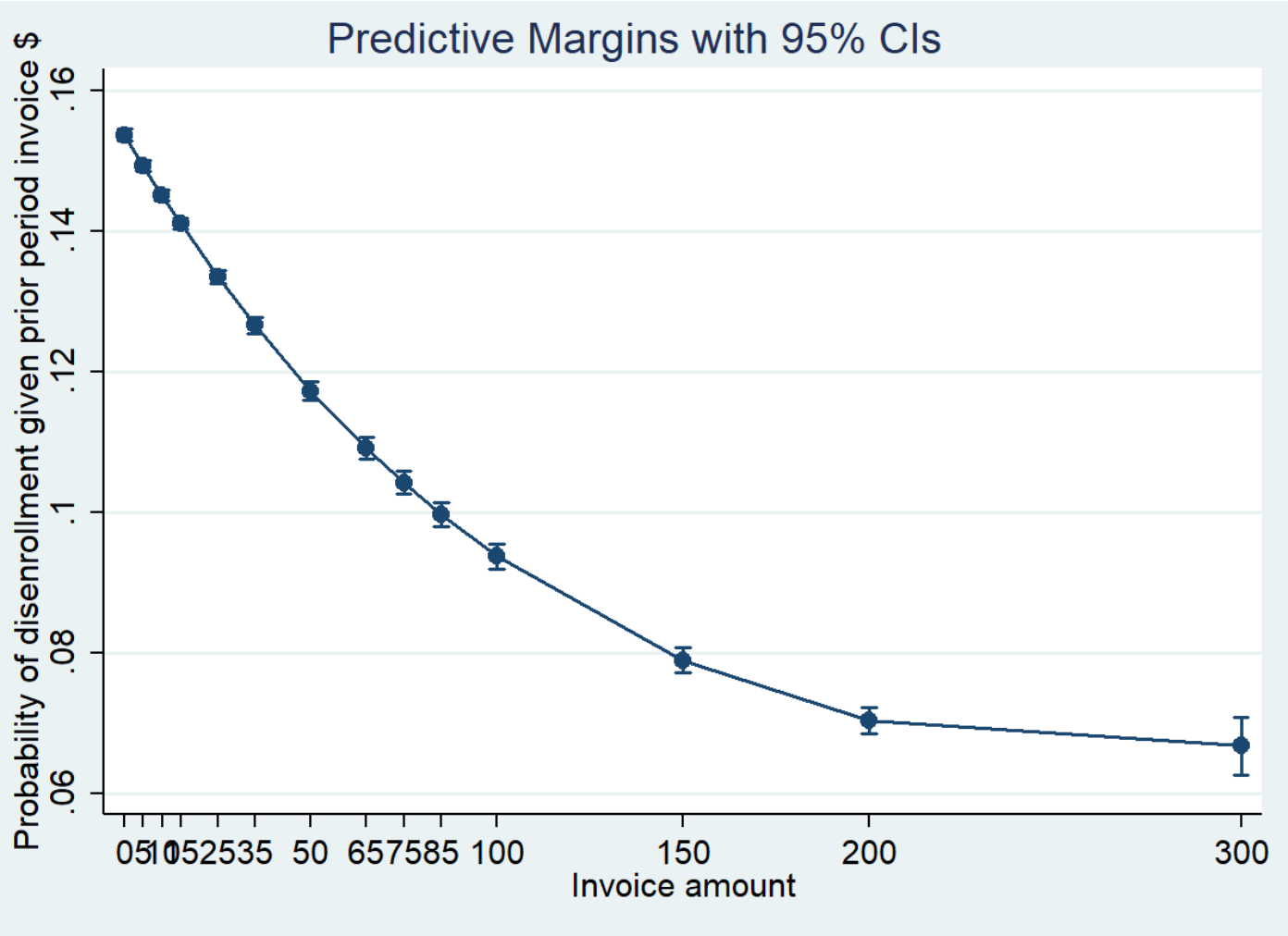


Figure 4.2b Predicted Probability of Disenrollment by Prior 6-11 Period Invoice Amount Interacted with FPL Above/Below 100%, Logit Regression with Invoice Specified Quadratically

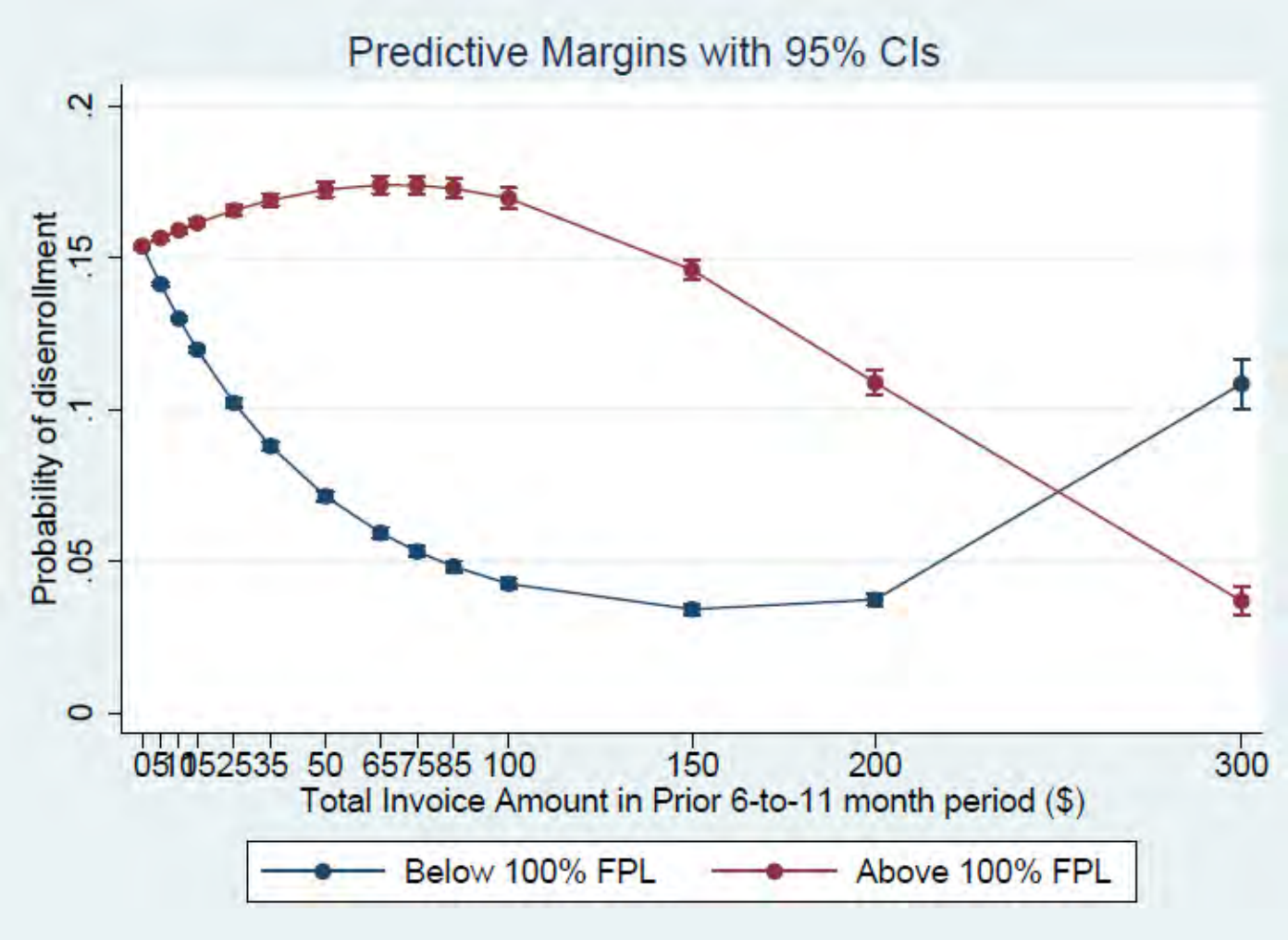


Figure 4.2c Predicted Probability of Disenrollment by Prior 6-11 Month Contribution Amount Interacted with FPL Above/Below 100%, Logit Regression with Invoice Specified Quadratically

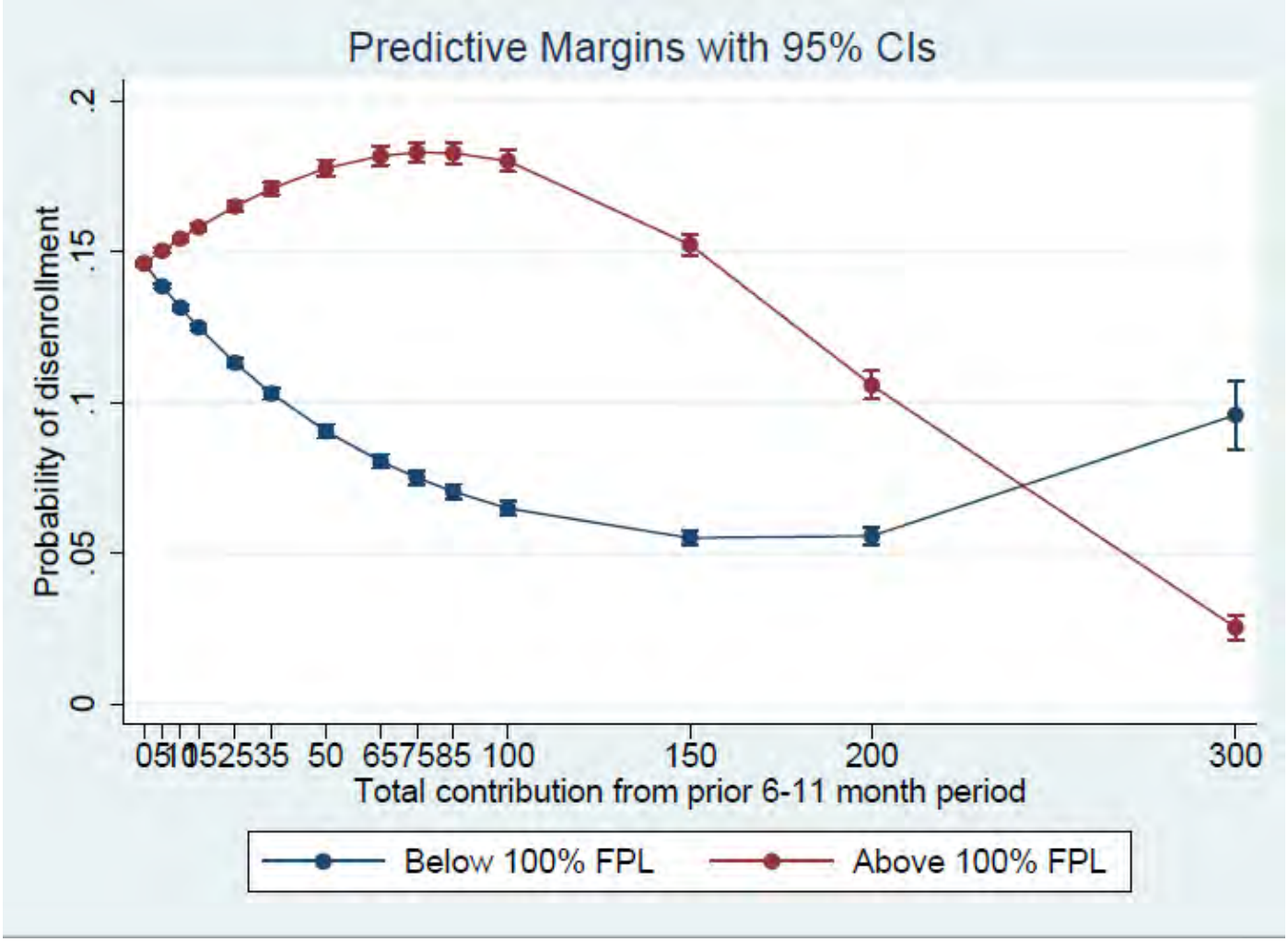


Figure 4.2d Predicted Probability of Disenrollment by Prior 6-11 Month Copay Amount Interacted with FPL Above/Below 100%, Logit Regression with Invoice Specified Quadratically

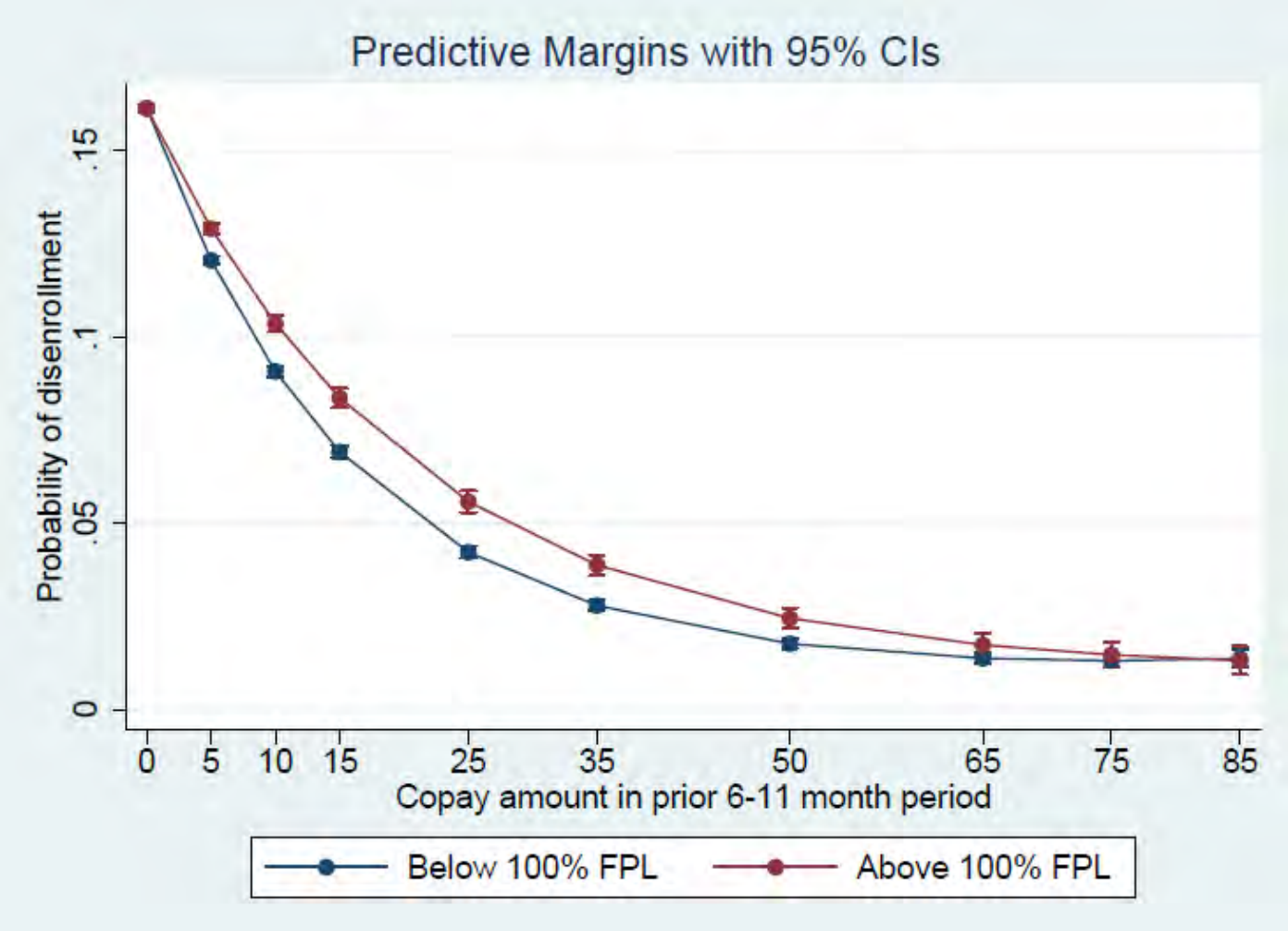


Figure 4.3 Histogram of FPL

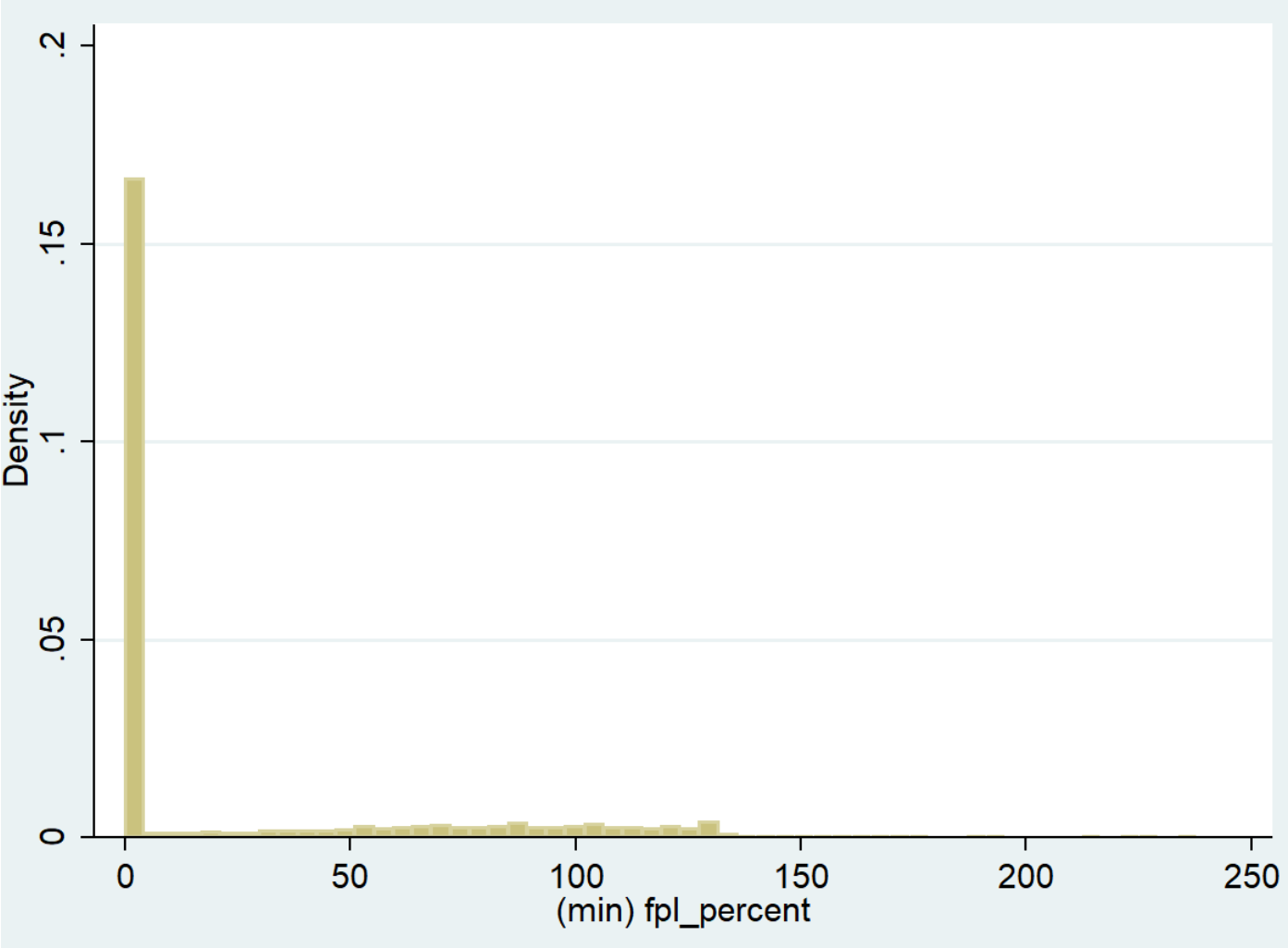


Figure 4.3a Histogram of Federal Poverty Level (>0% FPL to 133% FPL, rounded to nearest whole percent, from RD analysis (n=195,495)

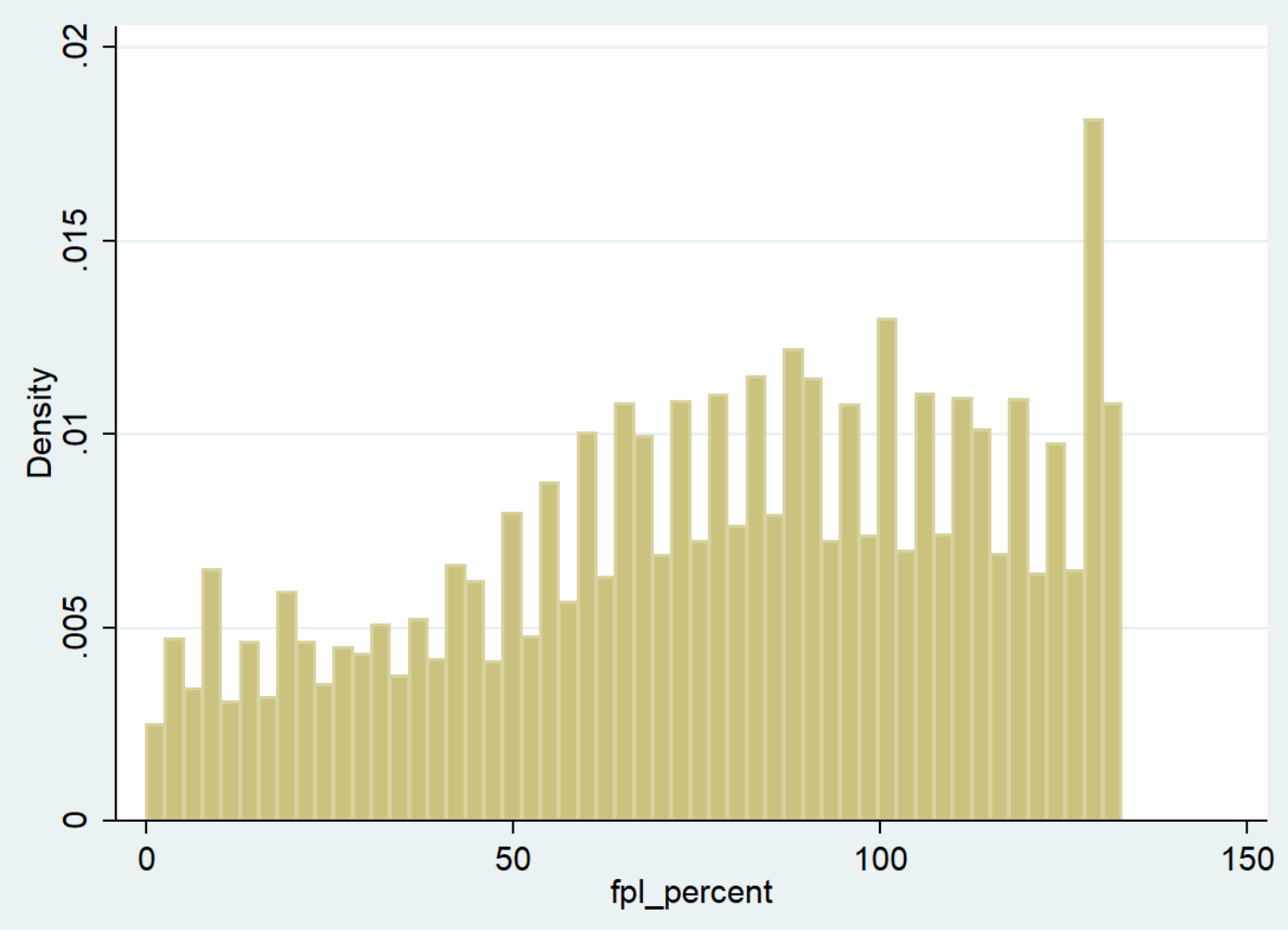


Figure 4.3b Histogram of FPL > 70% and <130%, from RD analysis

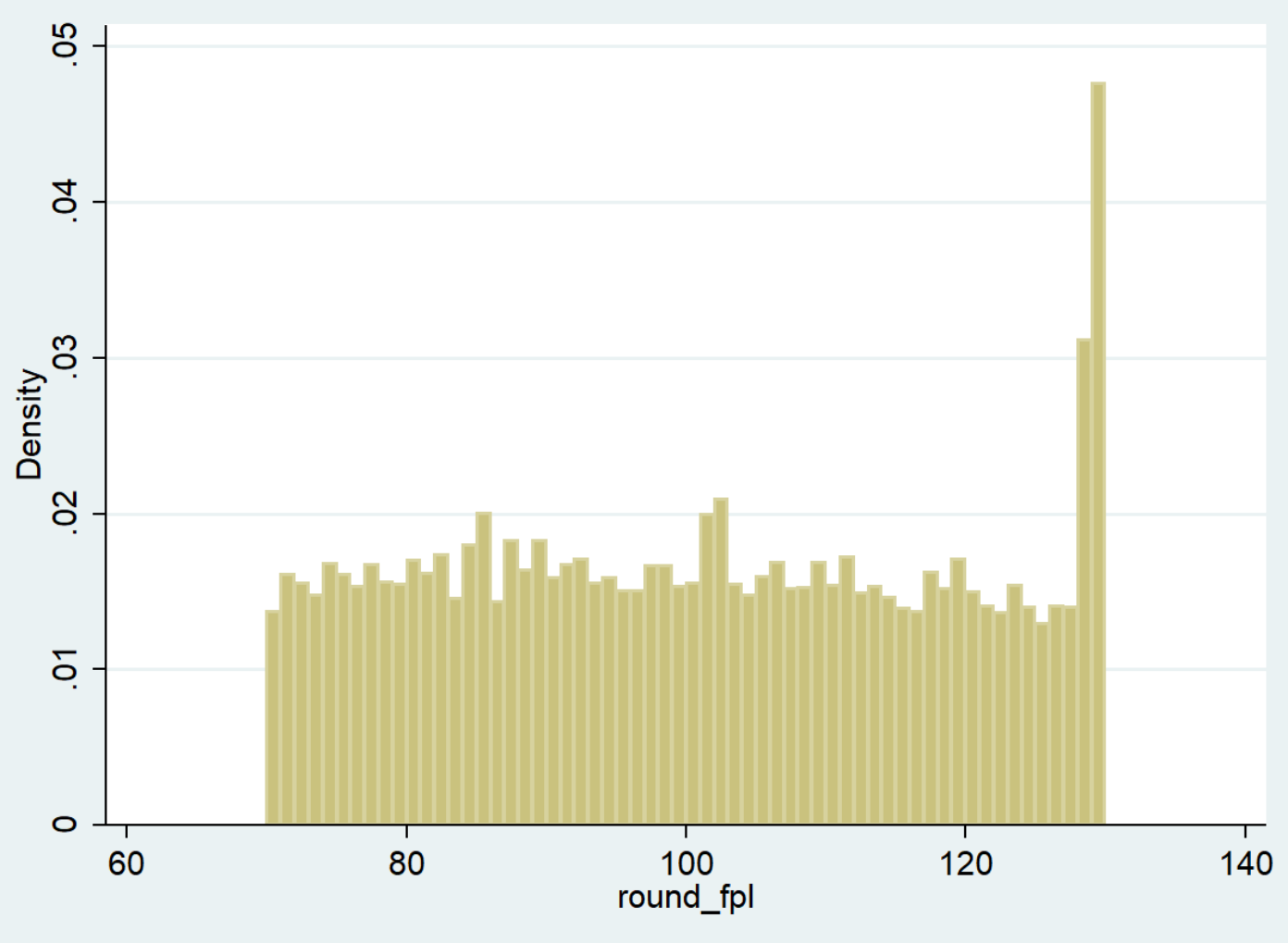


Figure 4.3c Histogram of FPL > 90% and <110%, from RD analysis

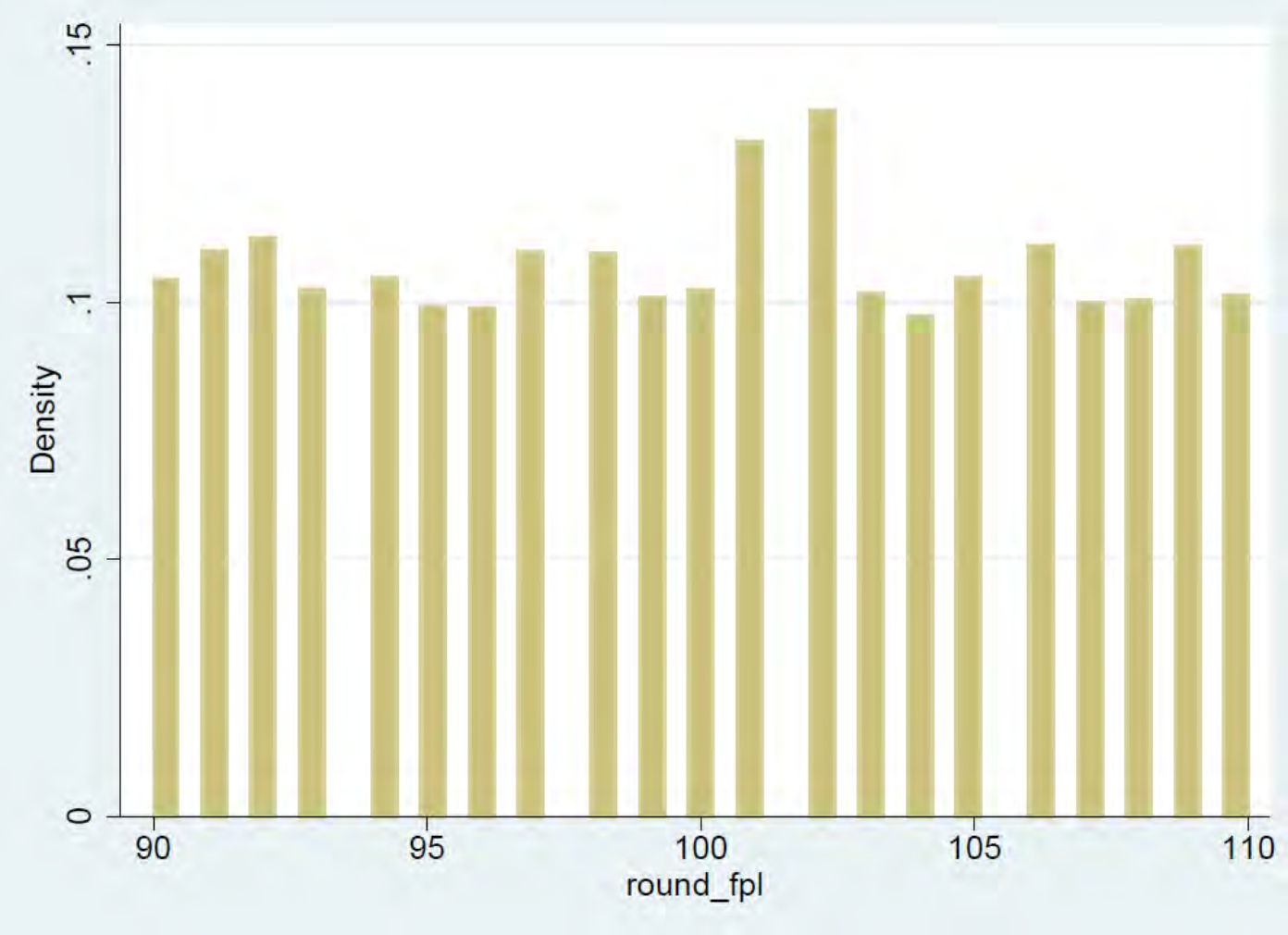
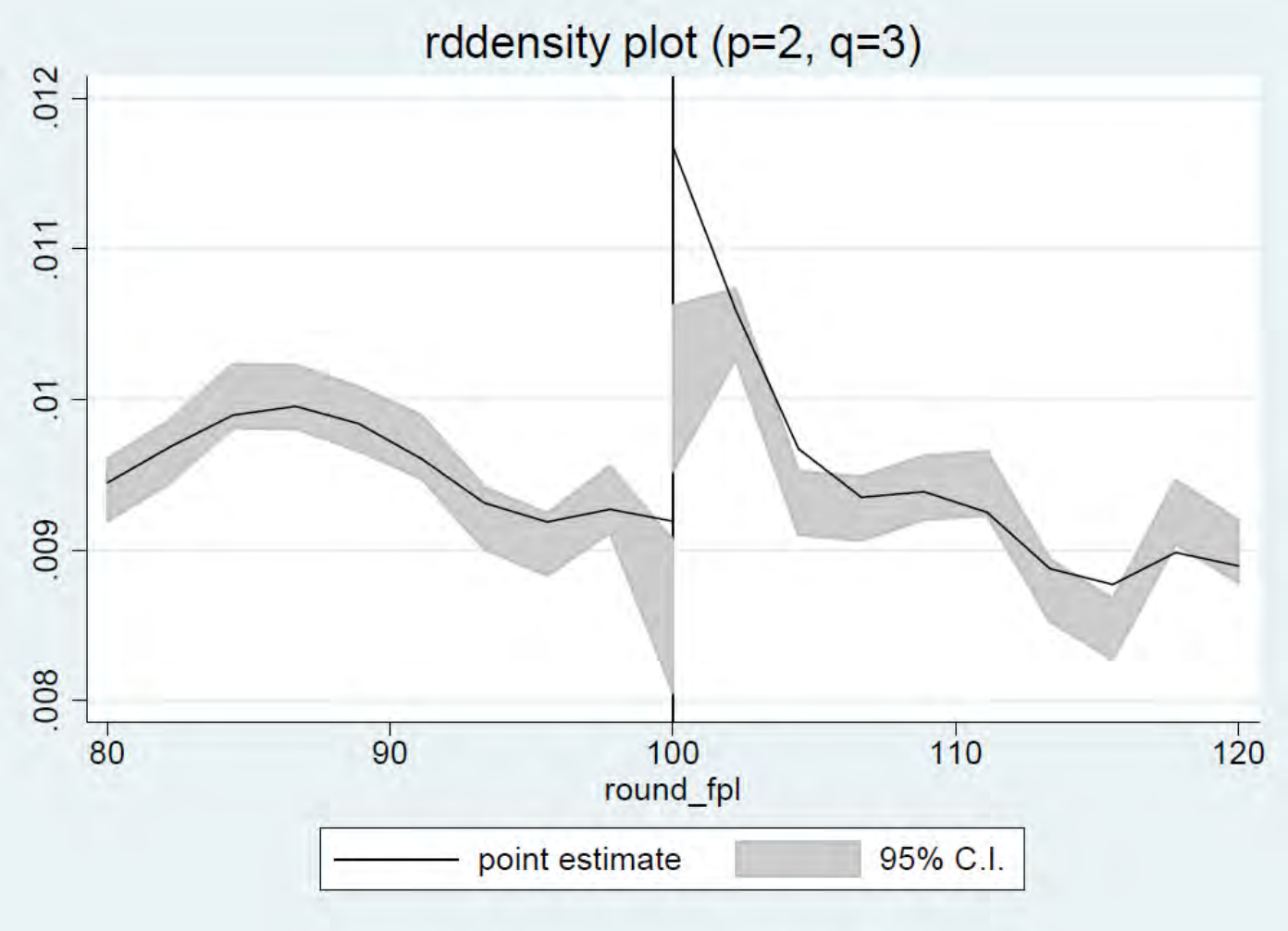
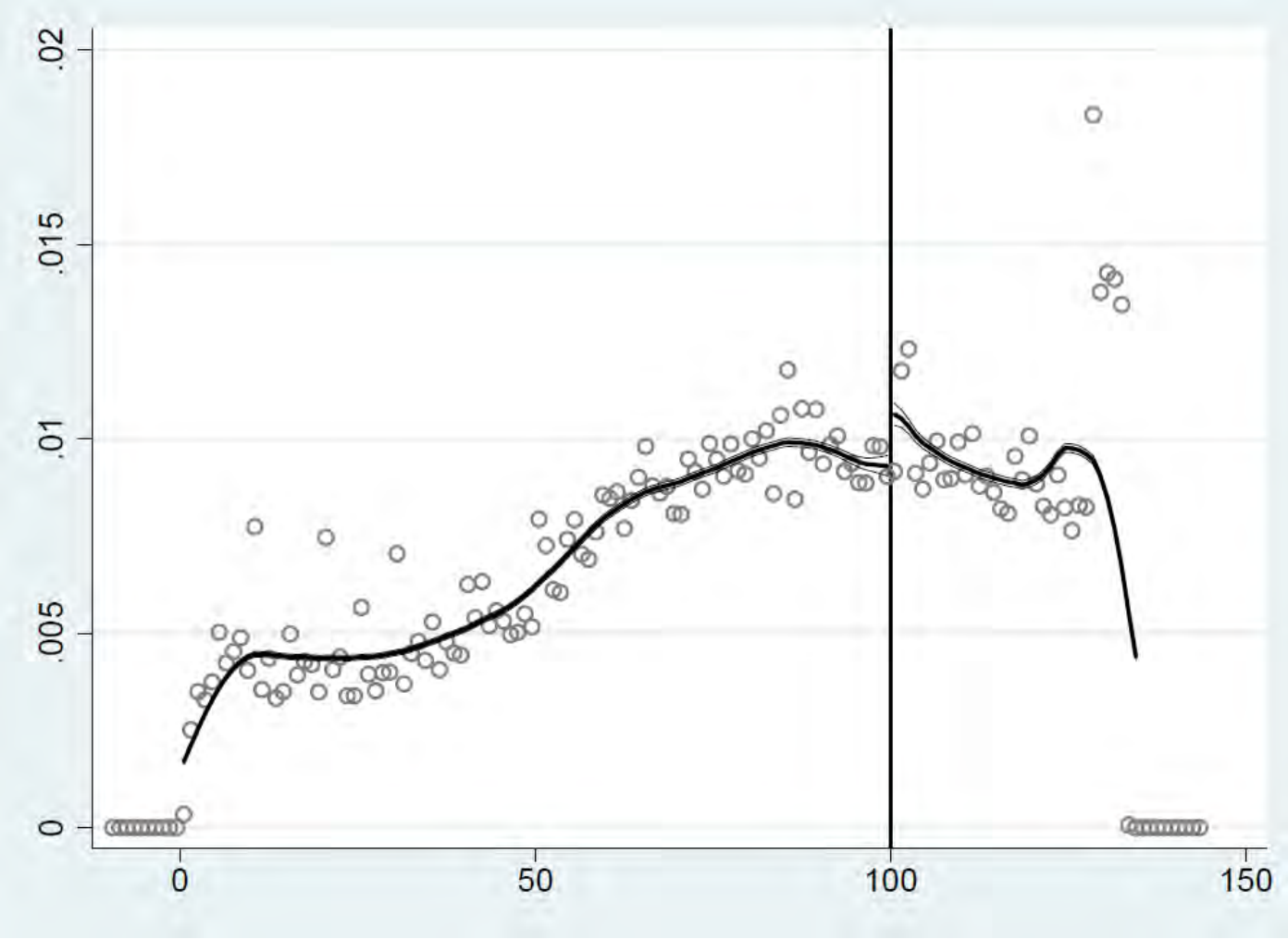


Figure 4.3d CCT RD Density Plot



Notes: The T-statistic estimating the degree of difference in density on either side of the cutoff line is 2.5642. The p-value of the confidence with which we can reject the null that this difference is not different than 0 is 0.0103. At conventional levels, then, we see there is a difference in density, here the density is higher on the right side of the cutoff (>100% FPL).

Figure 4.3e McCrary Density Plot



Notes: Output from the McCrary density test looks like this Discontinuity estimate (log difference in height): .143254085 (.022192522). I believe this rejects the null of no difference with a confidence level of p=0.022, though I couldn't find much documentation on the output.

I also ran density tests on a break at 85 FPL [(log difference in height).0633405 (.021863919)]; 90 FPL [(log difference in height): -.073934225 (.022139484)] and 110 [(log difference in height): .026855361 (.023011226)].

Figure 4.4 Histogram of Time to First Invoice

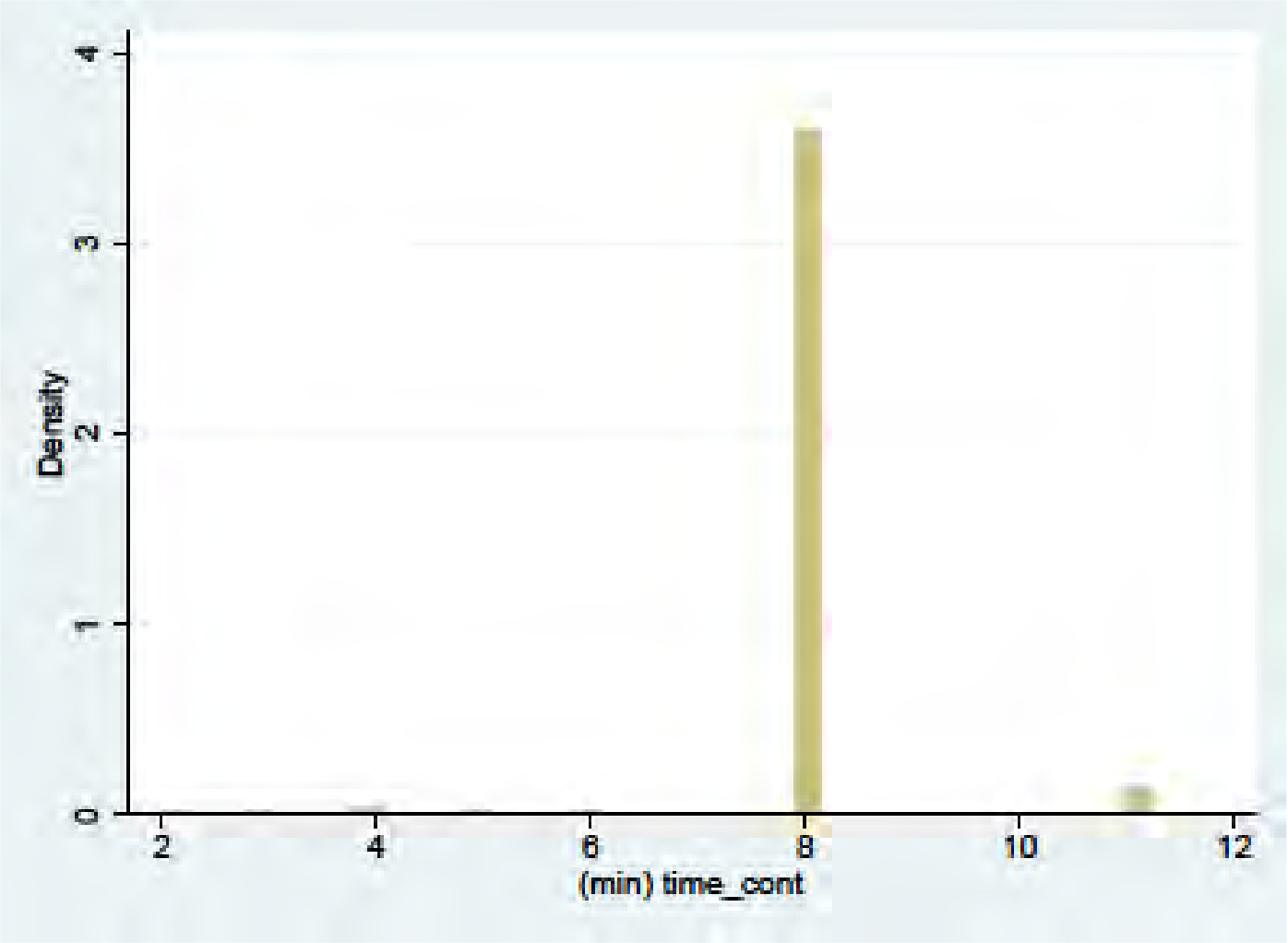


Figure 4.4a Time to First Contribution Invoice

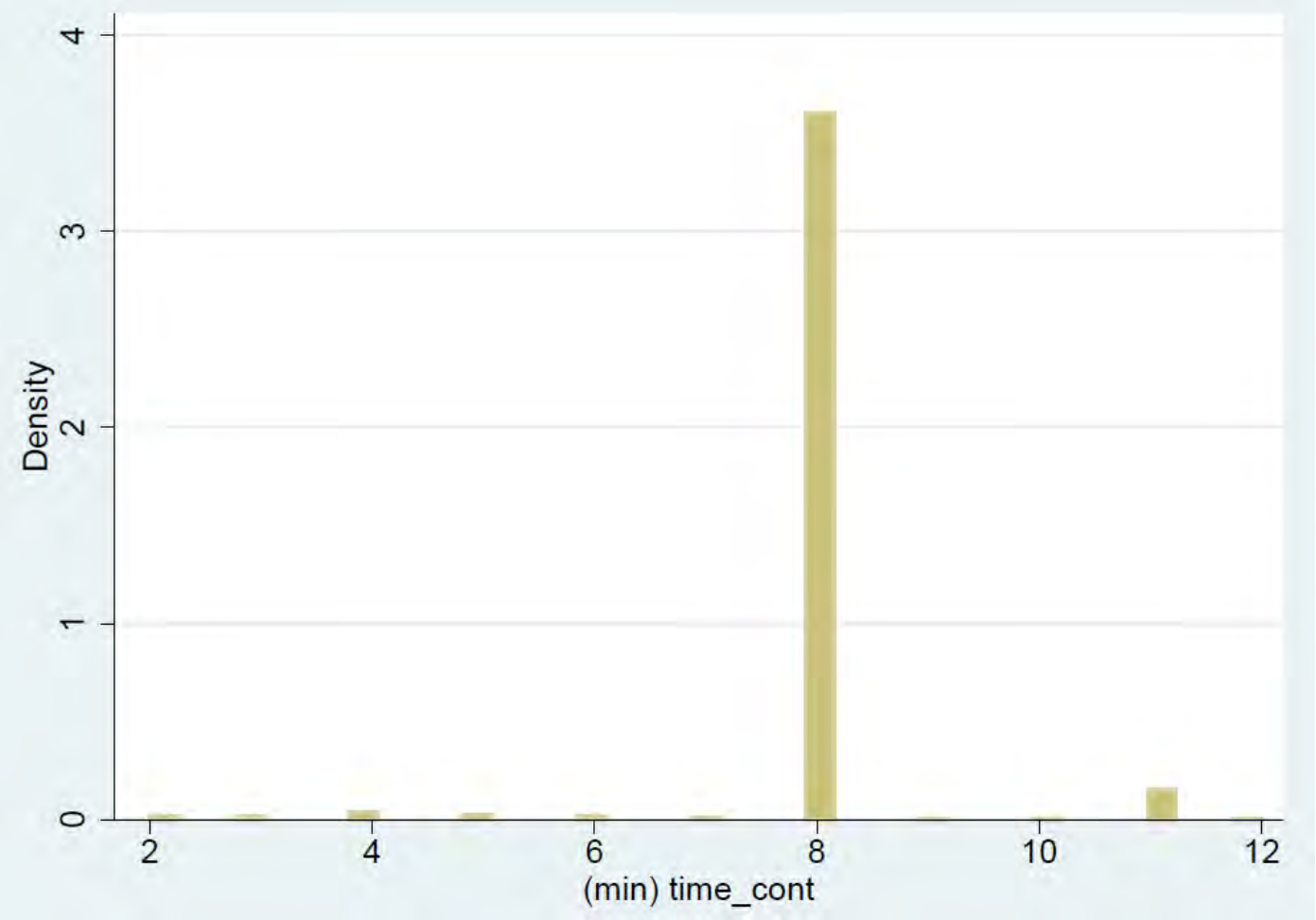


Figure 4.5 Time of Disenrollment

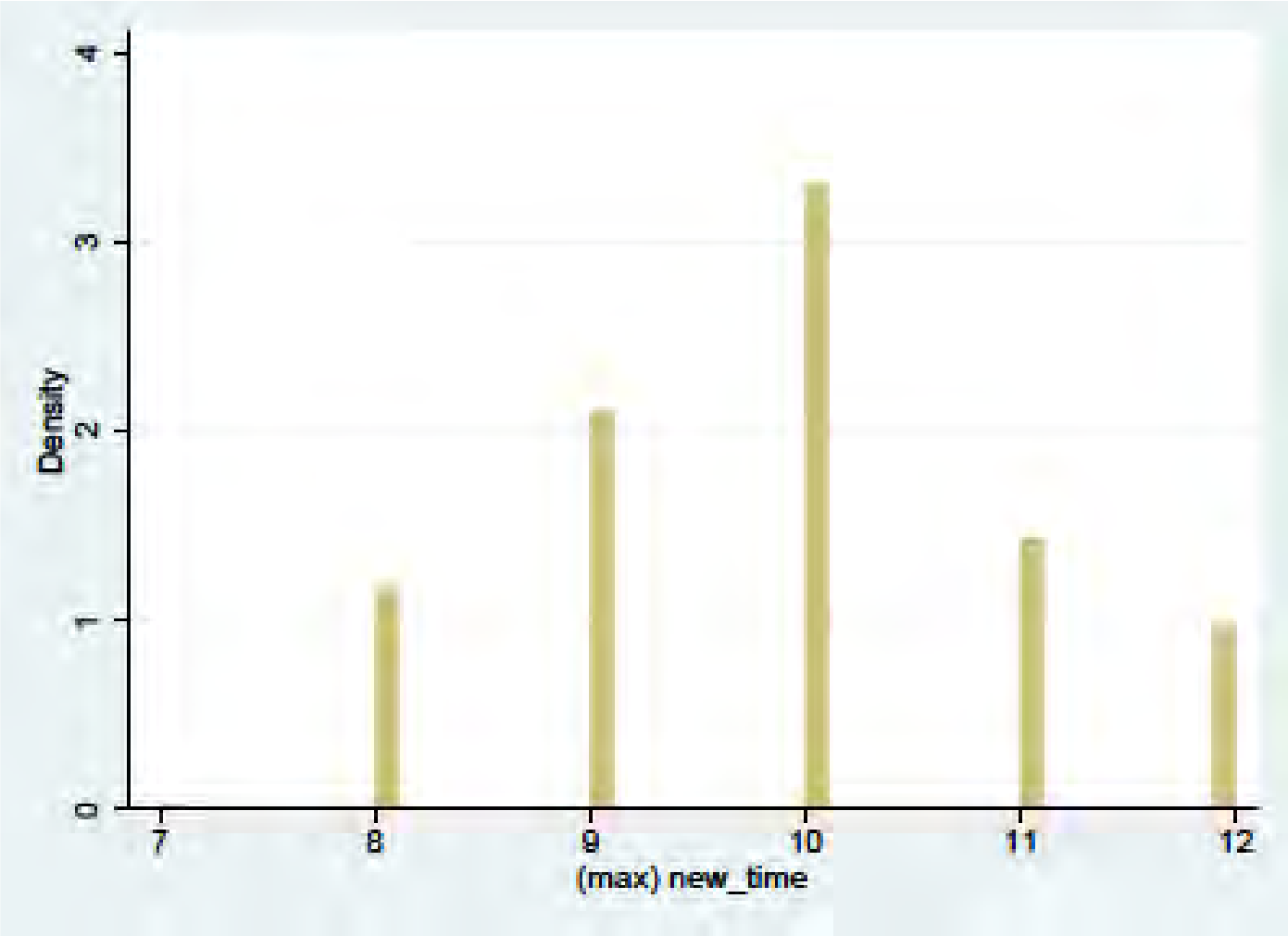


Figure 4.5a Percent of Beneficiaries who Drop by Number of Months Enrolled

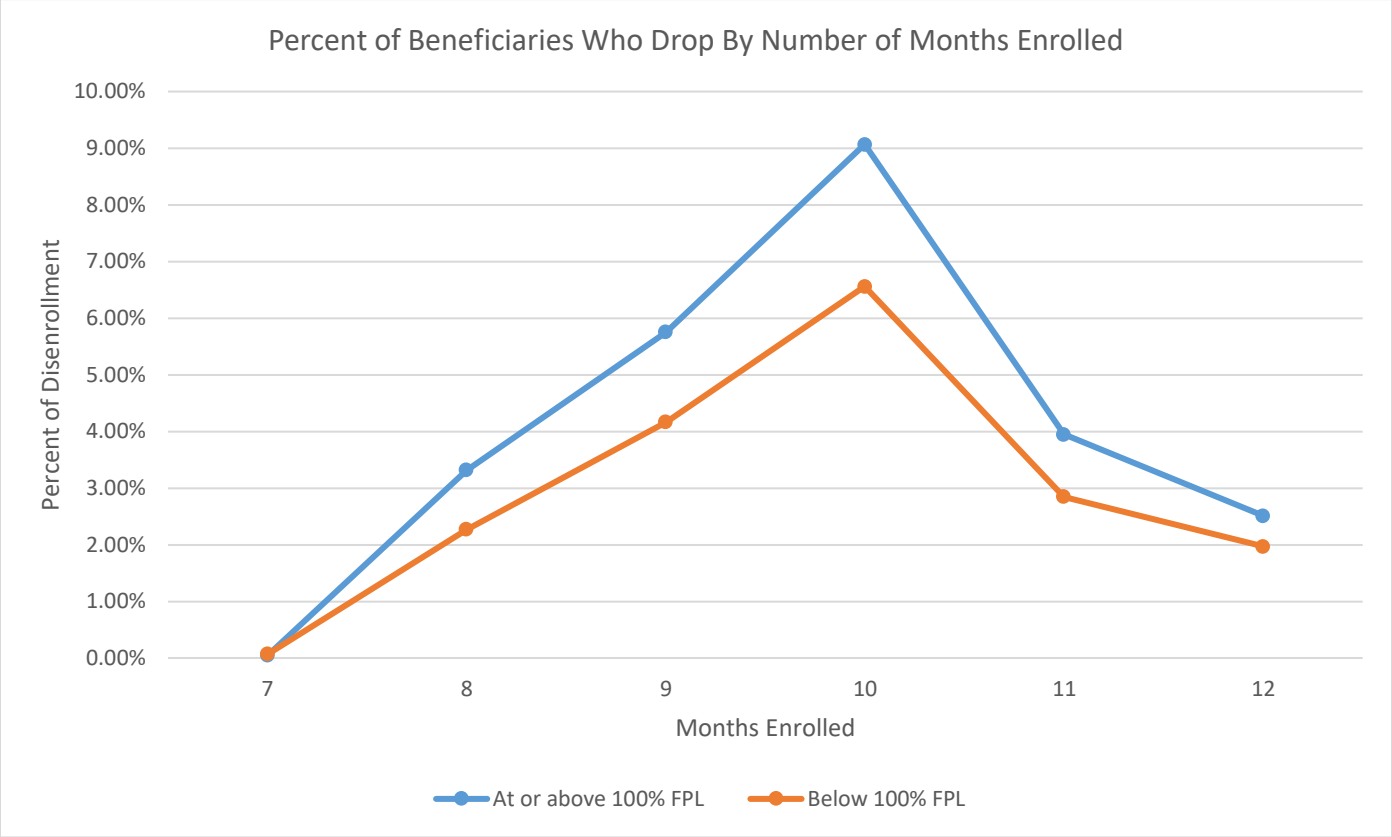


Figure 4.6 Likelihood of Contribution and FPL Scatterplot

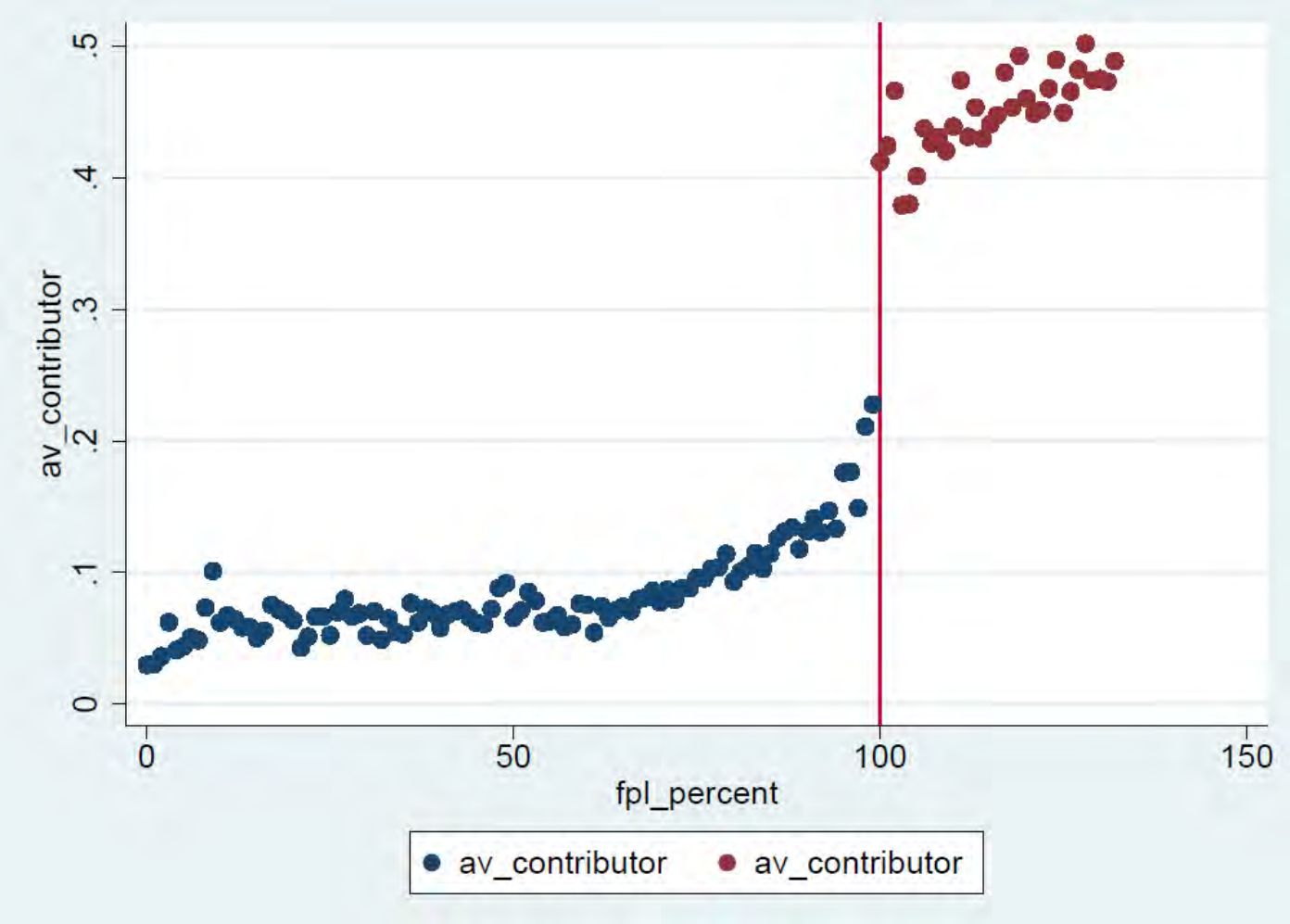


Figure 4.6a Contribution Amount and FPL

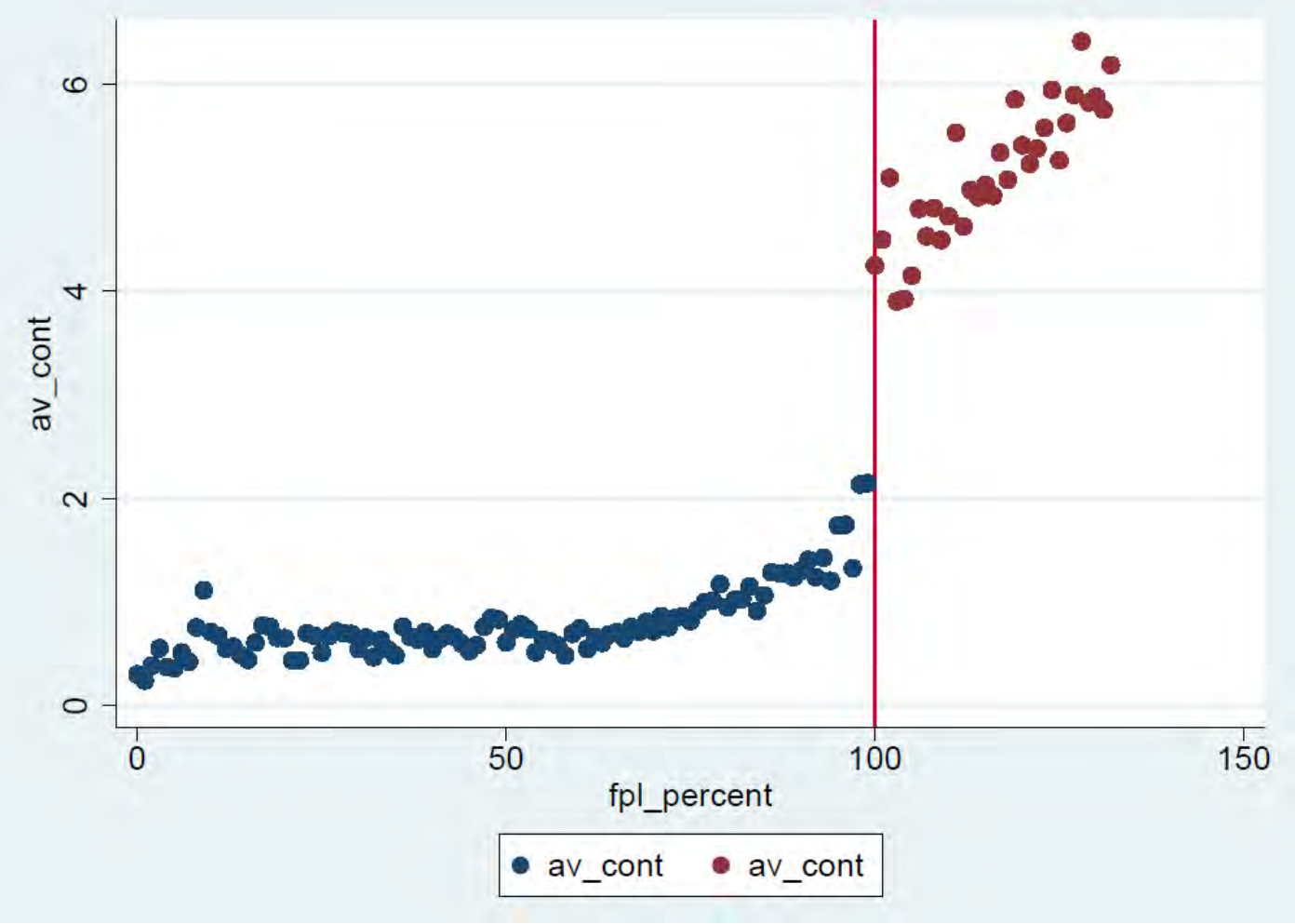


Figure 4.6b Contribution Amount and FPL: RDPlot

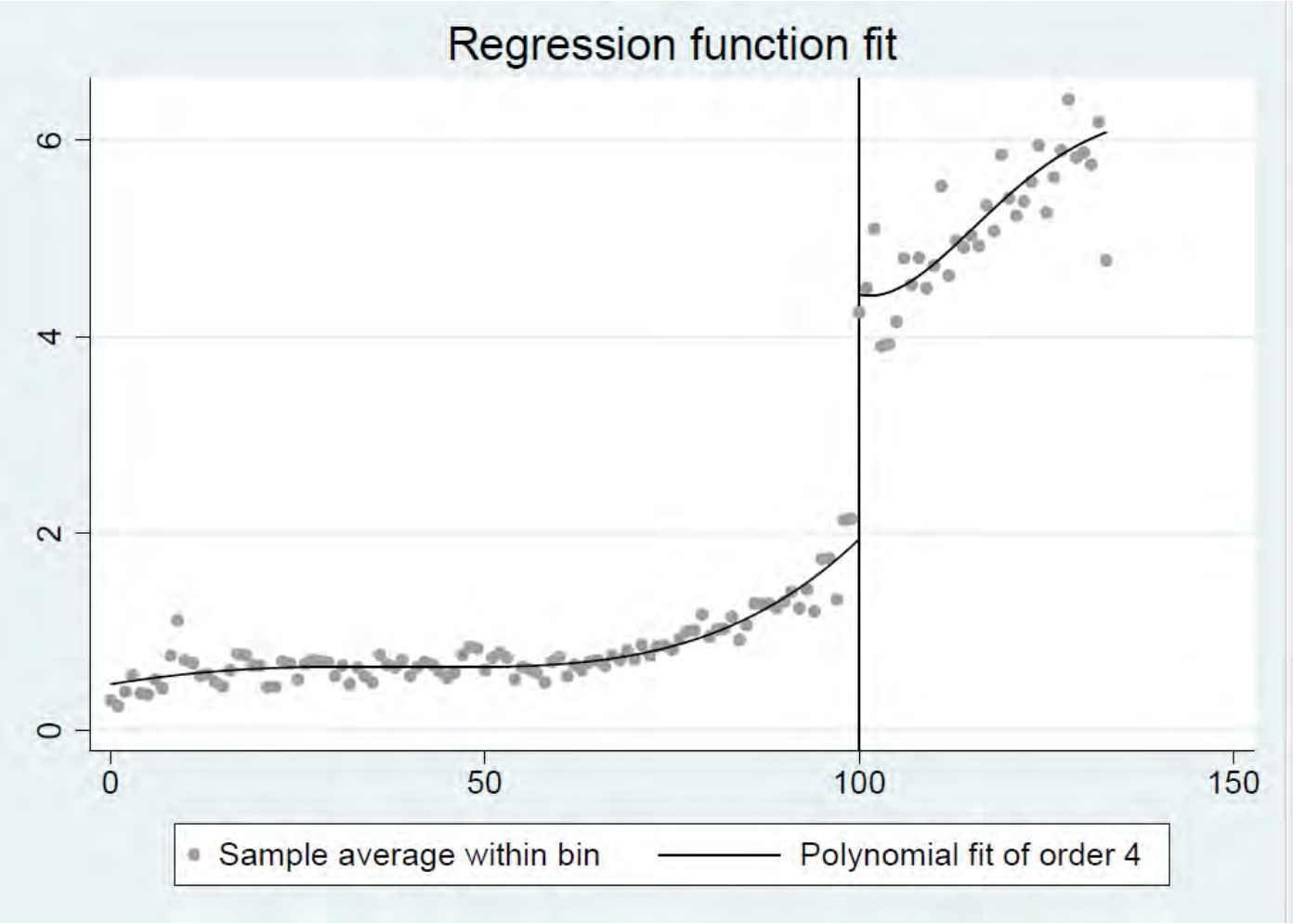


Figure 4.7 Likelihood of Copayment and FPL

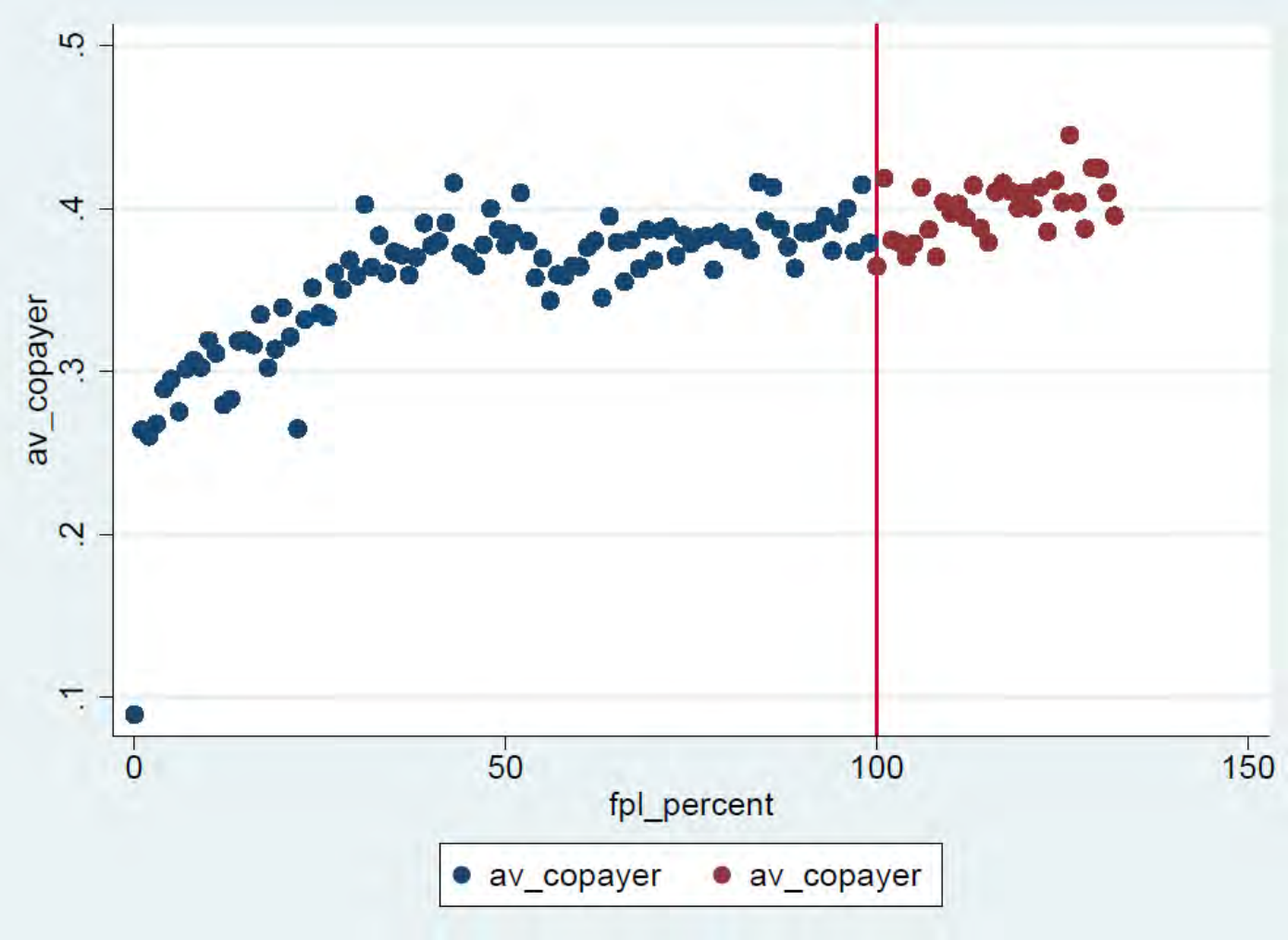


Figure 4.7a Copayment Amount and FPL

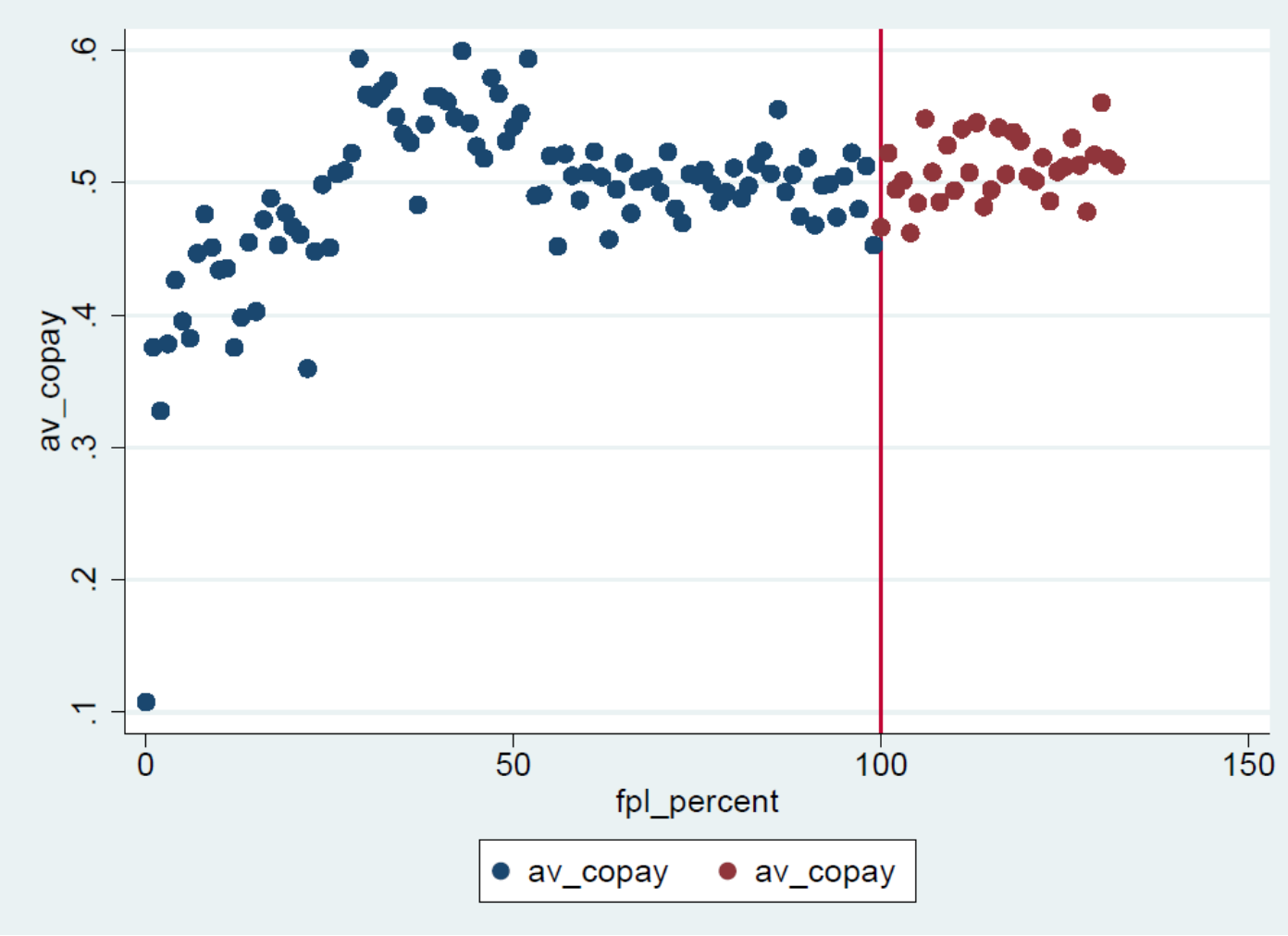


Figure 4.8 Likelihood of Disenrollment by FPL

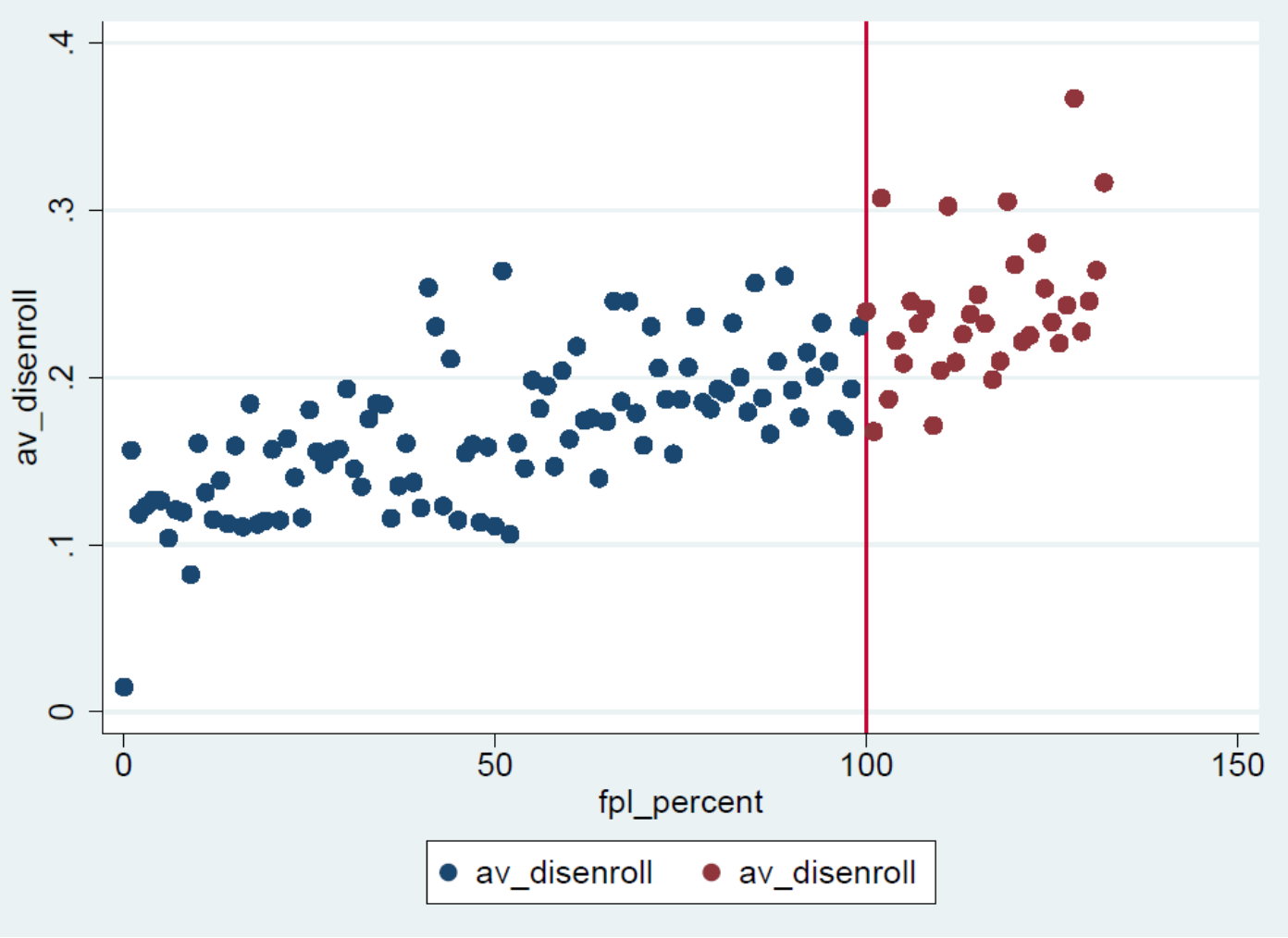


Figure 4.8a Likelihood of Disenrollment, FPL in bins of 7

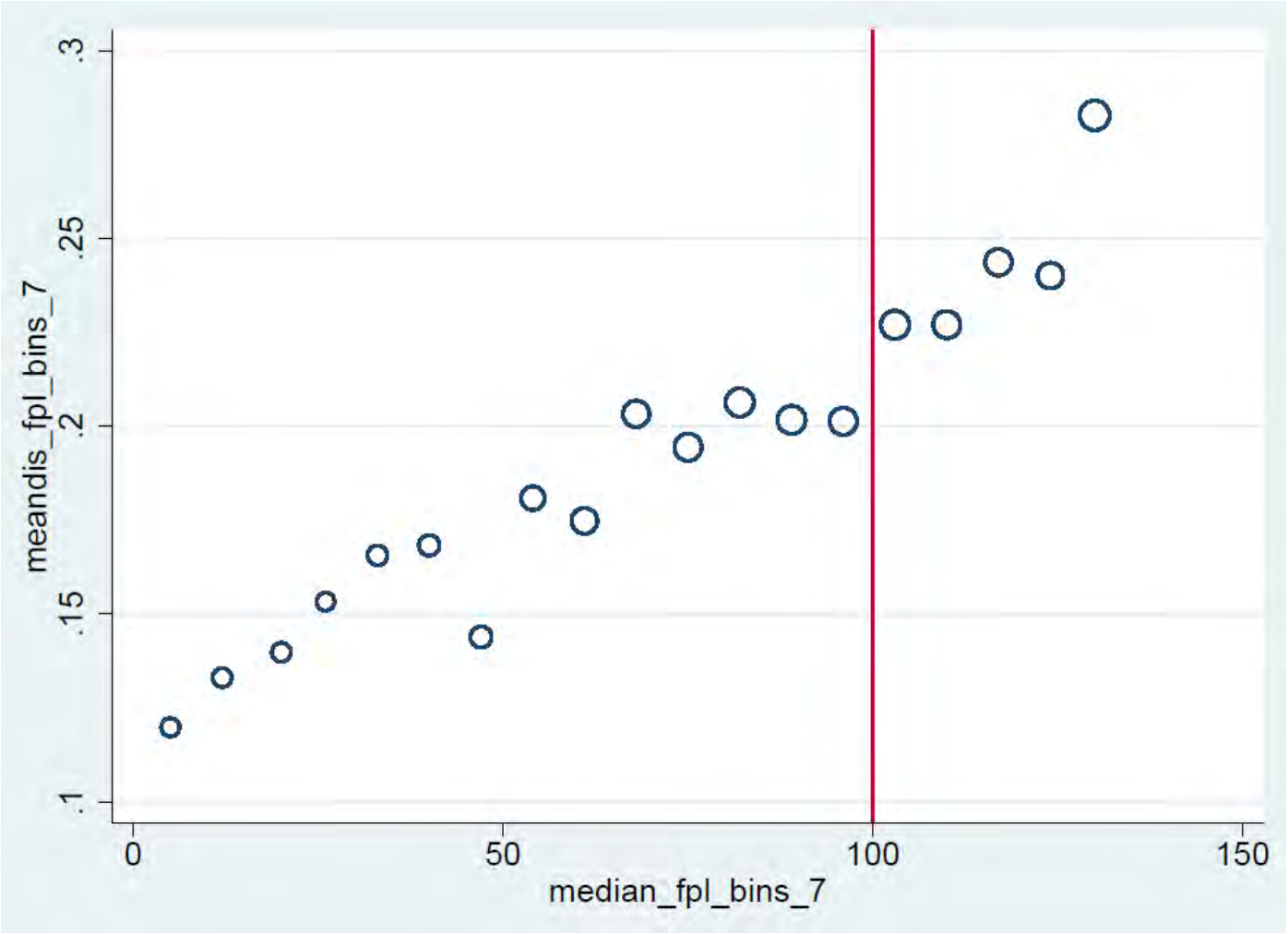


Figure 4.8b Likelihood of Disenrollment, FPL in bins of 5

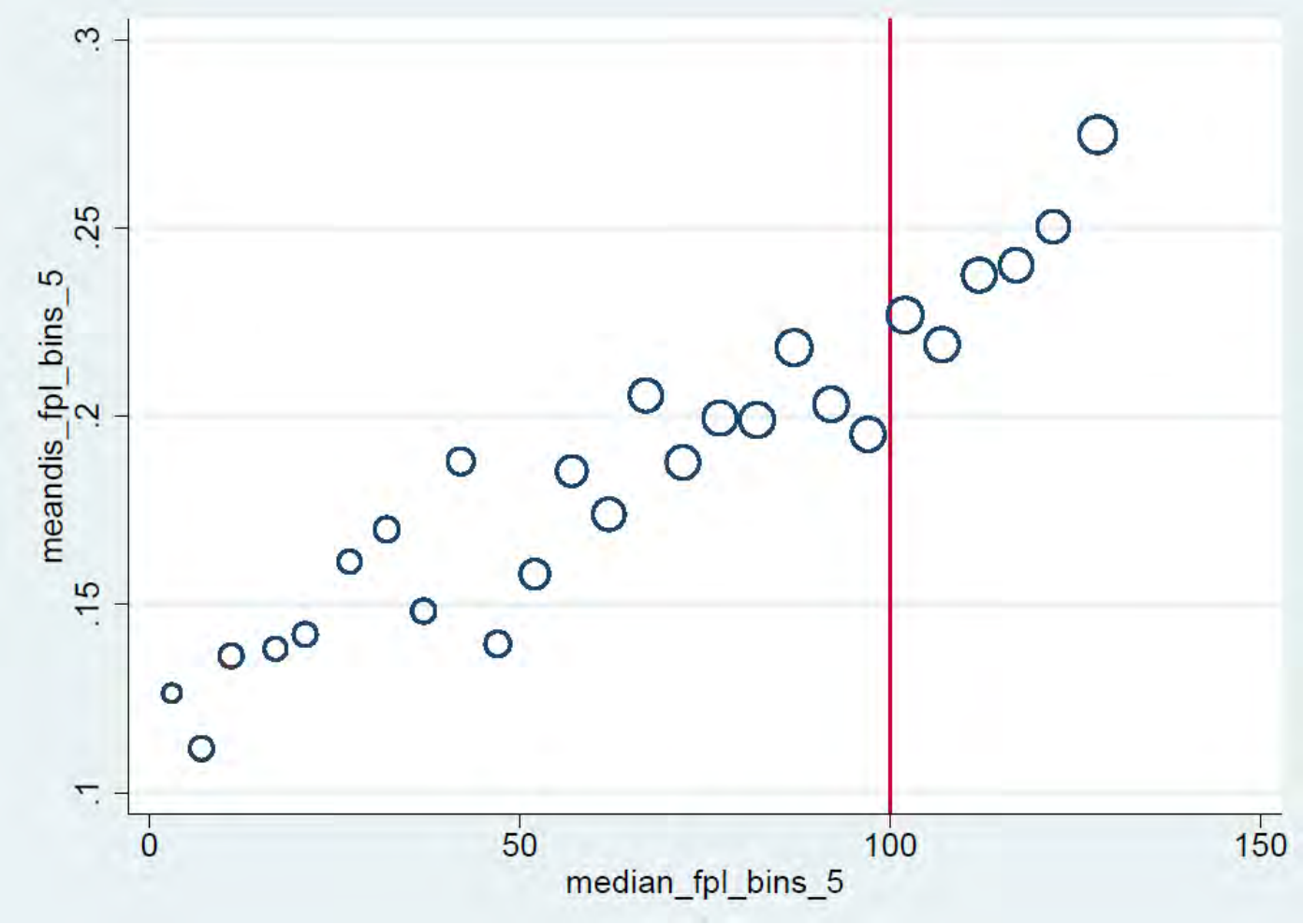


Figure 4.8c Likelihood of Disenrollment, FPL in bins of 4

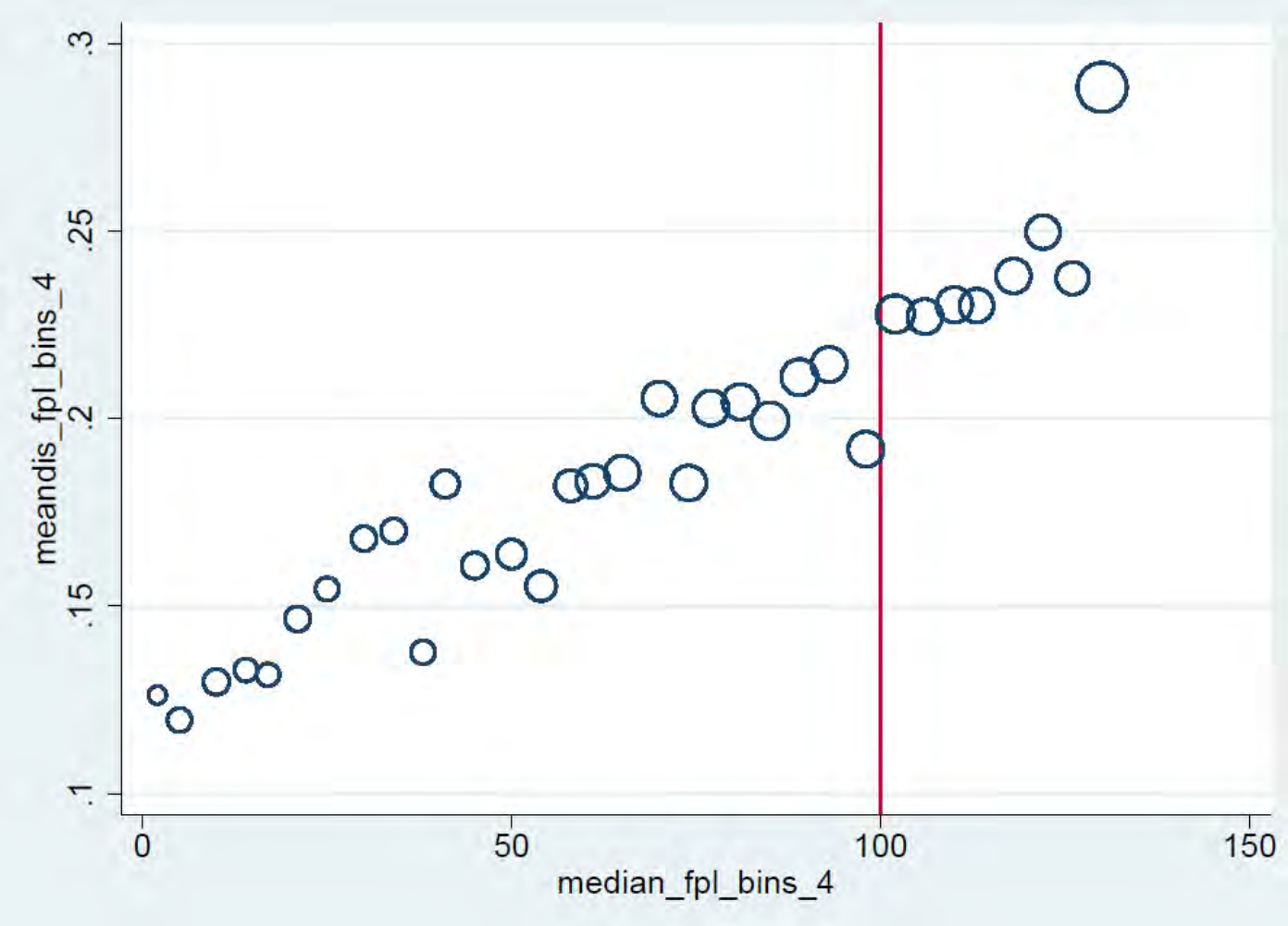


Figure 4.9 RD Plot Sharp, Mean FPL Percent

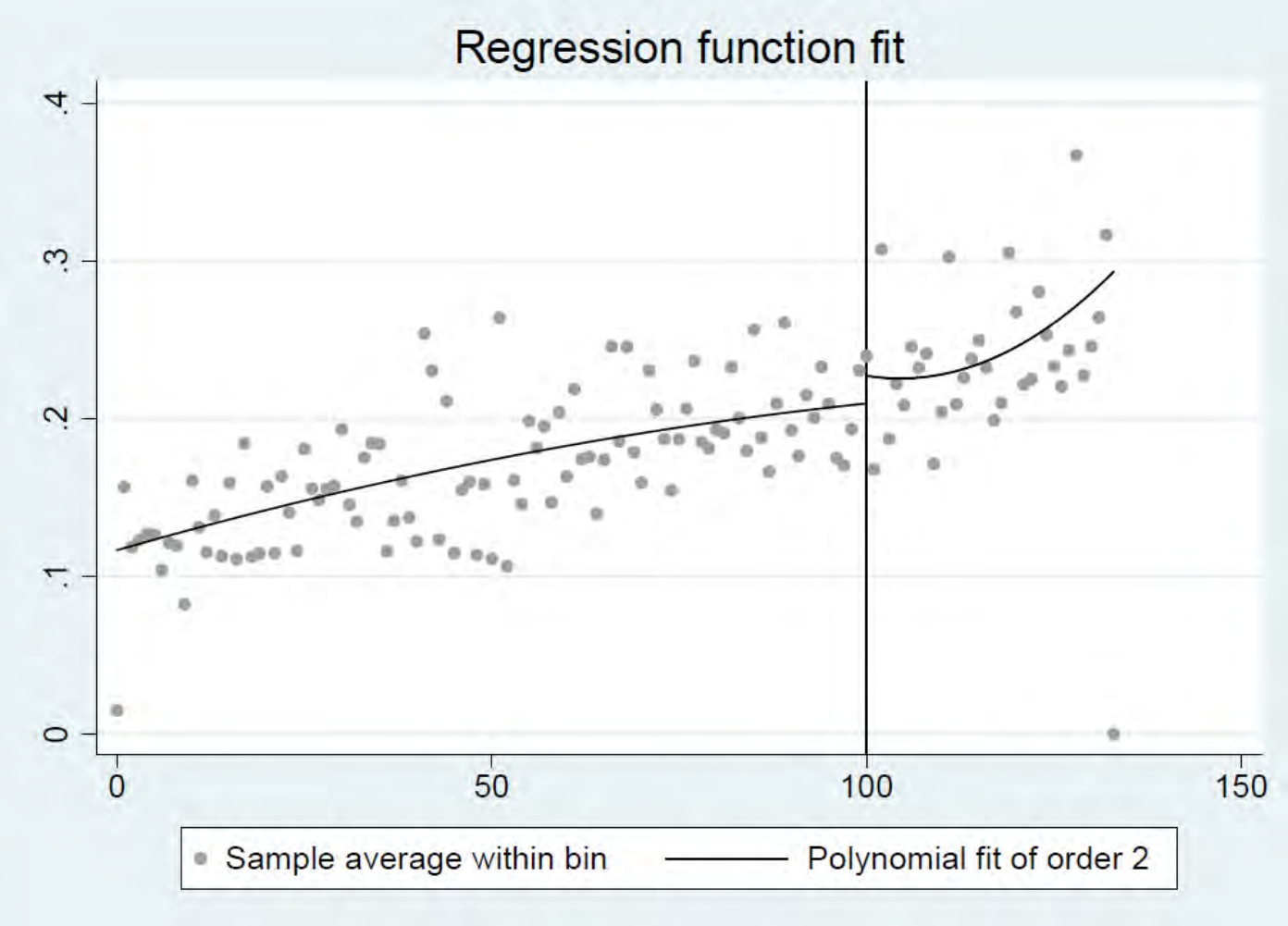


Figure 4.9a RD Plot on minimum reported FPL

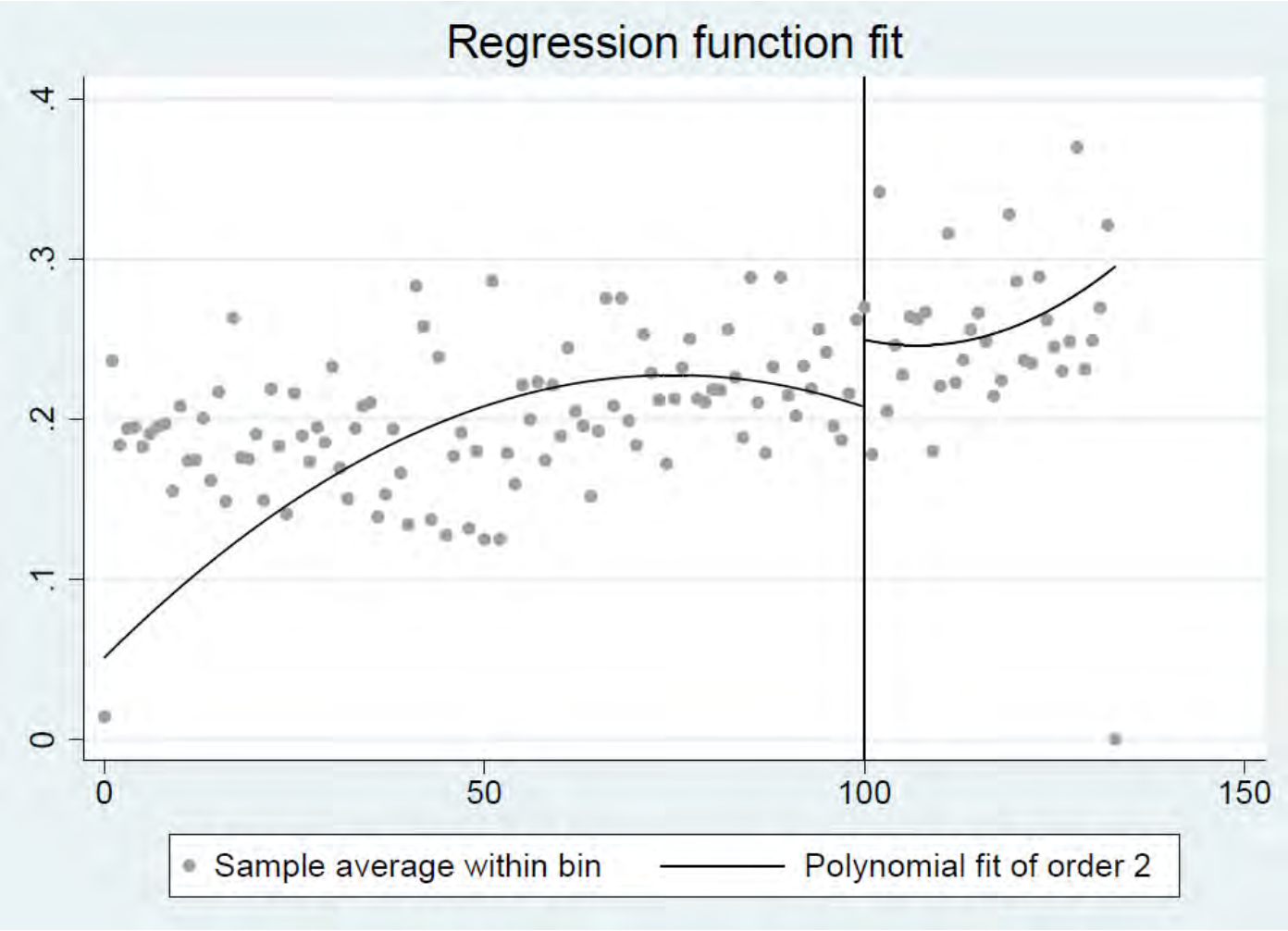


Figure 4.10 RD Plot of Disenrollment for Bottom Half of Spenders (including $0; 1st 7 months enrollment)

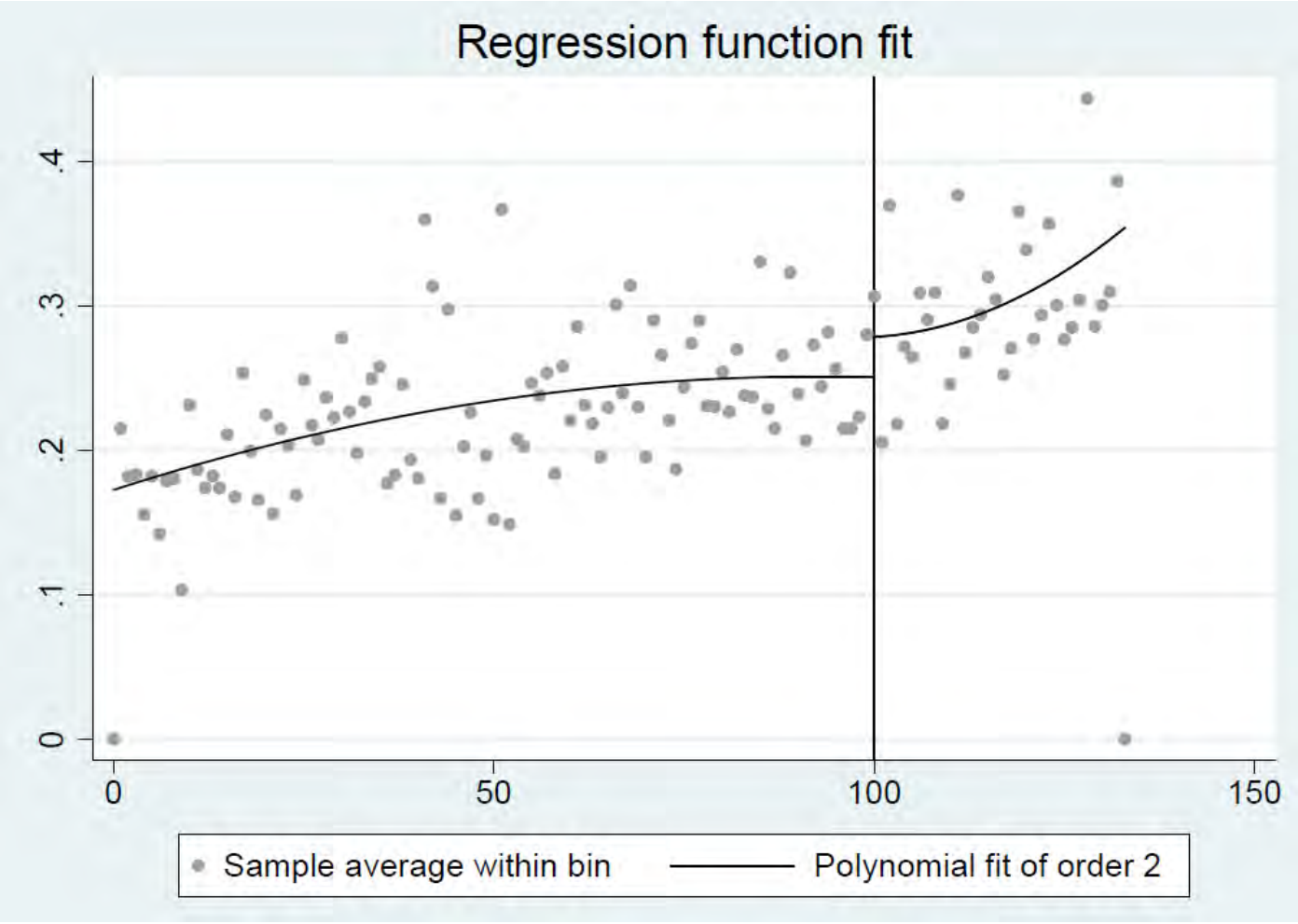


Figure 4.10a RD Plot of Disenrollment for Top Half of Spenders (no truncation; 1st 7 months enrollment)

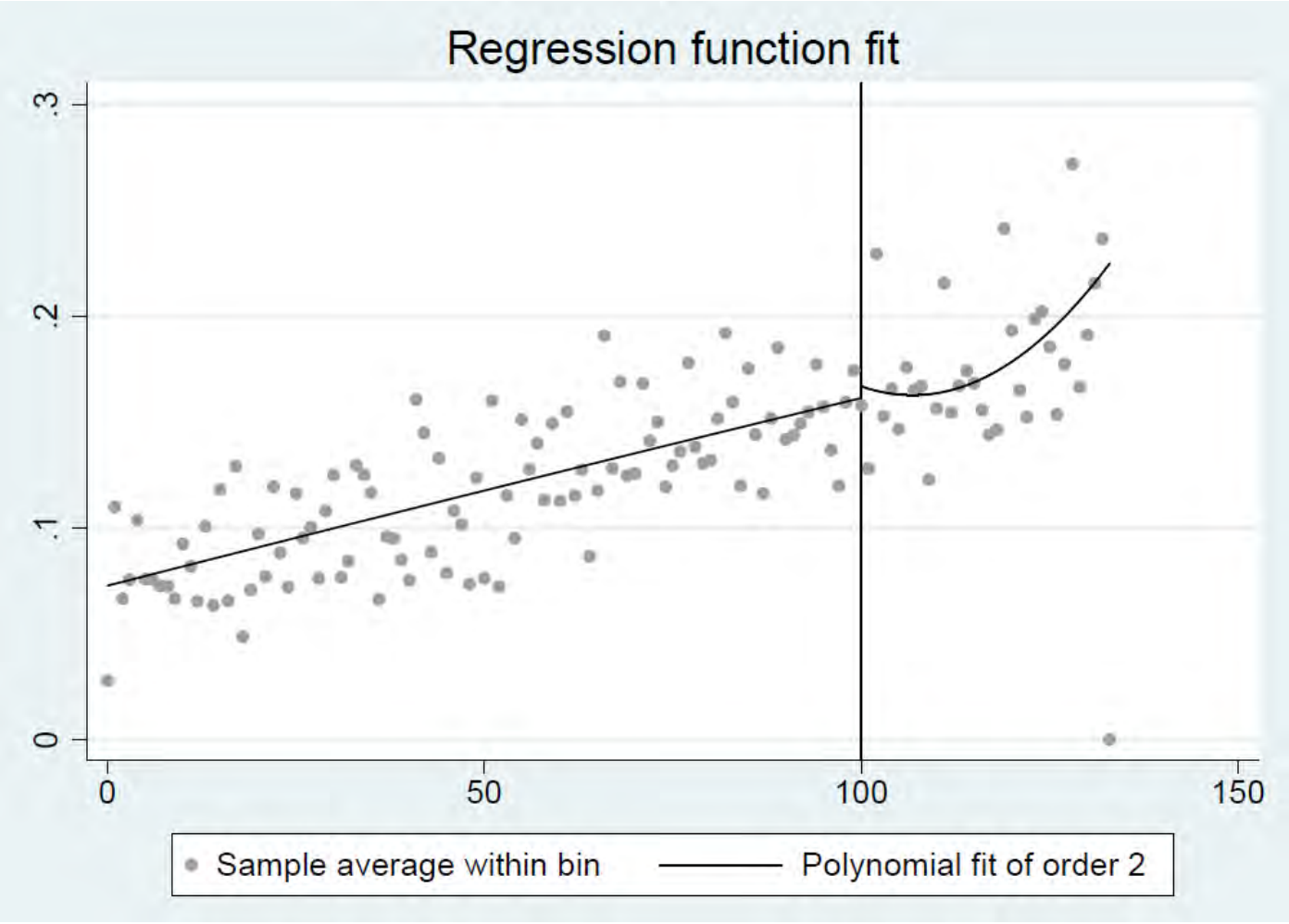


Figure 4.11 RD Plot of Disenrollment for People with No Chronic Disease Claims (1st 7months enrollment)

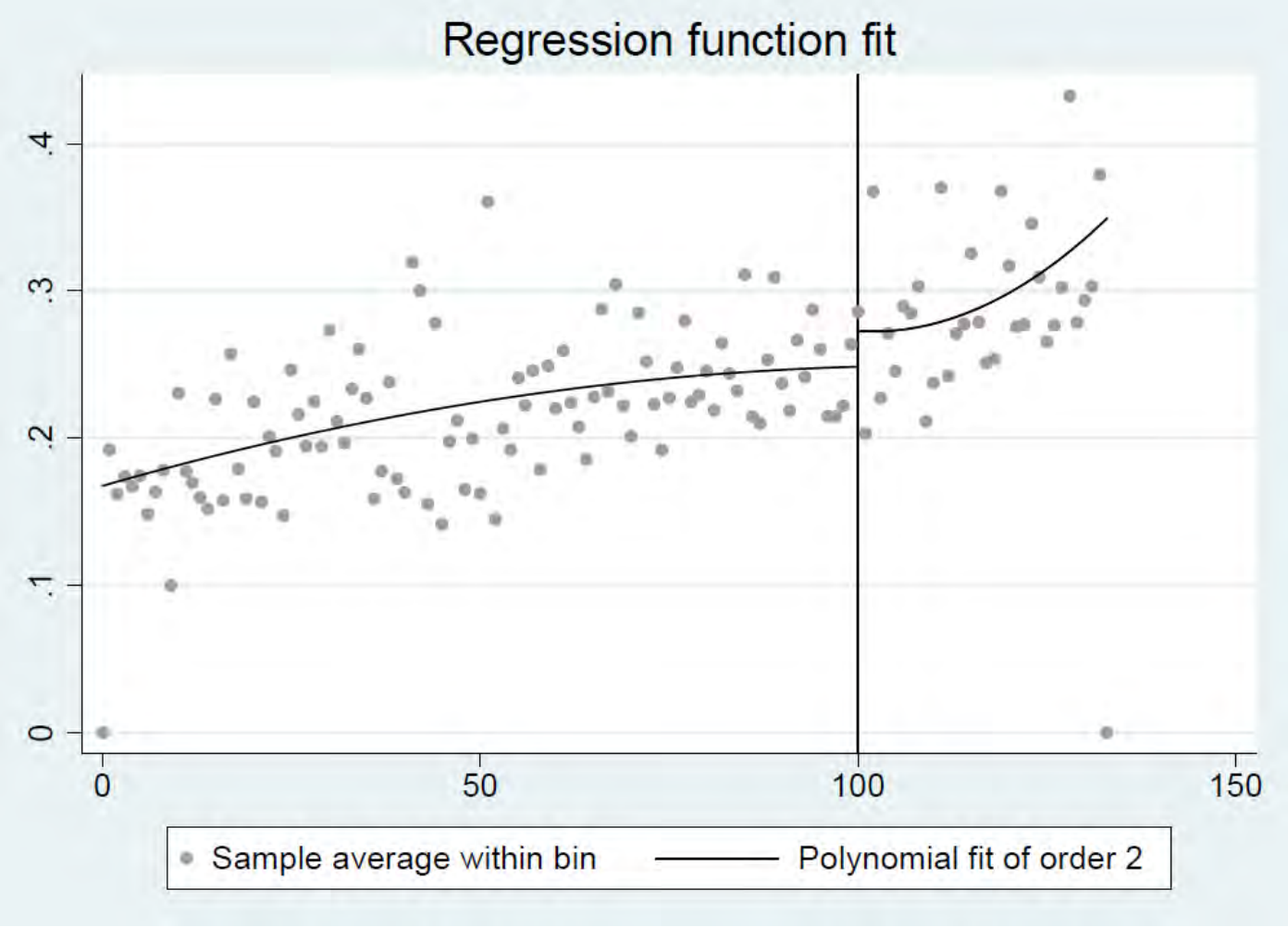


Figure 4.11a RD Plot of Disenrollment for People with Any Chronic Disease Claims (1st 7months enrollment)

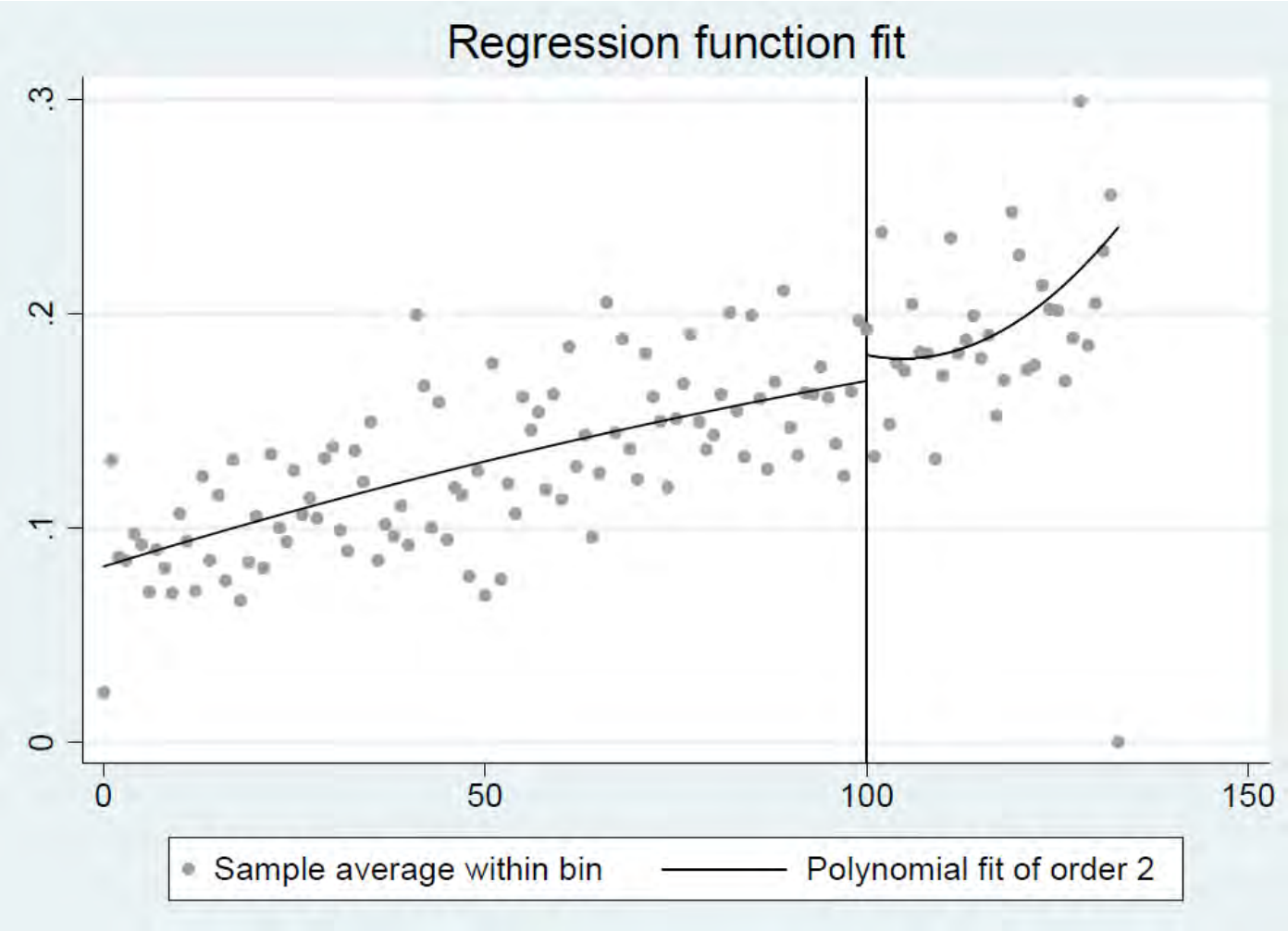


Figure 4.12 Sensitivity Check: Qfit and Scatter of Age on FPL

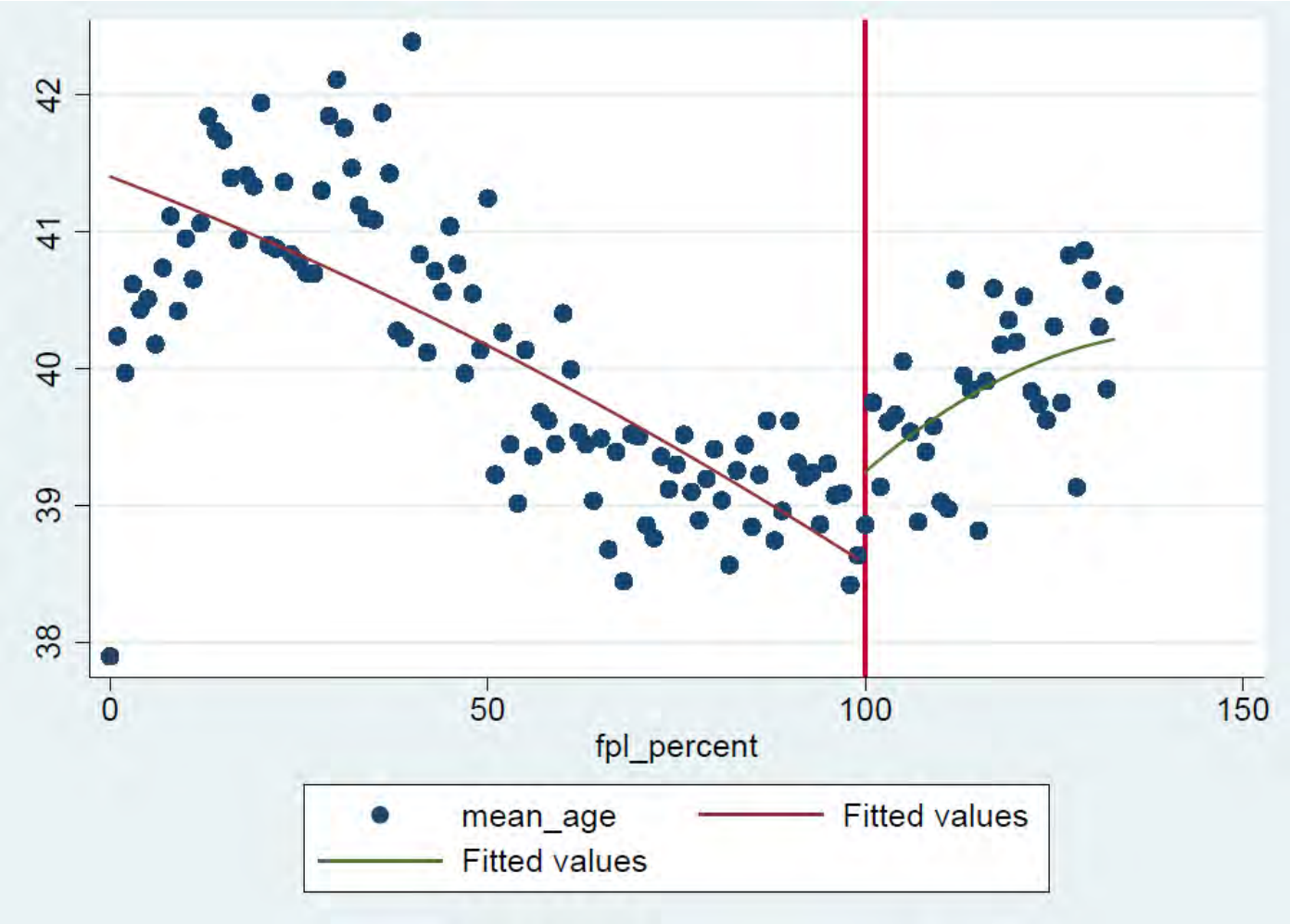


Figure 4.12a Sensitivity Check: RD Plot of Age on FPL

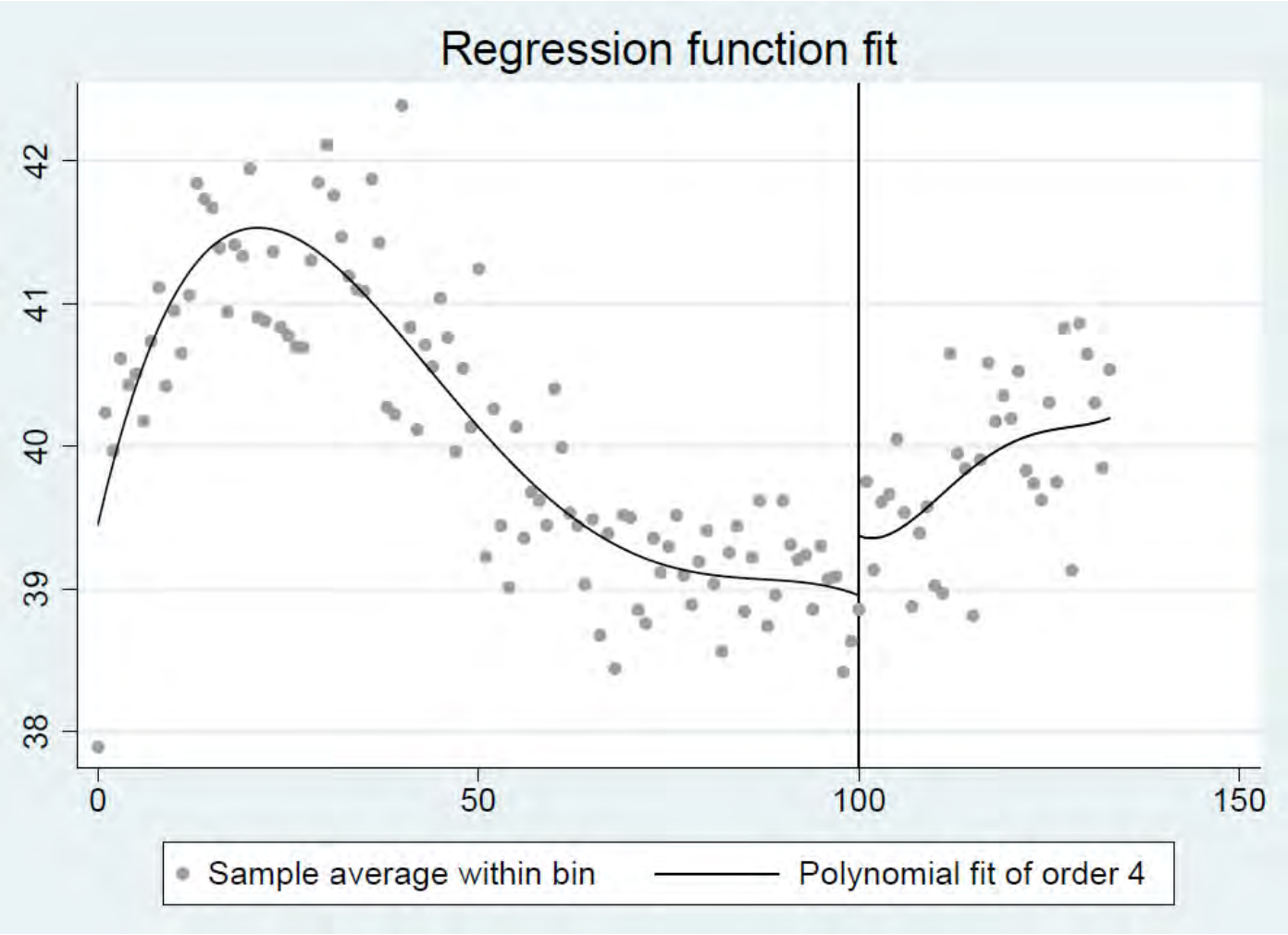


Figure 4.13 Sensitivity Check: Qfit and Scatter of Female on FPL

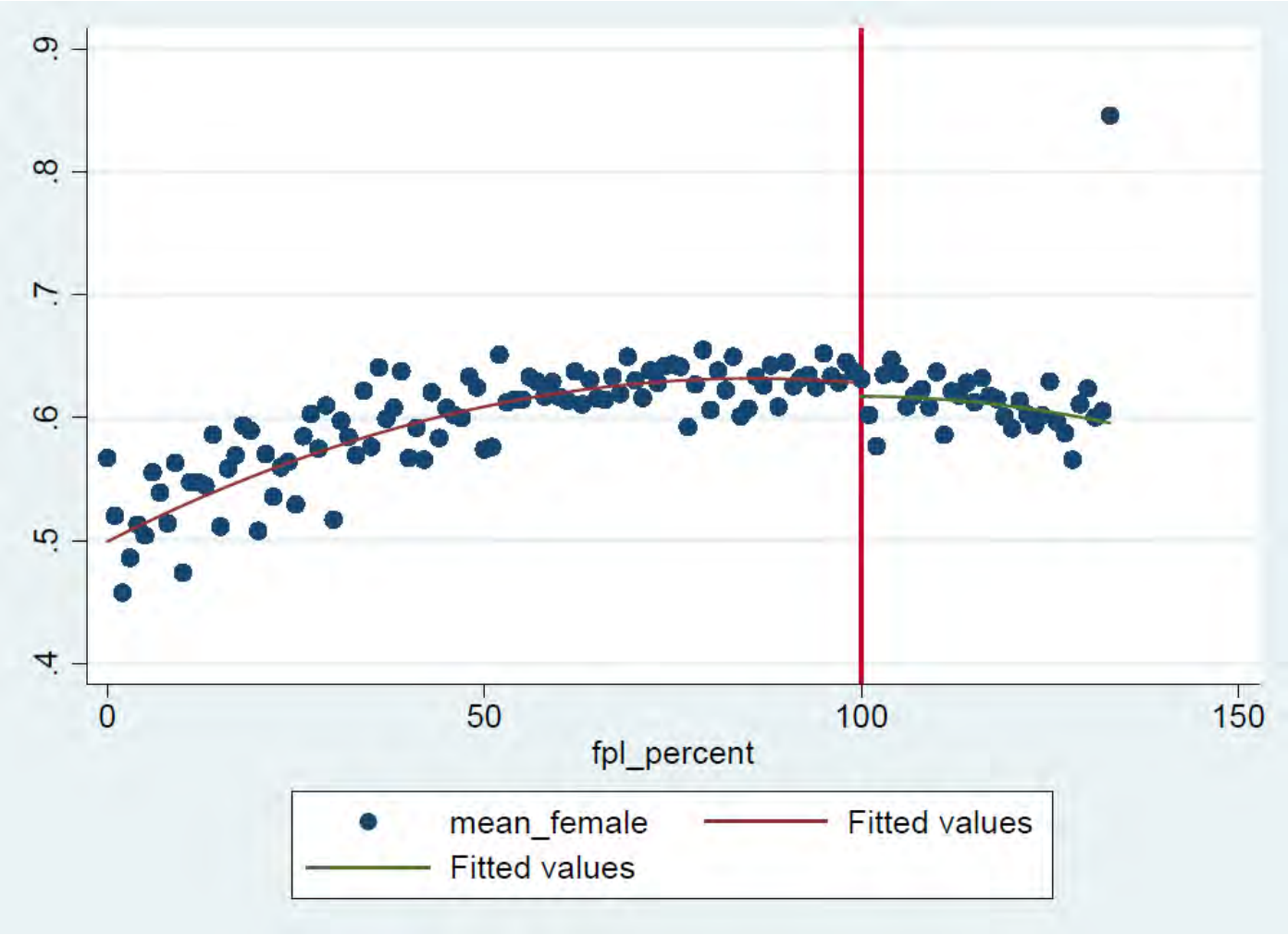


Figure 4.13a Sensitivity Check: RD Plot of Female on FPL

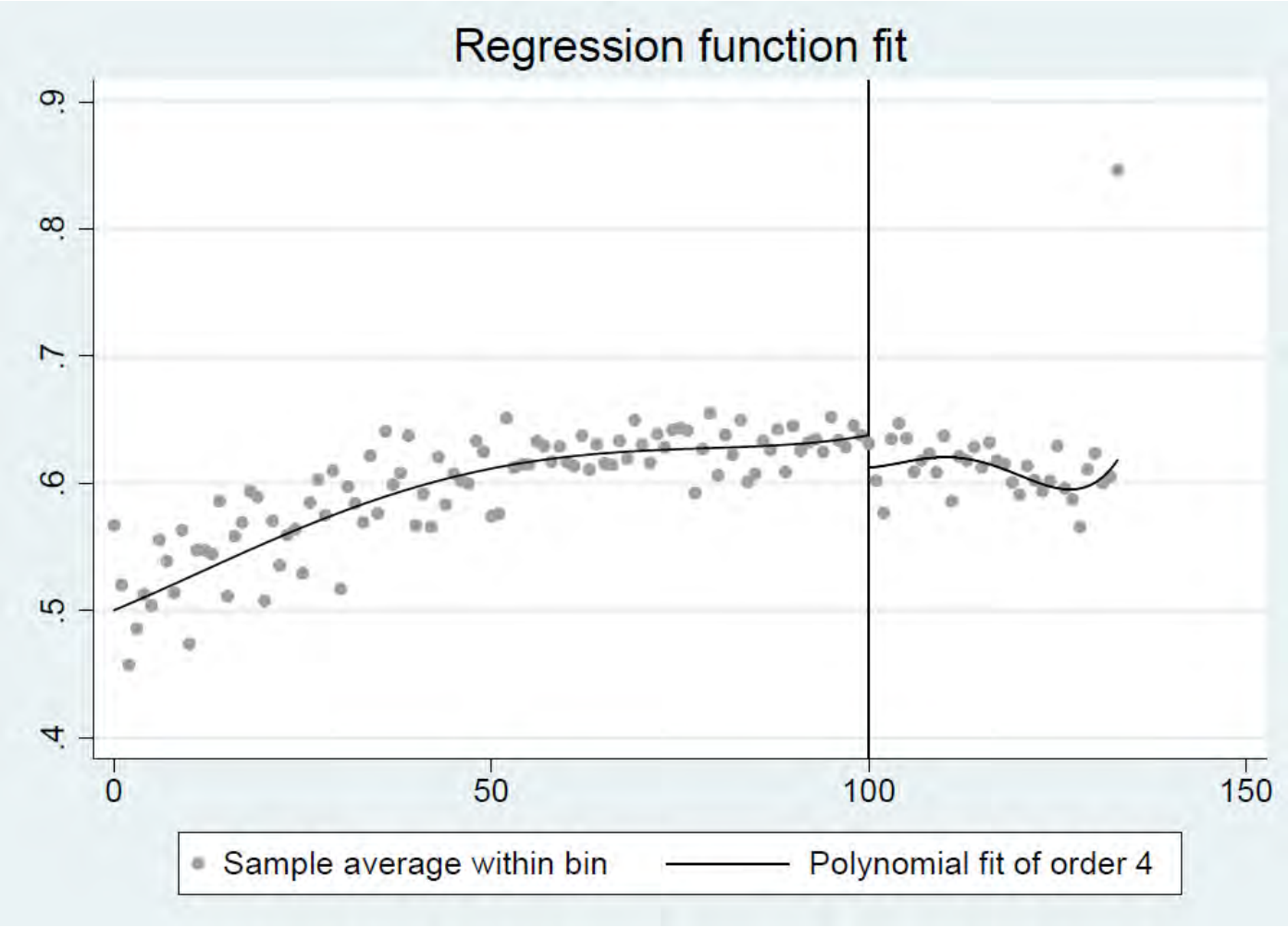
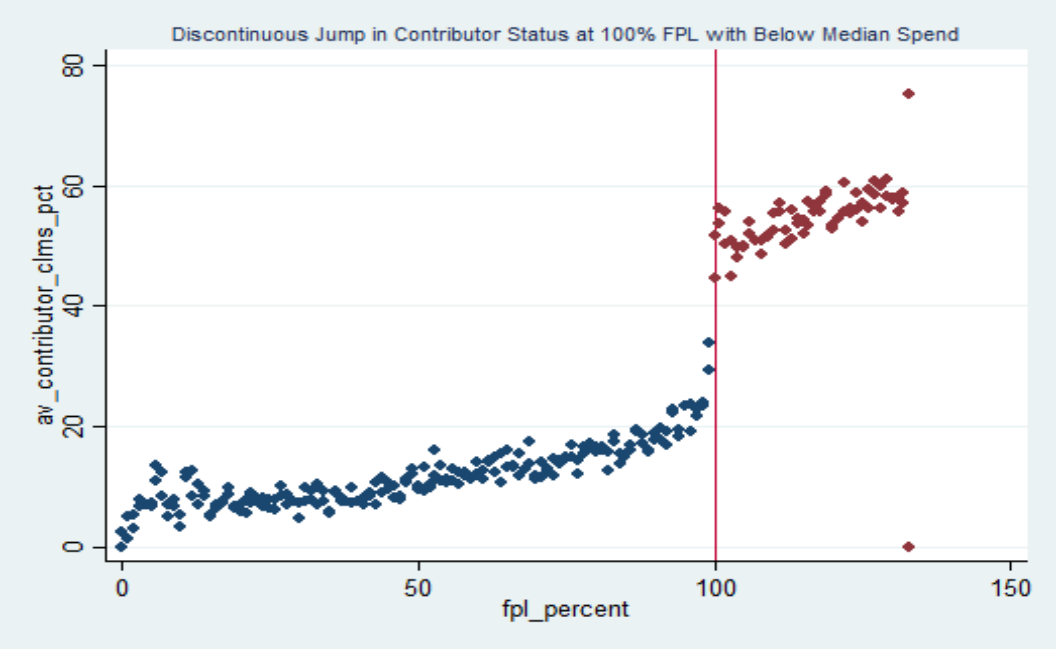


Figure 4.14 Scatter Plot, Contribution Percentage and Average Contribution Amount, Below Median Spending



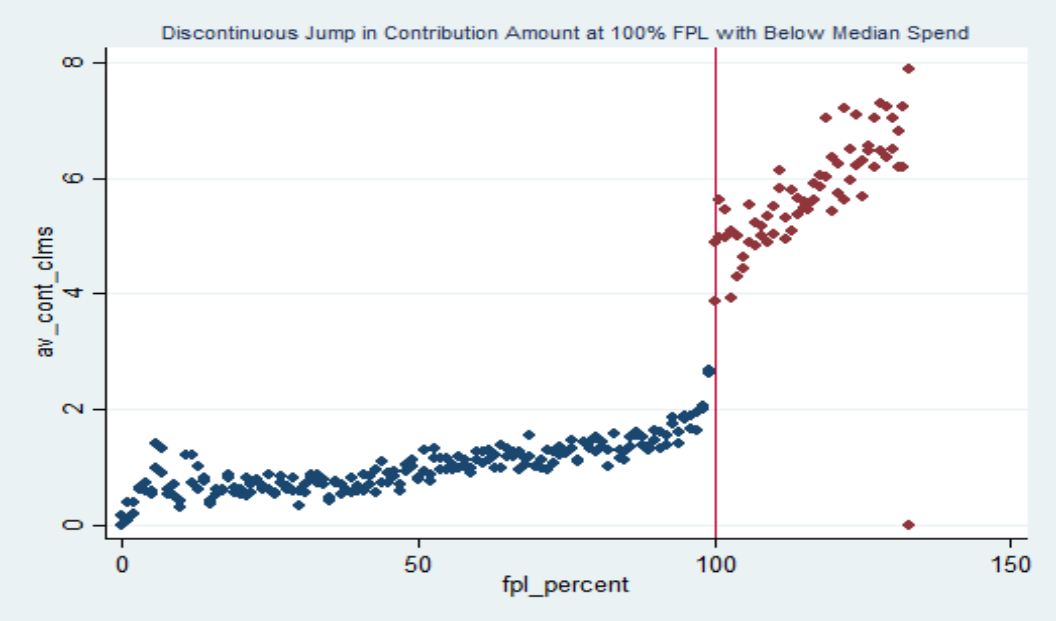
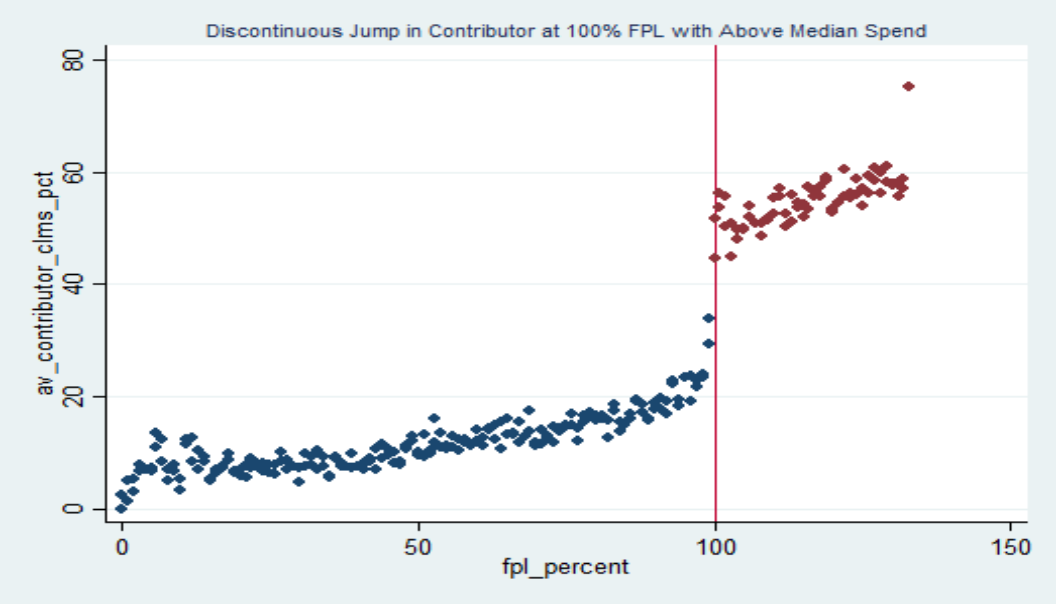


Figure 4.15 Scatter Plot, Contribution Percentage and Average Contribution Amount, Above Median Spending



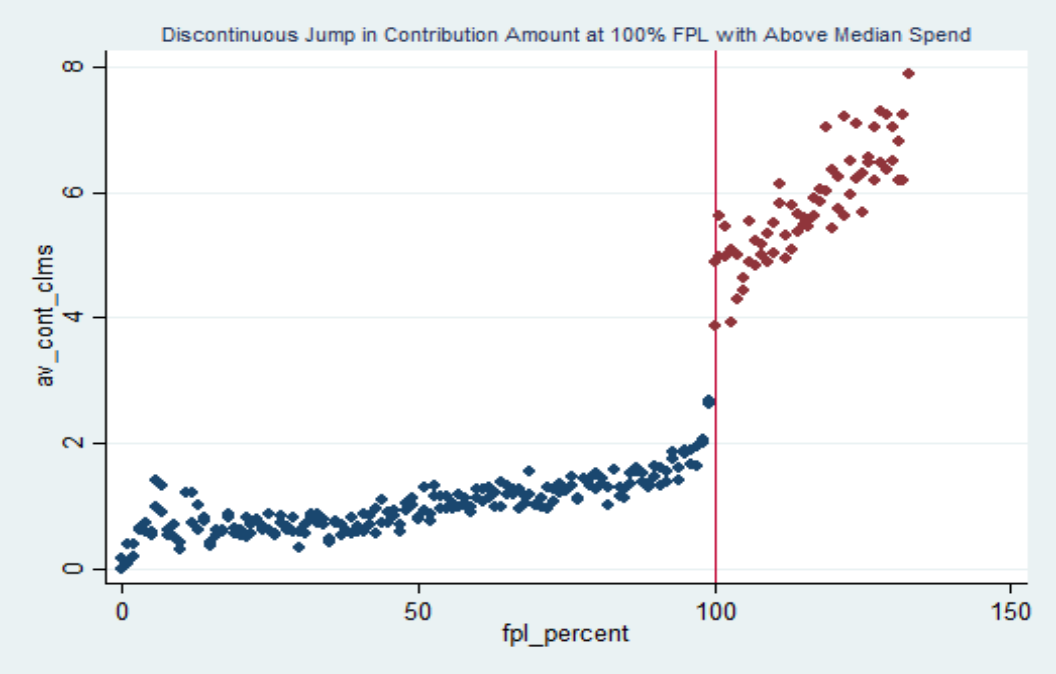
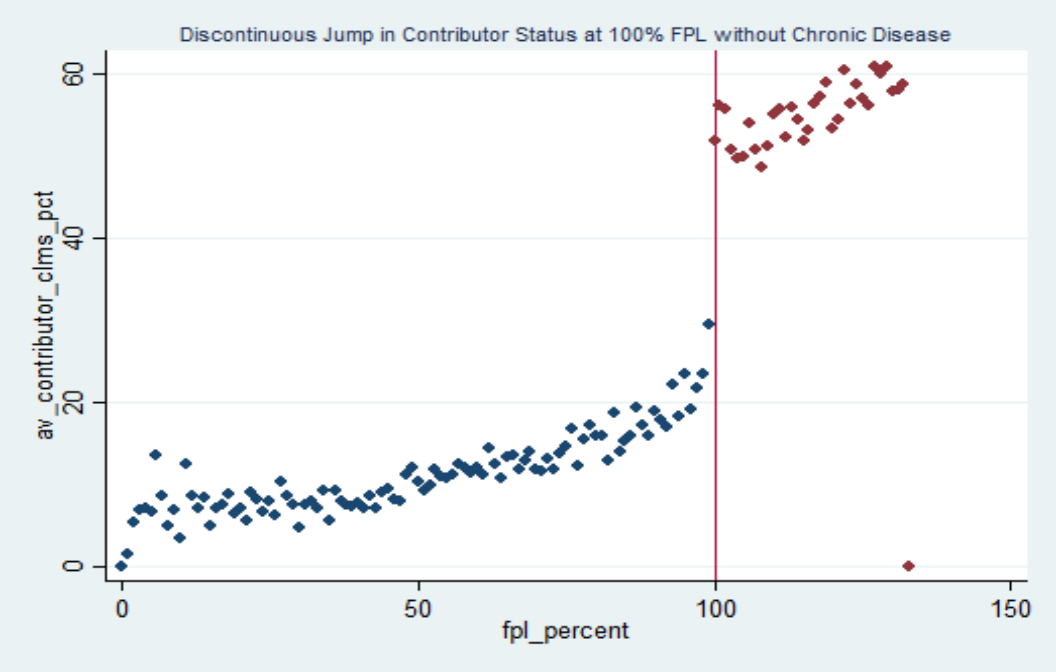


Figure 4.16 Scatter Plot, Contribution Percentage and Average Contribution Amount, No Chronic Disease Claims



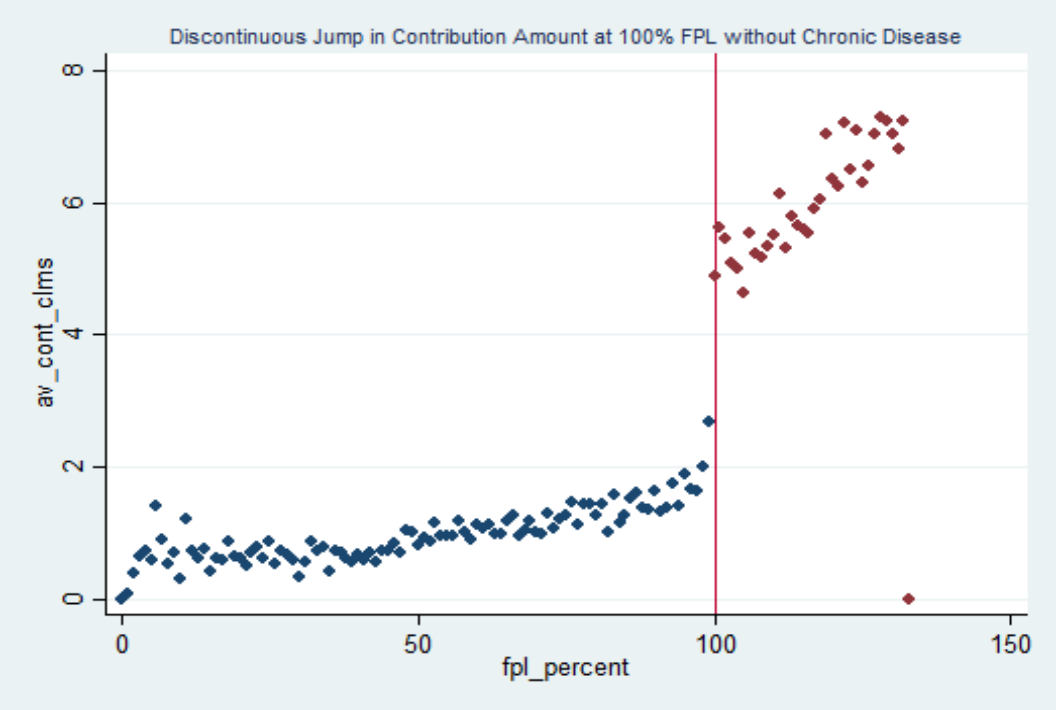
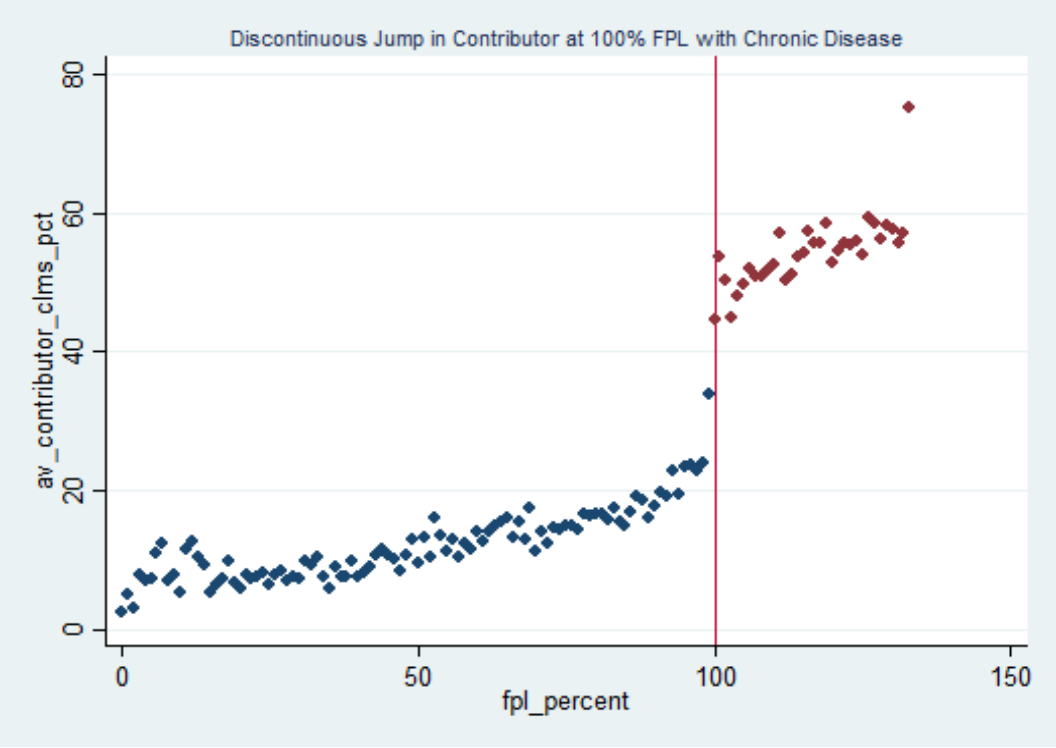


Figure 4.17 Scatter Plot, Contribution Percentage and Average Contribution Amount, Chronic Disease Claims



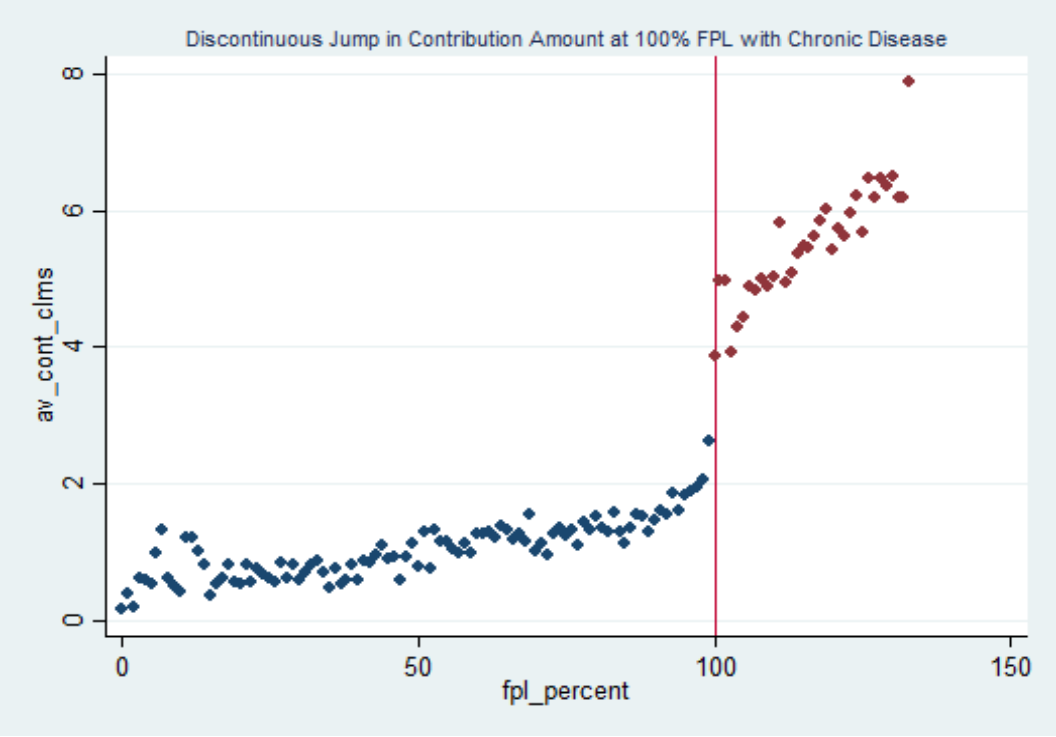


Figure 4.18 Disenrollment Percent by FPL with cutoffs at FPL 20% to FPL 115%, MSE-optimal bandwidths, triangular kernel

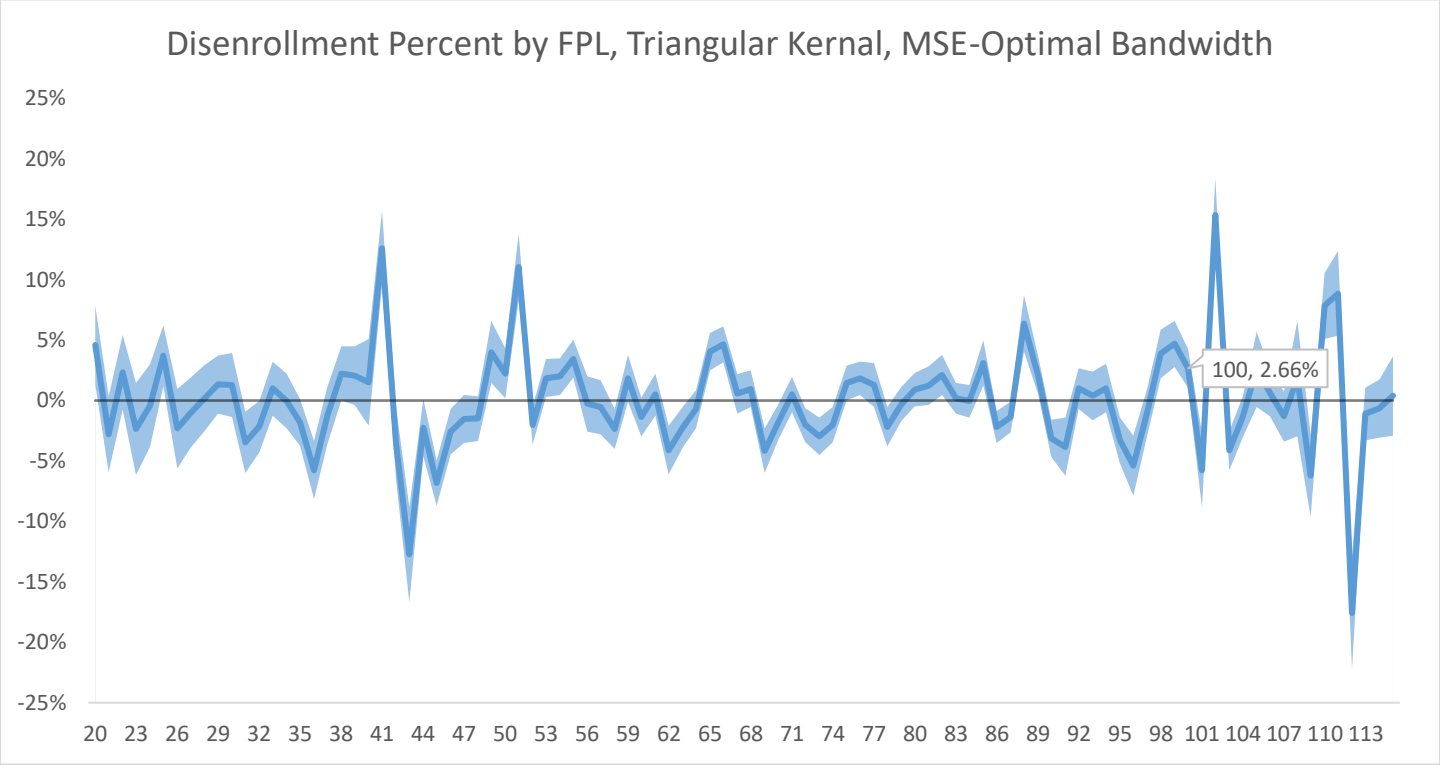
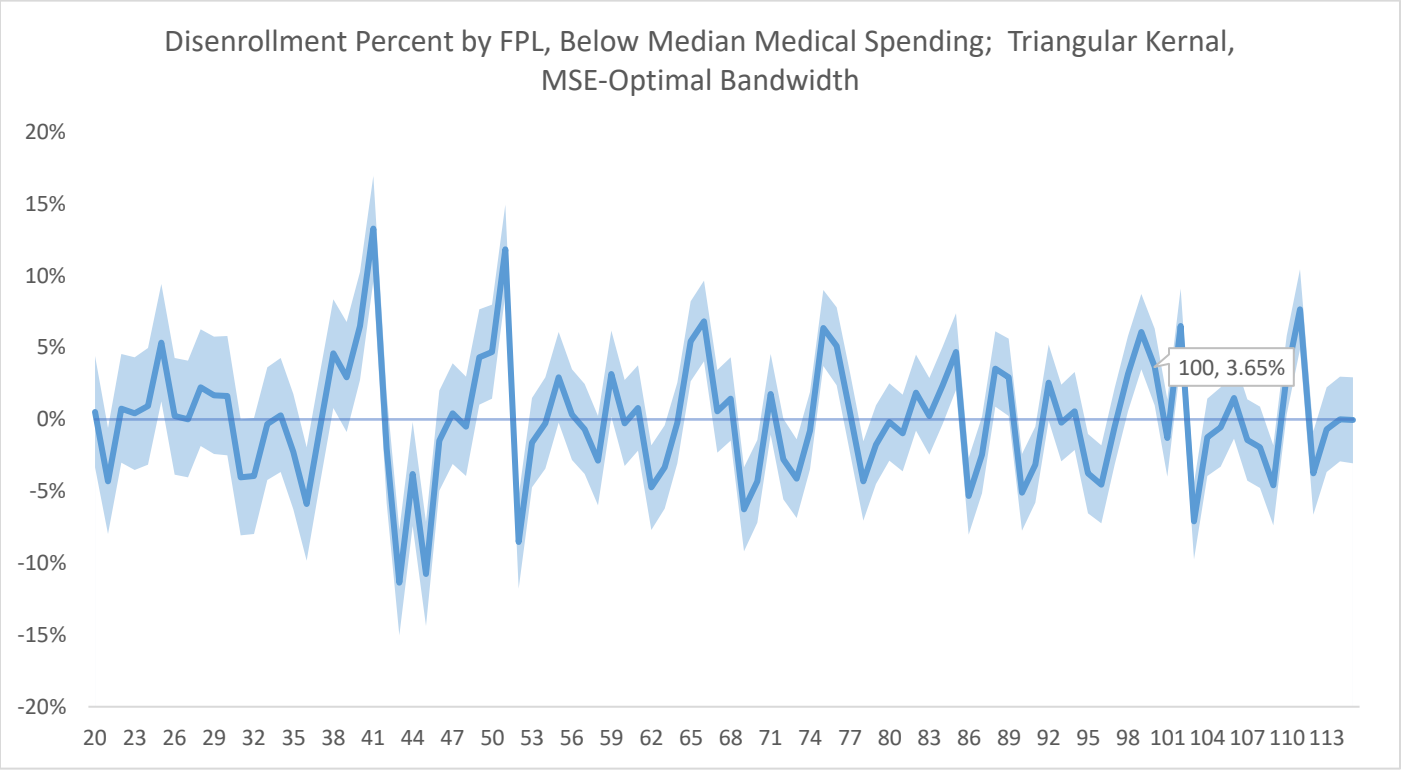


Figure 4.19 Disenrollment Percent by FPL with cutoffs at FPL 20% to FPL 115%, MSE-optimal bandwidths, triangular kernel, Below and Above Median Spending



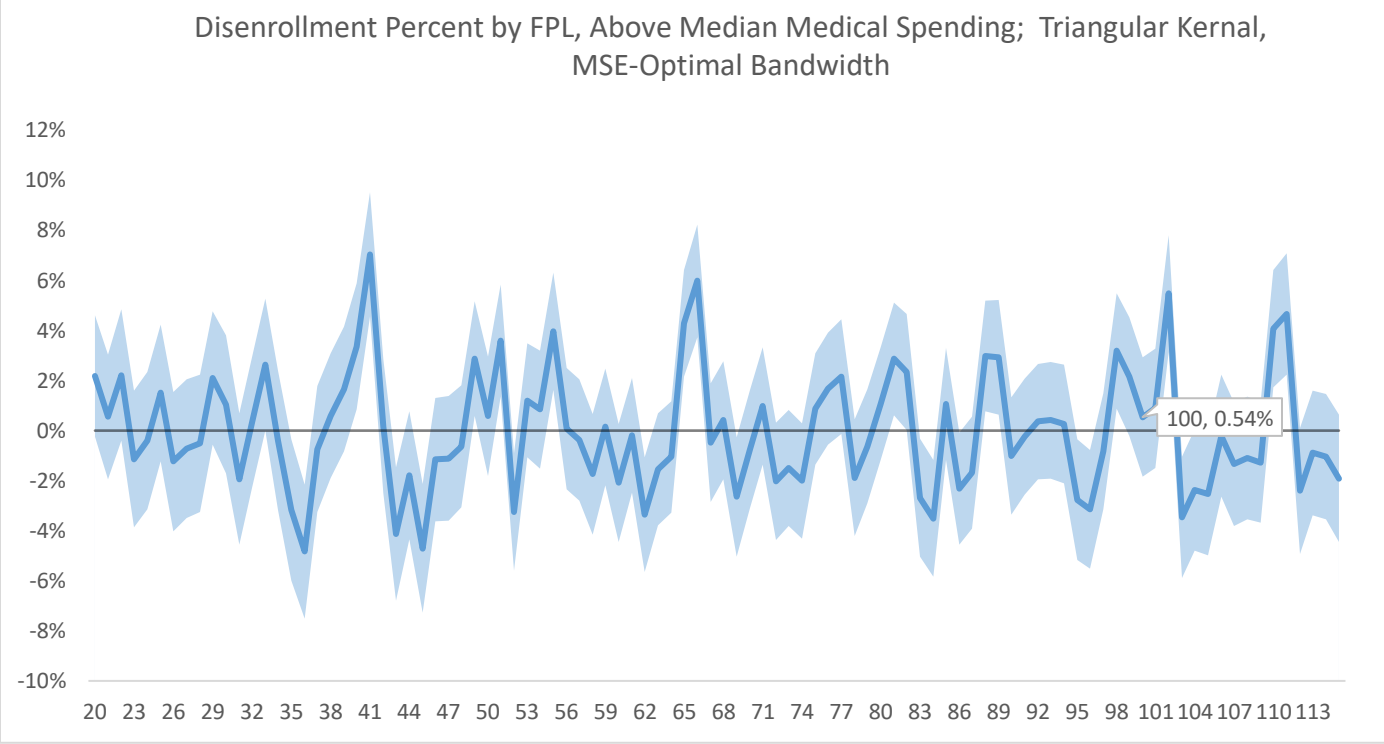
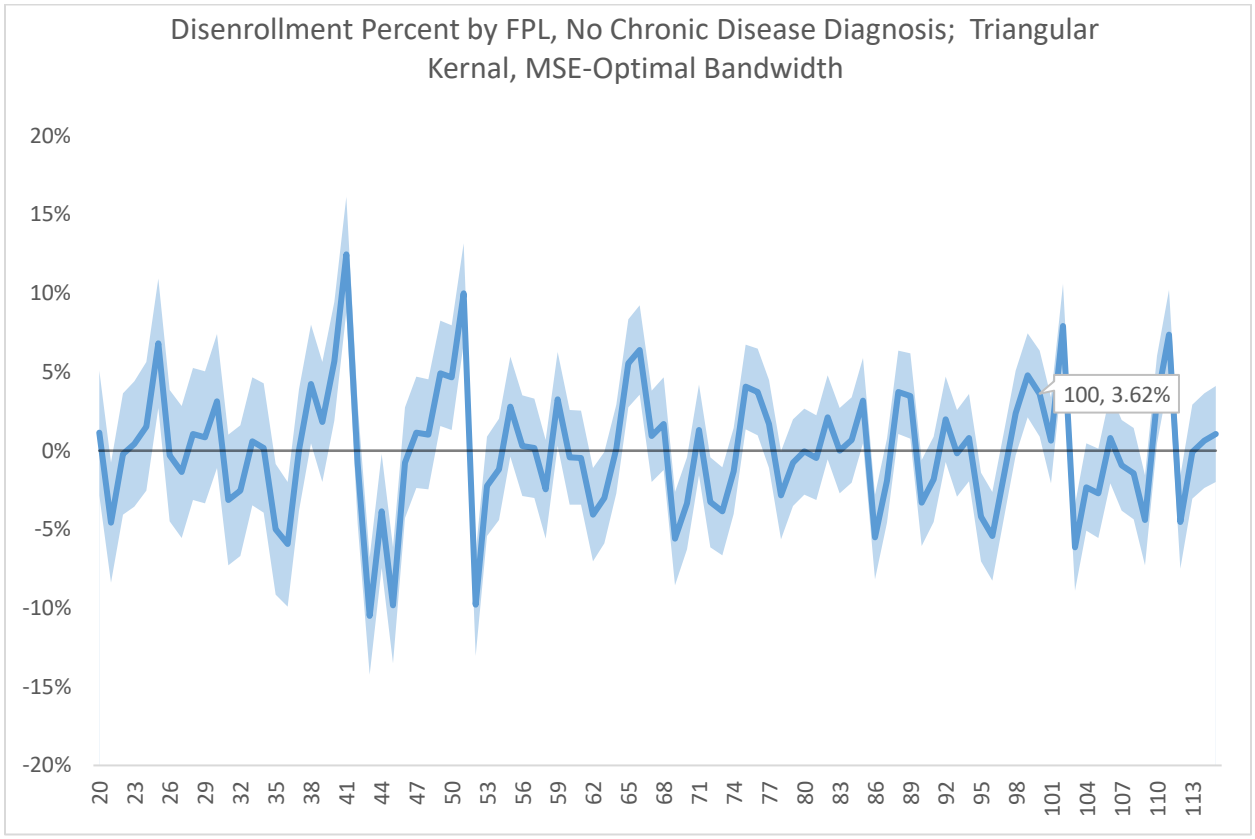


Figure 4.20 Disenrollment Percent by FPL with cutoffs at FPL 20% to FPL 115%, MSE-optimal bandwidths, triangular kernel, Chronic and No Chronic Diagnoses



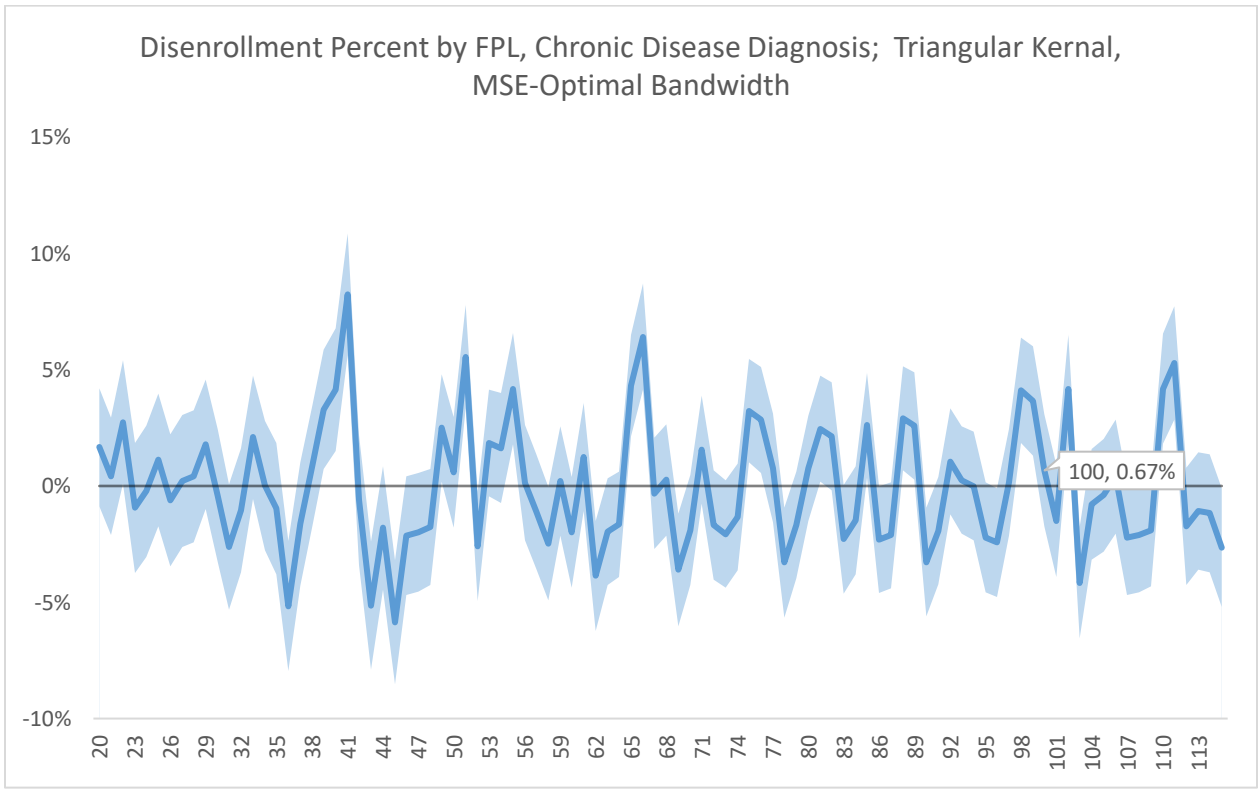


Figure 4.21 Overall density of number of months enrolled among disenrollers, all FPL and all Medicaid programs, sample of enrollees in HMP-MC or HMP-FFS >1 month

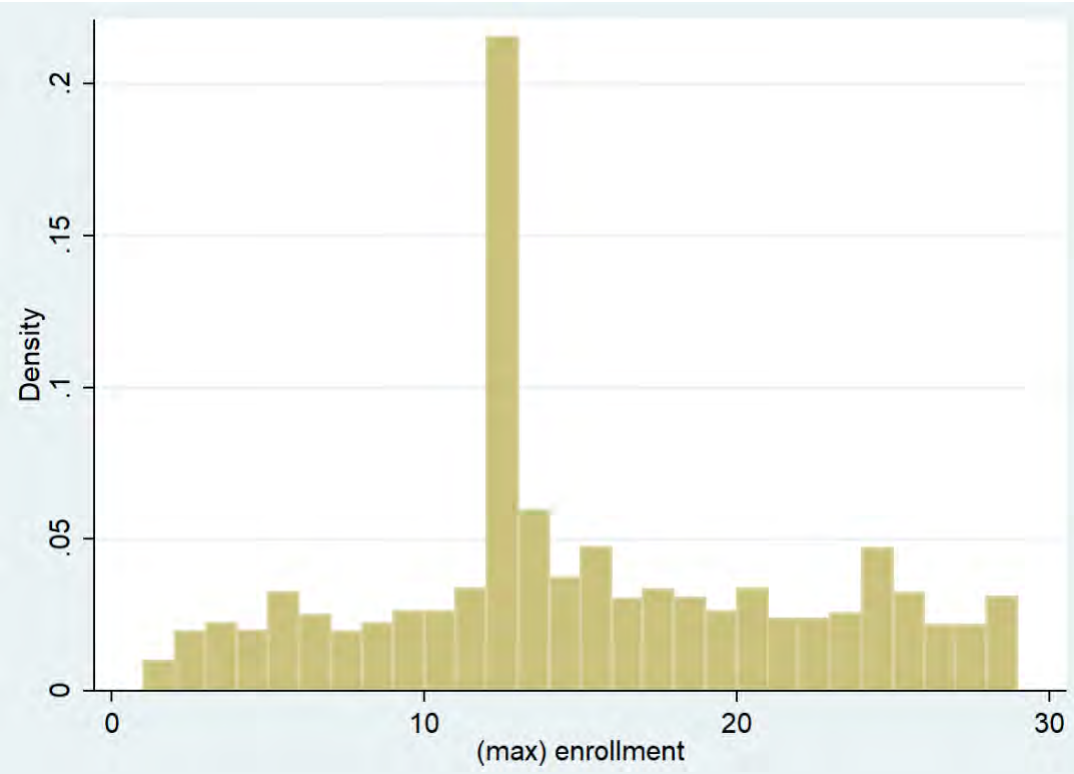
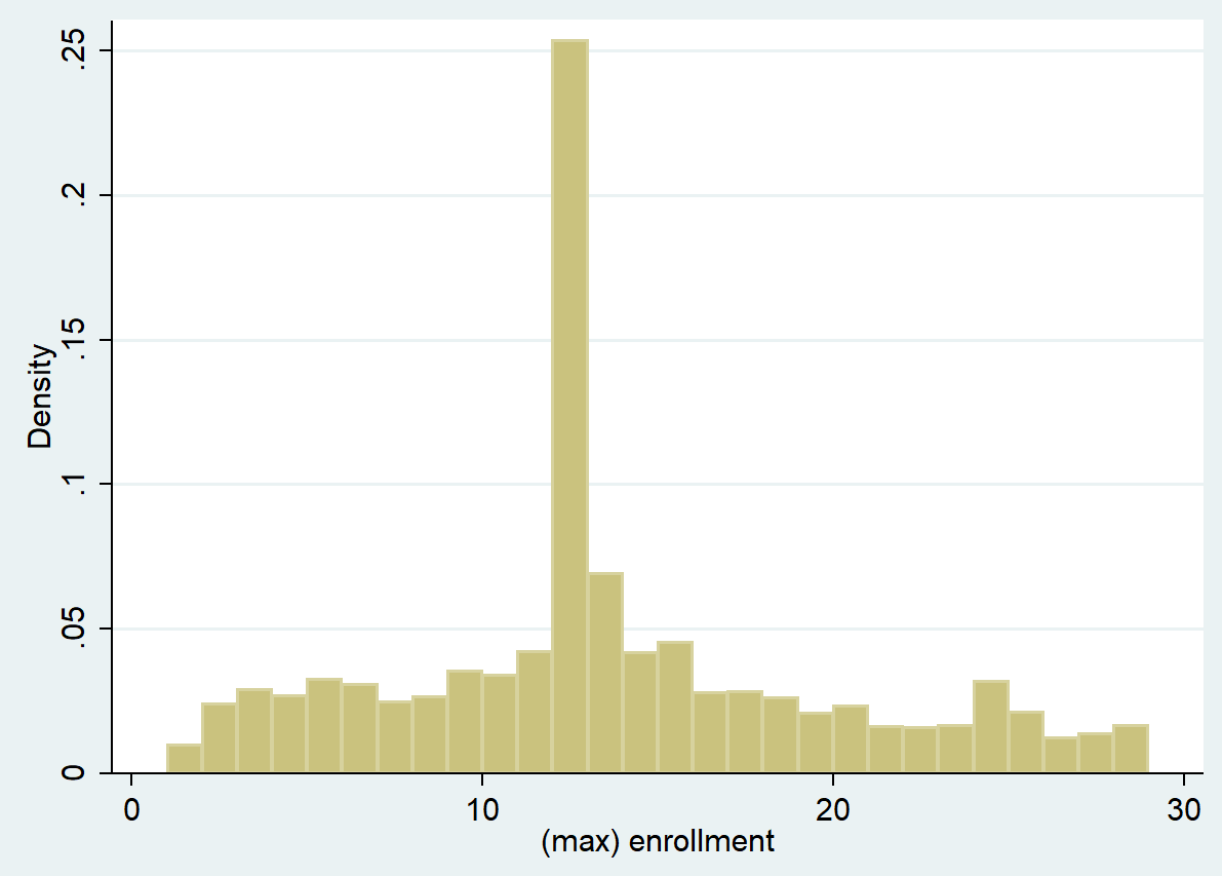


Figure 4.22 Overall density of number of months enrolled among disenrollers, FPL 100%+ and all Medicaid programs, sample of enrollees in HMP-MC or HMP-FFS >1 month



Hypothesis 4: Healthy Behavior Rewards and Healthy Behaviors

Table 5.1 Predictors of Healthy Behaviors, Predicted Prevalence Numbers Based on Probit Regression

	Lost weight in past 12 months (n=4,030)	***p-value on regression coefficient***	**Among smokers, trying to quit smoking (n=1,513)**	***p-value on regression coefficient***	**Got flu shot this year (n= 4,030)**	***p-value on regression coefficient***
Healthy behavior reward						
No	30.5%		79.9%		35.3%	
Yes	34.5%	0.047	87.8%	0.005	42.8%	< 0.001
Age						
19-34	31.6%		77.5%		34.0%	
35-50	33.7%	0.365	82.9%	0.117	37.5%	0.142
51-64	29.0%	0.240	86.7%	0.003	43.0%	< 0.001
Gender						
Male	29.4%		79.6%		36.5%	
Female	33.7%	0.023	85.2%	0.028	38.6%	0.297
Race						
White	30.1%		80.8%		37.0%	
Black	36.8%	0.011	87.2%	0.089	37.3%	0.904
Other	26.8%	0.354	76.4%	0.453	43.7%	0.075
Mixed	32.7%	0.589	80.6%	0.979	34.5%	0.615
FPL						
0-35 %	30.8%		82.5%		38.3%	
36-99 %	32.7%	0.345	83.6%	0.699	36.7%	0.473
100+ %	32.4%	0.465	78.0%	0.162	37.0%	0.596
Region						
UP/NW/NE	34.7%	0.489	81.8%	0.854	39.7%	0.493
W/E Central/E	29.7%	0.215	81.1%	0.685	36.1%	0.528
SW/S Central/SE	30.6%	0.418	82.8%	0.945	38.5%	0.771
Detroit Metro	32.7%		82.6%		37.7%	

*p-value on regression coefficient from probit regression coefficient

Table 5.2 Predicted Prevalence of Healthy Behavior Based on Healthy Behavior Reward and Demographic Characteristics from Probit Regressions of flags for Behavior

	Preventive visit	*p-value on regression coefficient*	Preventive screening	*p-value on regression coefficient*	Using copay exempt medication	*p-value on regression coefficient*
Time Period and Federal poverty level						
0-6 Months: No Reward	24.8%		44.3%		35.8%	
0-6 Months: Reward	15.4%	< 0.001	36.0%	< 0.001	37.8%	< 0.001
7-12 Months: No Reward	17.4%	< 0.001	37.3%	< 0.001	38.9%	< 0.001
7-12 Months: Reward	12.4%	< 0.001	29.0%	< 0.001	37.7%	0.238
13-18 Months: No Reward	10.9%	< 0.001	26.2%	< 0.001	38.8%	< 0.001
13-18 Months: Reward	54.7%	< 0.001	67.2%	< 0.001	47.2%	0.854
19-24 Months: No Reward	26.2%	< 0.001	47.6%	< 0.001	48.9%	< 0.001
19-24 Months: Reward	33.6%	< 0.001	53.1%	< 0.001	50.5%	0.113
25- 30 Months: No Reward	21.9%	< 0.001	41.1%	< 0.001	49.7%	< 0.001
25- 30 Months: Reward	19.2%	< 0.001	38.2%	< 0.001	50.8%	0.348
FPL						
0-35 %	21.5%		40.3%		42.7%	
36-99 %	22.0%	< 0.001	40.6%	0.023	39.1%	< 0.001
100+ %	21.6%	0.460	40.2%	0.692	38.6%	< 0.001
Age						
Under 30	20.3%		31.3%		16.4%	
30 to 39	20.8%	0.001	33.7%	< 0.001	28.4%	< 0.001
40 to 49	22.3%	< 0.001	42.5%	< 0.001	46.8%	< 0.001
Over 50	22.4%	< 0.001	47.5%	< 0.001	57.3%	< 0.001
Gender						
Male	16.7%		32.3%		39.6%	
Female	25.8%	< 0.001	47.1%	< 0.001	42.5%	< 0.001
Race						
White	22.3%		40.2%		41.0%	
Black	20.3%	< 0.001	40.4%	0.165	42.0%	< 0.001
American Indian	22.5%	0.778	41.6%	0.075	46.3%	< 0.001
Hispanic	20.0%	< 0.001	42.4%	< 0.001	40.5%	0.165
Asian/Pacific Islander	22.9%	0.411	42.4%	0.007	38.4%	0.001
Unknown	21.2%	< 0.001	40.1%	0.604	39.3%	< 0.001
Region						
Upper Peninsula	18.0%	< 0.001	35.1%	< 0.001	38.8%	< 0.001
Northwest	22.5%	< 0.001	37.3%	< 0.001	39.2%	< 0.001
Northeast	18.2%	< 0.001	37.7%	< 0.001	40.1%	0.001
West	19.8%	< 0.001	40.5%	< 0.001	43.0%	< 0.001
East Central	17.3%	< 0.001	37.2%	< 0.001	41.9%	0.001
East	20.6%	< 0.001	39.0%	< 0.001	39.7%	< 0.001
South Central	17.7%	< 0.001	38.6%	< 0.001	38.8%	< 0.001

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Southwest	19.3%	< 0.001	38.9%	< 0.001	43.2%	< 0.001
Southeast	19.7%	< 0.001	39.6%	< 0.001	41.7%	0.010
Detroit Metro	25.0%	< 0.001	42.6%	< 0.001	41.1%	< 0.001
Total observations (Enrollee/months)	681,697		681,697		681,697	

Table 5.3 Marginal Effects of Fixed Effect Regressions on Healthy Behaviors (Diff in Diff Framework)

	Preventive visit	***p-value on regression coefficient***	**Preventive screening**	***p-value on regression coefficient***	**Using copay exempt medication**	***p-value on regression coefficient***
Healthy behavior reward						
Year 1						
Year 2+	-8.21%	< 0.001	-3.53%	< 0.001	0.73%	< 0.001
Time period						
0-6 Months						
7-12 Months	-14.92%	< 0.001	-11.46%	< 0.001	1.87%	< 0.001
13-18 Months	-8.95%	< 0.001	-7.94%	< 0.001	2.93%	< 0.001
19-24 Months	-16.05%	< 0.001	-17.46%	< 0.001	1.59%	< 0.001
25-30 Months	-19.47%	< 0.001	-23.15%	< 0.001	1.00%	< 0.001
FPL						
0-35 %						
36-99 %	0.99%	0.222	2.29%	0.011	0.62%	0.309
100+ %	2.36%	0.006	3.27%	0.001	0.93%	0.132
Total enrollees	158,366		158,366		158,366	

Table measures likelihood of preventive visit. Rows (except for constant) are change in percent likelihood from baseline, measured by constant.

Figure 5.1 Predictive Margins of Percentage of Enrollees Who Engaged in a Preventive Visit by Period and Healthy Behavior Reward; Predicted Percentages, Probit Regression with Interactions on Period and Reward.

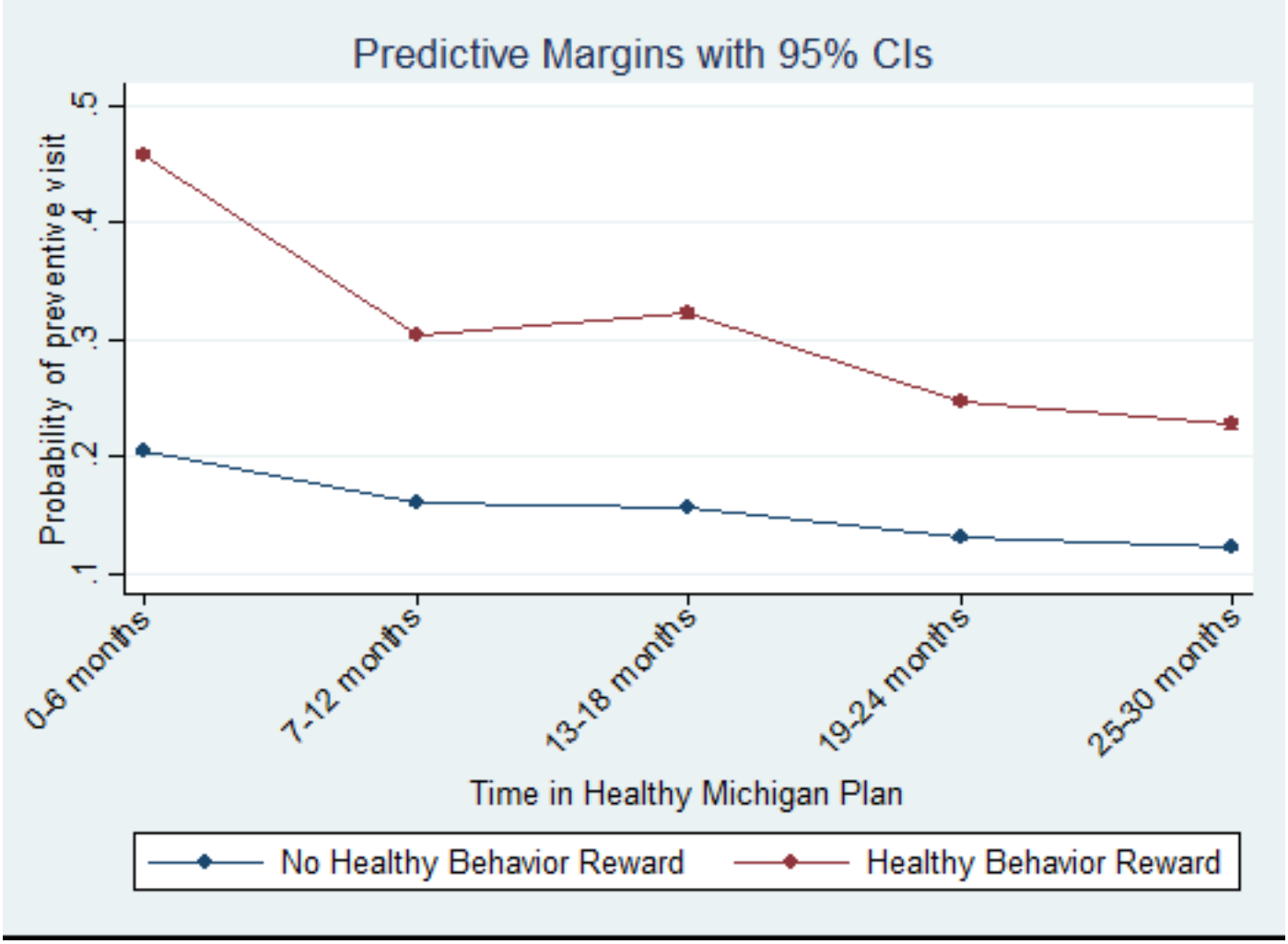


Figure 5.2 Predictive Margins of Percentage of Enrollees Who Engaged in a Preventive Screening by Period and Healthy Behavior Reward; Predicted Percentages, Probit Regression with Interactions on Period and Reward.

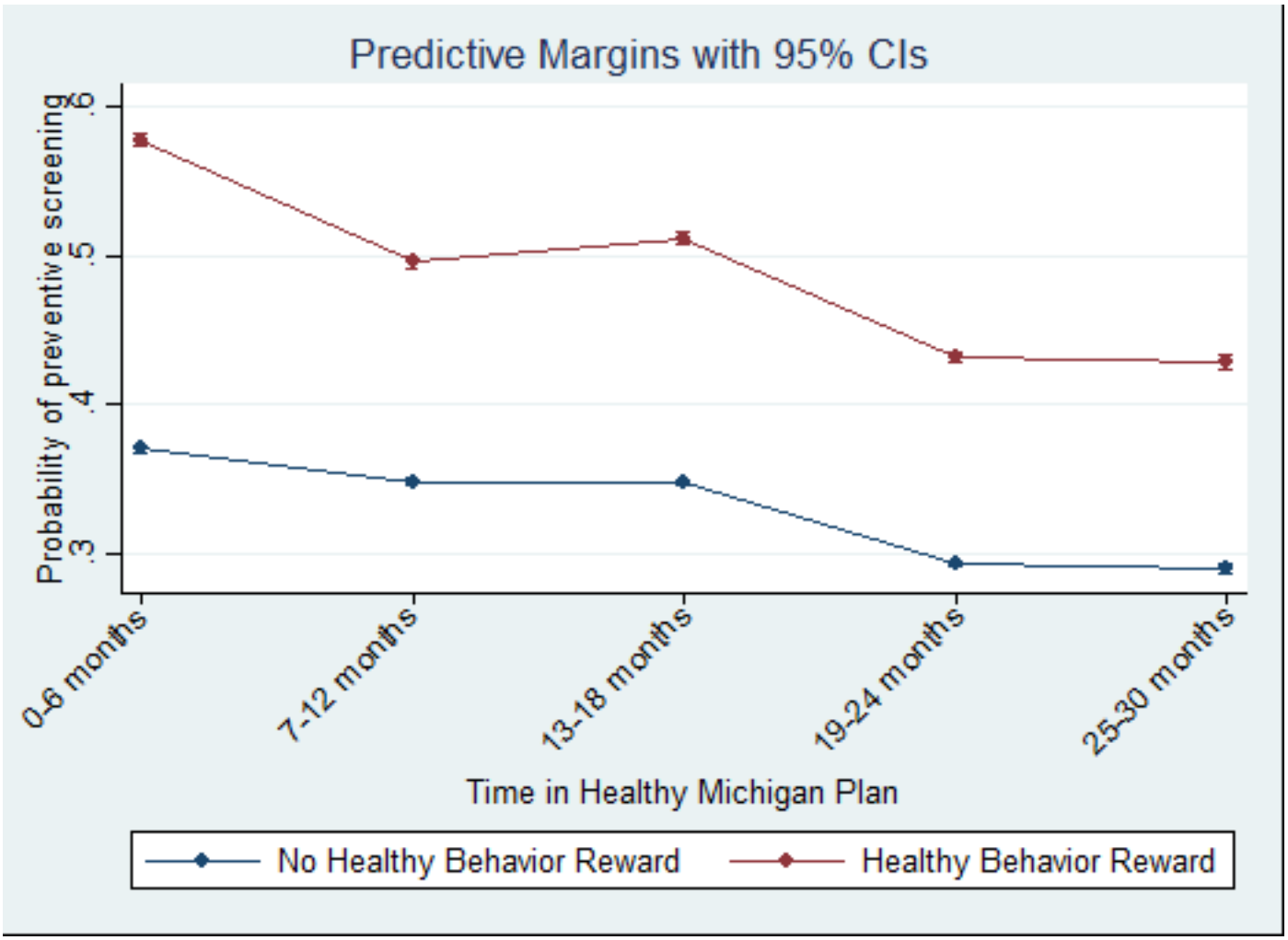
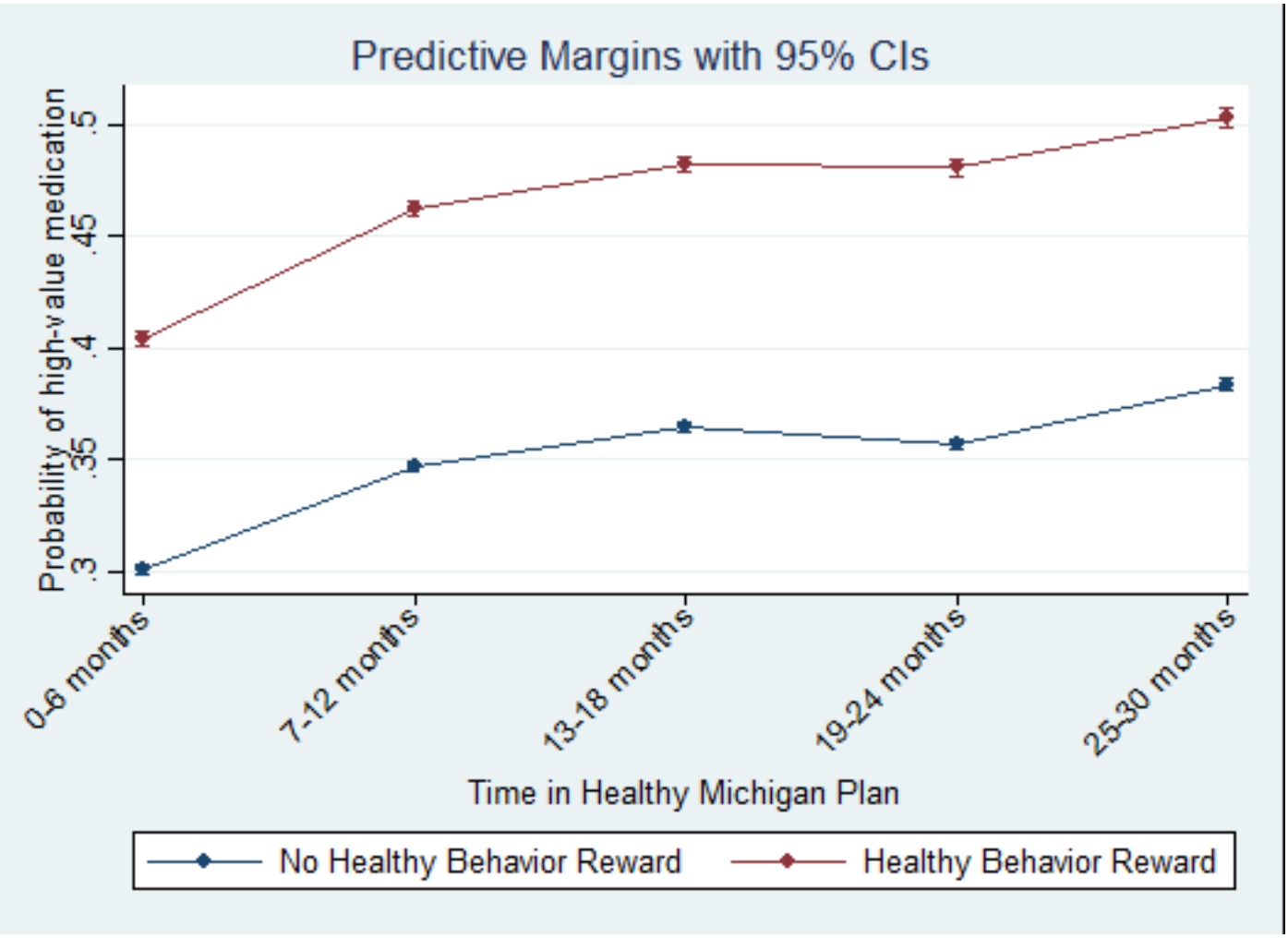


Figure 5.3 Predictive Margins of Percentage of Enrollees Who Use a High-Value Medication by Period and Healthy Behavior Reward; Predicted Percentages, Probit Regression with Interactions on Period and Reward.



The Healthy Michigan Plan
Public Act 107 of 2013 §105d (8), (9)
2015 Report on Uncompensated Care and Insurance Rates

December 31, 2016

Submitted to the Michigan Department of Health and Human Services
and the Michigan Department of Insurance and Financial Services

Prepared by the University of Michigan Institute for Healthcare Policy & Innovation
in collaboration with the University of Michigan School of Public Health

§*105d (8)* The program described in this section is created in part to extend health coverage to the state's low-income citizens and to provide health insurance cost relief to individuals and to the business community by reducing the cost shift attendant to uncompensated care. Uncompensated care does not include courtesy allowances or discounts given to patients. The Medicaid hospital cost report shall be part of the uncompensated care definition and calculation. In addition to the Medicaid hospital cost report, the department of community health shall collect and examine other relevant financial data for all hospitals and evaluate the impact that providing medical coverage to the expanded population of enrollees described in subsection (1)(a) has had on the actual cost of uncompensated care. This shall be reported for all hospitals in the state. By December 31, 2014, the department of community health shall make an initial baseline uncompensated care report containing at least the data described in this subsection to the legislature and each December 31 after that shall make a report regarding the preceding fiscal year's evidence of the reduction in the amount of the actual cost of uncompensated care compared to the initial baseline report. The baseline report shall use fiscal year 2012-2013 data. Based on the evidence of the reduction in the amount of the actual cost of uncompensated care borne by the hospitals in this state, beginning April 1, 2015, the department of community health shall proportionally reduce the disproportionate share payments to all hospitals and hospital systems for the purpose of producing general fund savings. The department of community health shall recognize any savings from this reduction by September 30, 2016. All the reports required under this subsection shall be made available to the legislature and shall be easily accessible on the department of community health's website.

§*105d (9)* The department of insurance and financial services shall examine the financial reports of health insurers and evaluate the impact that providing medical coverage to the expanded population of enrollees described in subsection (1)(a) has had on the cost of uncompensated care as it relates to insurance rates and insurance rate change filings, as well as its resulting net effect on rates overall. The department of insurance and financial services shall consider the evaluation described in this subsection in the annual approval of rates. By December 31, 2014, the department of insurance and financial services shall make an initial baseline report to the legislature regarding rates and each December 31 after that shall make a report regarding the evidence of the change in rates compared to the initial baseline report. All the reports required under this subsection shall be made available to the legislature and shall be made available and easily accessible on the department of community health's website.

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Executive Summary

This report, pursuant to §105d (8) and (9) of Public Act 107 of 2013, provides the annual update to the baseline estimate of uncompensated care borne by Michigan hospitals as it relates to insurance rates and rate setting.

The main source of data for the uncompensated care portion is cost reports that hospitals submit annually to the Michigan Department of Health and Human Services (MDHHS). The initial report, submitted in December 2014, provided baseline data on hospital uncompensated care from 2013, i.e., prior to the implementation of the Healthy Michigan Plan (HMP). The December 2015 report presented data from 2014. Because of reporting lags and the timing of hospital fiscal years, these data represented post-HMP experience for only a subset of hospitals, and even in those cases the most recent data represented a mix of pre- and post-HMP data. The most recent data used in this report were submitted in 2015. For most hospitals, these data pertain to fiscal year 2015 and represent a full 12 months of post-HMP experience. For a subset of hospitals, the most recent data available are for fiscal year 2014 and therefore represent a mix of pre- and post-HMP data. We present results for 2013, 2014 and 2015, though for the purposes of evaluating the effect of the HMP on hospital uncompensated care, the cleanest comparisons are between 2013 and 2015.

Two main sources of data, key informant interviews and Michigan DIFS rate filings, provide information on the contribution of uncompensated care to premium rates, rate change filings, and the net effect on rates overall, in the year before and each of the two years following implementation of the Healthy Michigan Plan.

Key findings: §105d (8) Uncompensated Care

The cost report data indicate that the cost of uncompensated care provided by Michigan hospitals fell dramatically after the implementation of the Healthy Michigan Plan. Comparing data from 2013 and 2015 for a consistent set of hospitals, uncompensated care costs decreased by almost 50 percent. For the average hospital, annual uncompensated care expenses fell from $7.21 million to $3.77 million. Expressed as a percentage of total hospital expenses, uncompensated care decreased from 5.2 percent to 2.9 percent. Over 90 percent of hospitals submitting data for both FY 2013 and FY 2015 saw a decline in uncompensated care between those two years.

Key findings: §105d (9) Insurance Premium Rates

There was no evidence from the interviews and rate filings that the Healthy Michigan Plan affected health plan premium rates. Review and analysis of DIFS rate filings showed changes in the increases requested in premium rates by year and by product and market. The average weighted premium rate increase requested in filings declined from 2013-2015: 7.55% in 2013, 5.77% in 2014, and 5.20% in 2015. While the requested rate increase varied by products and markets, reasons given in the filings for the rate requests were related most often to increasing medical and pharmaceutical costs.

Interviews with key stakeholders revealed concerns with increasing medical and pharmacy costs. Some respondents expressed concerns about future premium changes as a result of changes in the methodology for determining risk adjustment or expiration in 2016 of the Federal reinsurance program. With the reinsurance program, all individual, small group, and large group market issuers of fully-insured major medical products, as well as self-funded plans, contributed funds to the reinsurance program since 2014, with proceeds distributed to insurers who had enrollees with high medical expenses. For 2016, these reinsurance payments reduced individual market premiums by an estimated 4 to 6 percent. Without the reinsurance program, some insurers will need to raise their premiums in 2017 by a comparable percentage to make up for the loss of the reinsurance funds.[1]

The report details the decrease in uncompensated care costs since the Medicaid expansion; however, there was no evidence from the interviews and rate filings that the Healthy Michigan Plan affected health plan premium negotiations or premium rates.

Challenges in Quantifying the Impact of Uncompensated Care Costs and the Healthy Michigan Plan on Premium Rates

Developing health insurance premium rates involves numerous stakeholders, such as insurers, hospitals, employers, physicians, pharmacy benefit managers, pharmaceutical and medical device manufacturers, to name a few. There are also complex rate setting methodologies, and propriety information, overlaid on continually changing medical and insurance markets. In addition, not all plans and policies offered in a state are subject to regulation, review, and approval by the state. There is no single source of data that provides all necessary elements for analysis. These and other factors make it difficult to attribute observed premium rate changes to the Healthy Michigan Plan.

The academic literature in health economics and health policy does not provide direct theoretical or empirical support for a transfer of the costs of uncompensated care or of shortfalls in Medicare and Medicaid payments to private payers, despite perceptions of the existence of cost shift.[2] Cost shifting has been defined as "the phenomenon in which changes in administered prices of one payer lead to compensating changes in prices charged to other payers."[3] Prior research demonstrates that uncompensated care as a share of overall health care costs has remained relatively flat while the private payment to cost ratio has increased, suggesting that factors other than changes in uncompensated care explain changes in private insurance premiums.[4]

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[1] http://kff.org/private-insurance/perspective/what-to-look-for-in-2017-aca-marketplace-premium-changes/

[2] Couglin TA, Holahan, J, Caswell, K, McGrath, M. Uncompensated care for the uninsured: A detailed examination. Kaiser Family Foundation report. May 30, 2013. Available from: http://kff.org/report-section/uncompensated-care-for-the-uninsured-in-2013-a-detailed-examination-cost-shifting-and-remaining-uncompensated-care-costs-8596/

[3] Ginsburg P. Can hospitals and physicians shift the effects of cuts in Medicare reimbursement to private payers? Health Aff [Internet]. 2003;(Web Exclusive):W3–472 to W3–479. Available from: http://content.healthaffairs.org/content/early/2003/10/08/hlthaff.w3.472.full.pdf

[4] Forslund TO. Cost shifting and the impact of new hospitals on existing markets. Wyoming Department of Health. 2014.

A number of factors contribute to changes in private insurance premiums, with changes in public payer rates and in uncompensated care being just two of these factors. Even in situations where a hospital has a large share of market power, hospitals may employ other strategies rather than increase prices when faced with revenue shortfalls, including cost cutting and "volume shifting," and lowering private prices to attract more private volume.[5] Even if cost shifting does occur at its maximum, the amount that would potentially be shifted to employers is less than 3% of private insurance premiums.[6] The complex interplay of factors that explain changes in private insurance rates, as also noted in the literature, makes it very difficult to attribute changes in insurance premiums to the reductions in uncompensated care resulting from the Healthy Michigan Plan.

Conclusion

Based on hospital cost reports submitted to MDHHS, Michigan hospitals experienced a substantial decline in the costs of uncompensated care in FY 2015 compared to FY 2013. Yet rate filings and interviews with key stakeholders do not demonstrate a connection between reductions in uncompensated care and premium rates.

[5] Frakt A. How much do hospitals cost shift? A review of the evidence. Milbank Q. 2011;89(1):90–130.
[6] Couglin TA, Holahan, J, Caswell, K, McGrath, M. Uncompensated care for the uninsured: A detailed examination. Kaiser Family Foundation report. May 30, 2013. Available from: http://kff.org/report-section/uncompensated-care-for-the-uninsured-in-2013-a-detailed-examination-cost-shifting-and-remaining-uncompensated-care-costs-8596/

§105d (8): Uncompensated Care

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Introduction

In order to measure the effect of the Healthy Michigan Plan, §105(d)(8) of Public Act 107 requires the Department of Community Health (DCH), now the Department of Health and Human Services (DHHS), to publish annual reports on uncompensated care in Michigan. This section of the report, *The Healthy Michigan Plan: Uncompensated Care*, fulfills the requirement of §105(d)(8). The analysis is based on data from Medicaid cost reports submitted to the state annually from 2013 to 2015.

Background

The 2015 PA 107 report presented quarterly state-level data on inpatient hospital discharges from 2003 to the third quarter of 2014. These data revealed immediate changes in payer mix in Michigan after the implementation of the Healthy Michigan Plan. The Medicaid share of hospital discharges rose from 17 percent in the 1st quarter of 2014 – before HMP – to 20 percent in the 3rd quarter of 2014. At the same time the uninsured share of discharges also fell by three percentage points, from 4 percent to 1 percent. These sharp changes, which followed a decade in which payer mix shifted very gradually, suggested a significant effect of the Healthy Michigan Plan. Other published research using data from Michigan[7] and comparing a greater number of states that implemented the ACA Medicaid expansion also indicate a significant reduction in uninsured discharges and an increase in Medicaid discharges after Medicaid expansion.[8]

Data: Medicaid cost reports

Each year, Michigan hospitals submit cost reports to the State Medicaid program. Based on several data elements contained in these reports, it is possible to calculate the cost of uncompensated care provided by each hospital.

Uncompensated care is the sum of two different types of costs: charity care and bad debt. ***Charity care*** is the cost of medical care for which there was no expectation of payment because the patient has been deemed unable to pay. ***Bad debt*** is the cost of medical care for which there was an expectation of payment because the patient was deemed to be able to pay for care, but ultimately payment was not received. Both types of uncompensated care may arise from patients

[7] Davis MA, Gebremariam A, Ayanian JZ. Changes in insurance coverage among hospitalized non-elderly adults after Medicaid expansion in Michigan. JAMA 2016; 315:2617-8.
[8] Hempstead K, Cantor JC. State Medicaid expansion and changes in hospital volume according to payer. New England Journal of Medicine 2016; 374(2): 196-198. Nikpay S, Buchmueller T, Levy HG. 2016. Affordable Care Act Medicaid expansion reduced uninsured hospital stays in 2014. Health Affairs 2016; 35 (1):106-110.

who are uninsured or from those who are under-insured and unable to afford deductibles or other cost-sharing required by their insurance plans when they receive hospital care. Changes in Disproportionate Share Hospital (DSH) payments do not have a direct impact on uncompensated care. For more information on the definition of uncompensated care, please see Appendix A.

The cost reports for state fiscal year (FY) 2015 include data on 142 hospitals. Hospitals vary in the timing of their fiscal years and this variation affects the timing of when data is reported to the state. Table 1 summarizes the timing of hospital fiscal years and indicates how this timing affects our ability to measure changes in uncompensated care before and after the implementation of the Healthy Michigan Plan (HMP).

For hospitals with fiscal years ending in the first three quarters of the calendar year (i.e., before September 30) the most recent submission pertains to their 2015 fiscal year. Regardless of the exact timing, FY 2015 started after April 1, 2014. Thus, all data from FY 2015 represents 12 months of post-HMP experience. There is variation, however, in how data for FY 2014 lines up with the start of the HMP. For hospitals with fiscal years ending in the first quarter, FY 2014 ended before the start of HMP enrollment, which means that FY 2014 represents 12 months of pre-HMP data. In contrast, for hospitals with fiscal years ending in the second or third quarter, FY 2014 started before and ended after the establishment of the program. Thus, for these hospitals FY 2014 represents a mix of pre- and post-HMP experience. Hospitals with fiscal years ending in the fourth quarter always submit their cost report data with a lag. For this group, the most recent (2015) submission contains data from FY 2014. For a large majority of these hospitals, the fiscal year ends on December 31, which means that 9 months of FY 2014 fell in the post-HMP period.

Uncompensated care, FY 2013 to FY 2015

Table 2 presents data on hospital uncompensated care for FY 2013, FY 2014 and FY 2015. Two sets of results are presented for FY 2013 and FY 2014. One pertains to all hospitals reporting data for those years—142 hospitals in 2013 and 141 hospitals in 2014. To facilitate comparisons with FY 2015, results for 2013 and 2014 are also reported for the subset of hospitals for which FY 2015 data are available. Results for each individual hospital are reported in Appendix C Table 1.

The data show that all Michigan hospitals provided approximately $1.1 billion in uncompensated care in FY 2013, which represented 4.8 percent of total hospital expenses. This amount declined to $913.5 million in FY 2014, representing 4.1 percent of total hospital expenses. As noted, only a fraction of FY 2014 fell after the start of the HMP.

FY 2015 is the first fiscal year that began after the HMP was in place. Thus, the impact of the HMP is more readily seen by focusing on the 88 hospitals that reported data for 2013 and 2015.[9] In the baseline year, the average amount of uncompensated care for this subset of hospitals was lower than the average for all hospitals ($7.2 million vs. 7.8 million) though uncompensated care as a percentage of total expenses was slightly higher (5.2 percent vs. 4.8 percent). For these

[9] For one hospital that changed the timing of its fiscal year, no data from 2014 are available. This hospital is in the data set in both 2013 and 2015. Therefore, comparisons between those two years are for the same set of hospitals.

hospitals, the mean number of months of HMP exposure for this group in FY 2014 was 3.3 months. The results show that uncompensated care expenses fell 0.4 percentage points between FY 2013 and FY 2014, to an average of 4.8 percent. There was a further decline in FY 2015 to 2.9 percent of total expenses. For the 88 hospitals reporting 2015 data, the total amount of uncompensated care provided in 2015 was $332.1 million, or 53 percent of the amount of uncompensated care provided by those same hospitals in 2013.

Figure 1 presents the results in graphical form, breaking out the results for FY 2014 in a slightly different way. For that year, hospitals are grouped according to HMP exposure, i.e., the number of months in FY 2014 that fell after April 1, 2014, when the HMP plan started. It is important to note that the separate categories for FY 2014 consist of different hospitals, and therefore comparisons among the different results for 2014 should be interpreted cautiously. With that caveat noted, the data suggest that uncompensated care fell shortly after the HMP went into effect. Among hospitals for which half of FY 2014 occurred after the HMP was in place, uncompensated care was 4.3 percent of total expenses, reduced from 4.8 percent for all hospitals in 2013. Among hospitals with 9 months of post-HMP experience in FY 2014, uncompensated care was 2.9 percent of total expenses, essentially the same as the rate in 2015.

Figure 2 presents the full distribution of the change between 2013 and 2015 in uncompensated care as a percentage of total expenses for the 89 hospitals submitting data for both years. Uncompensated care fell as a percentage of expenses for 94 percent of these hospitals (83 out of 88). The median change was 2.0 percentage points, just slightly below the mean difference of 2.3 percentage points shown in Table 2. Thirty percent of hospitals experienced a decline of 3 percentage points or more.

Conclusion

This is the third in a series of annual reports analyzing changes in uncompensated care following the implementation of the Healthy Michigan Plan. This year's report is the first to present data representing a full year of experience after the program was in place (for most, but not all, hospitals). The results indicate a substantial decline in uncompensated care. Over 90 percent of hospitals submitting data for FY 2015 saw a decline in uncompensated care measured as a percentage of total expenses between 2013 and 2015. For this group as a whole, uncompensated care expenses fell nearly by half between 2013 and 2015.

Table 1. The Distribution of Michigan Hospitals by the Timing of their Fiscal Year and Availability of Medicaid Cost Report Data

FY ends in:		Data Available for Hospital Fiscal Year 2013	2014	2015
1st Quarter	number of hospitals	9	9	9
	months post-HMP	0	0	12
2nd Quarter	number of hospitals	61	60	60
	months post-HMP	0	3	12
3rd Quarter	number of hospitals	19	19	19
	months post-HMP	0	6	12
4th Quarter	number of hospitals	53	53	0
	months post-HMP	0	9	---

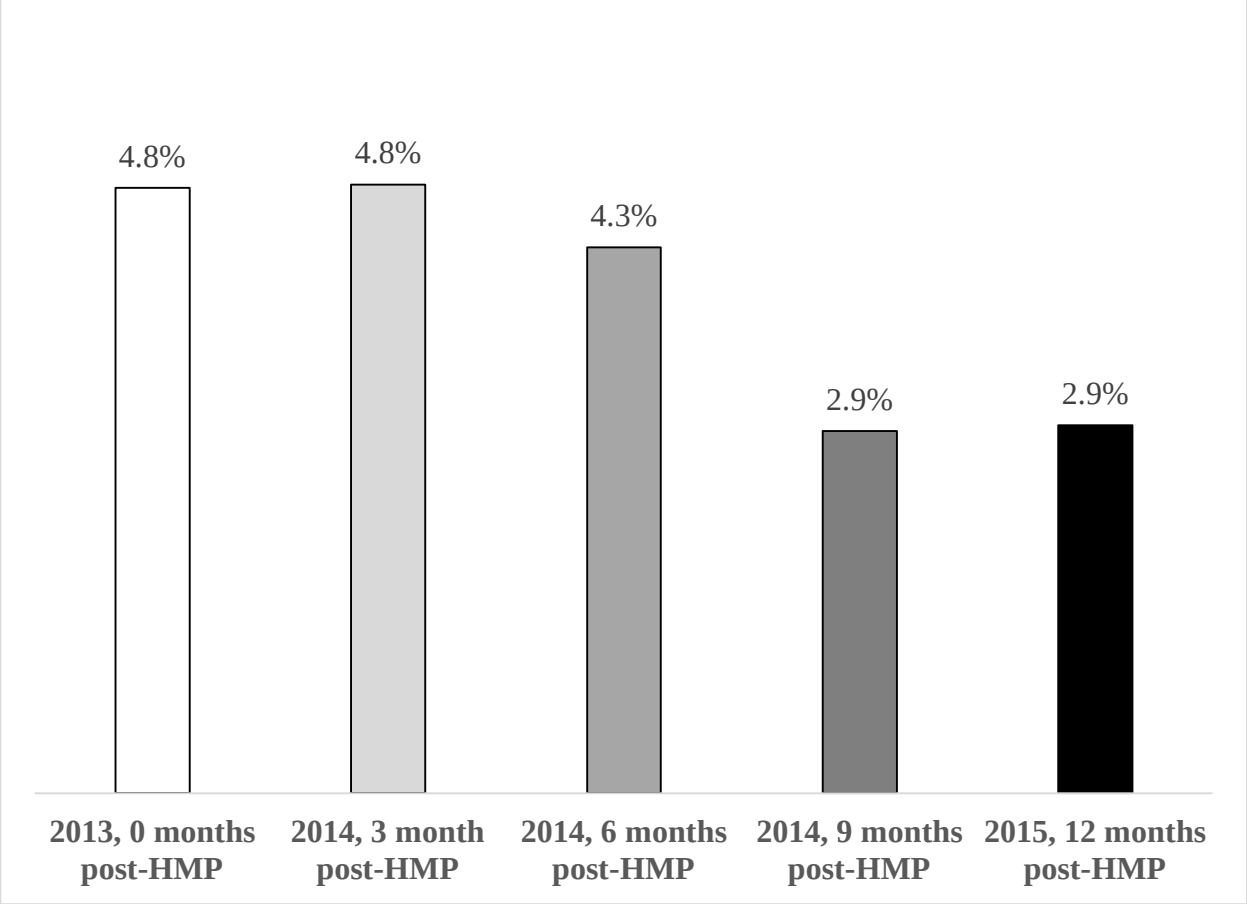
Notes: Hospitals are categorized according to the timing of the fiscal years. The first row in panel gives the number of hospitals in the category reporting data for each fiscal year. Because hospitals submit data with a lag, for hospitals with fiscal years ending in the fourth quarter, the 2015 submission pertains to their FY 2014. The second row in each panel gives the mean number of months in that fiscal year that fell after April 1, 2014.

Table 2. Uncompensated Care Costs, Hospital FY 2013, FY 2014 and FY 2015

	All Hospitals		Hospital FY Ends Q1 – Q3		
	2013	**2014**	**2013**	**2014**	**2015**
Number of Hospitals	142	141	88	87	88
Mean months post-HMP	0	5.4	0	3.3	12
Uncompensated Care Costs					
Total (millions)	$1110.4	$913.5	$627.0	$590.0	$332.1
Mean (millions)	$7.82	$6.47	$7.21	$6.78	$3.77
As a % of Total Costs	4.8%	4.1%	5.2%	4.8%	2.9%

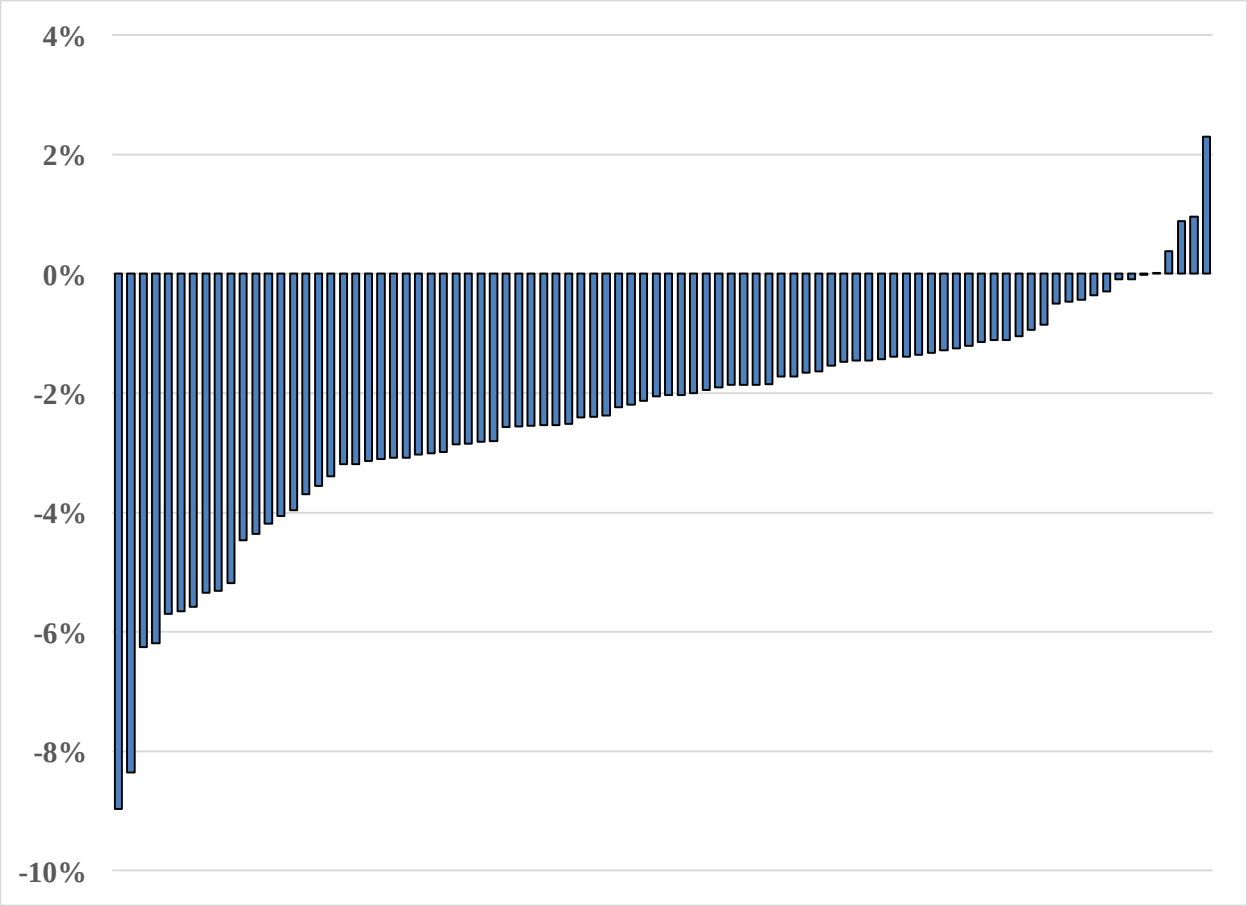
Notes: The figures for uncompensated care as a percentage of total hospital costs represent unweighted means.

Figure 1. Uncompensated Care as a Percentage of Total Expenses, by Exposure to the Healthy Michigan Plan, 2013 to 2015



Notes: The figures represent unweighted means for hospitals in each category. The first column presents data for all 142 hospitals that submitted data for FY 2013. This corresponds to column 1 of Table 2. The next 3 columns report FY 2014 results for hospitals with 3, 6 and 9 months of exposure to the HMP. The number of hospitals in these categories are 61, 19 and 53, respectively. Data are not reported for 9 hospitals for which FY 2014 ended before the HMP start date of April 1, 2014. FY 2015 data are for 88 hospitals that submitted data for that year. This figure corresponds to column 5 of Table 2.

Figure 2. Change in Uncompensated Care as a Percentage of Total Expenses Between 2013 and 2015 for Hospitals Reporting Data in Both Years



Notes: The sample consists of 88 hospitals for which FY 2015 data are available. Each bar represents the change for an individual hospital.

§105d (9): Insurance Premium Rates

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Introduction

To measure the effect the Healthy Michigan Plan "has had on the cost of uncompensated care as it relates to insurance rates and insurance rate change filings, as well as its resulting net effect on rates overall," §105d (9) of Public Act 107 of 2013 requires the Department of Insurance and Financial Services (DIFS) to make an annual report each December 31 regarding the evidence of the change in rates compared to the initial baseline report in December 2014. This section of the report, *The Healthy Michigan Plan: Insurance Premium Rates*, fulfills the requirement of §105d (9) of 2013.

Two main sources of data, key informant interviews and Michigan DIFS rate filings, provide information on the contribution of uncompensated care to premium rates, rate change filings, and the net effect on rates overall, in the year before and each of the two years following implementation of the Healthy Michigan Plan.

To summarize the complex processes of premium rate setting and factors that affect changes in those rates, and to provide context for the analysis, the appendices to this report provide a synopsis of the methodology for premium setting, a table of factors that contribute to rate increases, and additional figures referenced in the report.

Background

Gathering all the necessary data to determine the cost of uncompensated care as it relates to insurance premiums is challenging and complex. Determining the reasons and mechanisms behind changes in premium rates by different types of plans and in different markets requires actuarial science, as well as knowledge of the local, state, and federal business, health, and political environments. Additionally, some ACA regulations and guidance affect individual markets differently from small and large group markets, including some ACA provisions that sunset. For instance, the Federal transitional reinsurance program ends in 2016.

Developing health insurance premium rates involves numerous stakeholders, such as insurers, hospitals, employers, physicians, pharmacy benefit managers, pharmaceutical and medical device manufacturers, to name a few. There are also complex rate setting methodologies, and propriety information, overlaid on continually changing medical and insurance markets.

Additionally, not all plans offered in the state are subject to regulation, review, and approval by the state. More than half of Michigan employees of organizations offering health insurance are in self-insured plans; these employers are not subject to state plan rate review and approval, premium taxes, or mandated benefits. Rate filings do not include the detailed information required to determine the contribution of uncompensated care to rates, even for fully insured health plans that are subject to DIFS regulatory authority. In addition, contracts that might detail

the relationship between health care costs and insurance prices are often proprietary. Although DIFS and MDHHS collect data supporting their functions and mandates, they do not have access or authority to collect detailed data from those proprietary contracts.

There is no single source of data that provides all necessary elements for analysis. These and other factors make it difficult to attribute observed premium rate changes to the Healthy Michigan Plan.

To help inform understanding of insurance rates and rate changes in the year before and each of the two years following implementation of the Healthy Michigan Plan, the next sections of the report provides analysis of interviews with key informants and analysis of filings data available from DIFS.

Analysis of Key Informant Interviews

A stratified sampling approach used type and size of organization and region of the state to identify the interviewees.[10] Semi-structured telephone interviews were conducted in each of the last three years with Michigan employers, healthcare insurers, and healthcare providers.[11] The interviews focused on the respondent's experiences with and impressions of the effects of the Healthy Michigan Plan on premium rates and the processes used to determine those rates. Respondents were specifically asked to comment on premium rate negotiations and rate setting, and the role of uncompensated care costs in those processes.

Thirty-one employers, health insurers and healthcare providers provided responses in the summer 2016. Characteristics of respondents appear in Appendix D. Interviewees were designated decision-makers or persons with appropriate expertise and experience in their organizations; these included benefits managers, senior-level financial officers, executives, and contract negotiators.[12]

Although a small sample of employers cannot be representative of the state's business types, locations, size, industry, or insurance behaviors, we sought to include comments from employers from across the state who could contribute unique and varying perspectives that might be associated with public and employer opinion on the impact of HMP on health coverage in Michigan.

Interview Responses

Respondents' reports of factors affecting premium rates, and excerpts from their interviews appear in Appendix F. This section provides a summary of these responses by category of respondent.

[10] The Michigan Care Improvement Registry (MCIR) groups Michigan counties into six regions (https://www.mcir.org/). Key informant interviews for the three years used a convenience sample, loosely stratified by all six MCIR geographic regions with additional targeting in the southeast and southwest markets with the highest number of HMP enrollees, and a range of industry codes across the state.

[11] Given the Institutional Review Board (IRB) conditions of approval, no firms are identified by name in this report.

[12] The initial interviews for the 2013 baseline report were conducted with 29 Michigan-based employers. The 2014 report included completed interviews with 56 employers located in all MCIR sections of the state.

All Respondents

- Employers, health insurers, and healthcare providers did not identify the Healthy Michigan Plan or changes in uncompensated care as affecting insurance premium rates.

Employers

- Large employers were concerned about the current and future regulations on cost of benefits, risk pools, penalty payments, and special taxes.
- Large and small employers are seeking ways to reduce the costs of benefits through plan management and benefit design; large employers were using workplace wellness approaches to improve employee health and use of services.
- Large employers expressed concern about needing to offer less-competitive benefit packages in the future to avoid the Cadillac tax.
- Small employers expected instability in the individual and small group markets.
- Small employers noted their concern with their ability to offer health benefits to employees at an affordable price.

Hospitals and Healthcare Providers

- Healthcare providers noted fluctuations in patient volume related to changes in healthcare coverage. The changes in volume and patient insurance coverage affect operating margins that impact payment rates and negotiations.
- Hospitals noted concern with decreasing federal and nonfederal reimbursement rates relative to costs of providing services.
- Hospitals reported decreases in their bad debt post-ACA, market plans, and Medicaid expansion, but did not associate these policies with premium rate changes.
- Hospitals and hospital systems reported separately negotiated contracts with payers, but reported no detectible impact of uncompensated care or the Healthy Michigan Plan on those negotiations.
- Hospital uncompensated care costs have decreased since Medicaid expansion but it was unlikely that these decreases have a material impact on premium rates or are technically detectable in changes in premium rates.

Insurers and Health Plans

- Insurers were unable to negotiate for reductions in price increases as a result of the decrease in hospital uncompensated care costs.
- Insurers expressed concern over the increasing costs of pharmaceuticals and their impact on premiums.
- Insurers expressed concern about ending the federal transitional reinsurance program in 2017 and the effects on premiums.
- Insurers noted the impact on current and future revenues of the ACA regulations on risk adjustment and reinsurance.

Analysis of Department of Financial and Insurance Services (DIFS) Rate Filings

Each year, health plans are required to submit rates for review by DIFS. This requirement applies to health insurers selling individual plans, group conversion policies, Medicare supplemental

policies, small employer group plans, and plans sold by health maintenance organizations. DIFS does not set health insurance rates.[13] DIFS does not review the rates for government entities, commercial large group plans (coverage through an employer with more than 50 employees), or self-insured employers (health benefits provided by an employer with its own funds). Approximately 54% of private sector enrollees in Michigan firms offering health insurance are in self-insured plans. [14, 15]

In 2016, DIFS provided all health plan filings submitted and with dispositions in 2013, 2014, and 2015, with tracking codes to link individual filings for download from the public access System for Electronic Rate/Form Filing (SERFF) portal. Rate filings consist of multiple Federal and state-mandated forms, formats, and templates for each product.[16] The list of abstracted elements from filings from 2013, 2014, and 2015, as well as inclusions and exclusions in selection of filings for analysis appear in Appendix E. There is no specific line item or cell in the filings forms or templates for the cost of "uncompensated care" or its contribution to rates. Filings analysis includes only those filings that noted a requested increase or decrease in premium rates. New products were excluded due to the absent experience period**.**

To provide context for the analysis, and to summarize the processes of premium rate setting and review, Appendices G and H provide definitions, a synopsis of the methodology for premium setting, and a table of factors that contribute to rate increases.

Findings from Rate Filings Analysis

Table 4 presents selected characteristics of the filings by year. Appendix E supplements this table with additional analysis of market, product, reasons for increase/decrease, and trend rates presented in tables and charts.

[13] DIFS Health Coverage Rates and Rate Reviews: http://www.michigan.gov/difs/0,5269,7-303-12902_35510-113481--,00.html
[14] Source: Agency for Healthcare Research and Quality, Center for Financing, Access and Cost Trends. 2013, 2014, 2015 Medical Expenditure Panel Survey-Insurance Component.
[15] Self-Insured Health Plans: Recent Trends by Firm Size, 1996–2015 By Paul Fronstin, Ph.D., Employee Benefit Research Institute "examines recent trends in self-insured health plans among private-sector establishments and workers based on data from the Medical Expenditure Panel Survey Insurance Component (MEPS-IC). Data are presented in the aggregate and by establishment size." 2016, Employee Benefit Research Institute–Education and Research Fund.
[16] These may include but are not limited to written (free form text) description of methodology for determination of premium rates, medical rates forms, network data, rates tables with free text annotations, actuarial memorandum, unified rate review template (URRT), justifications and attestations, summary of benefits and coverage and associated rates, evidence of accreditation, SERFF tracking numbers of any document that is amended from its original version, filing notes, correspondence, disposition.

Table 4: Selected Characteristics of DIFS Rate Filings Analyzed by Year [17]

	2015	2014	2013
Percent premium rate change requested (Average Weighted)	5.22	5.77	7.55
Health plan filings for premium rate changes	59	44	54
Number of filings requesting a decrease in premium rates	7	8	4
Number (Percent) of filings, by market	N (%)	N (%)	N (%)
Individual	19 (32)	7 (16)	10 (19)
Small Group	19 (32)	18 (41)	2 (4)
Large Group	21 (36)	19 (43)	42 (78)
Number (Percent) of filings, by product	N (%)	N (%)	N (%)
HMO	31 (53)	22 (50)	36 (67)
PPO	14 (24)	12 (27)	7 (13)
MM	11 (19)	8 (18)	10 (19)
POS	3 (5)	2 (5)	1 (2)
Percent rate change requested, by product	Ave %	Ave %	Ave %
HMO	3.4	2.4	6.2
PPO	6.5	7.8	8.7
MM	8.6	12.0	11.7
POS	5.7	5.8	6.7
Reasons for premium rate change, by percent of filings	%	%	%
Medical costs	93	68	85
Use of services	88	64	52
Benefit changes	58	48	44
ACA non-benefit changes (Taxes, risk pools, provider networks)	58	55	37
Morbidity of enrollees	49	64	52
Medical Costs Trend Rate (Ave %) reported in Actuarial Memoranda, etc.	6.73%	8.70%	7.33 %

[17] Additional data tables and charts appear in Appendix E.

Summary Findings

- The filings do not indicate that the Healthy Michigan Plan affected the number, plan type, or market of premium rate change requests.

- Filings do not reveal an effect of changes in uncompensated care on premium rate changes.

- The number of rate filings submitted for premium rate change requests increased slightly in 2015. This likely reflects the transitions in plan design, addition of essential benefits, and ACA policies and formula for reinsurance and risk adjustment.

- The percent premium rate change requested (average weighted) per filing decreased each year of the study, to its lowest rate in 2015, 5.22%.
    - Percent premium rate change requested ("Average Weighted"): 2013: 7.55%; 2014: 5.77%; 2015: 5.22%

- There were fewer and a smaller proportions of filings with very high (above 10%) rate change requests in 2015 and 2014 than in 2013; there were more single outlier negative and positive rate requests in 2015.

- The individual market showed the most variation in premium rates requested. The outlier rates appear more often in the individual market, and in the HMO product, in every year.

- The smallest rate changes requested in each year were in HMO product filings; largest rate change requested were in filings for the Major Medical products in each year.

- In all product categories, the average rate change requested was lowest in 2015, compared with 2013 and 2014.

- Filings noted the following reasons for requesting a premium rate increase:
    - Medical costs: Changes in prices and costs of medical services were noted in 85% of filings in 2013; 68% of filings in 2014; and in 93% of filings in 2015.
    - Utilization of Services: Increases in use of medical and health services, and in intensity of services: 2013: 52%; 2014: 64%; 2015: 88%.
    - Benefits: Changes in benefit design, plan features, out of pocket costs, and provider networks: 2013: 44%; 2014: 48%; 2015: 58%.
    - ACA: Changes in required coverage, medical loss ratios, single risk pools, taxes, fees: 2013: 37%; 2014: 55%; 2015: 58%.
    - Morbidity: Changes in the extent and types of disease or illness within the intended pool of covered individuals: 2013: 52%; 2014: 64%; 2015: 49%.

- Increases in medical prices and costs was the most common reason for requesting a rate change by large group, small group, and individual plans; and for HMO, PPO, and Major Medical (MM) plans in each of the three years. There were too few Point of Service (POS) plans to note trends.

- Changes in plan benefits was noted as the reason for changes in rates by large group plans in 2013 and 2014; and in individual markets in 2015.

- An increasing proportion of all filings each year noted utilization of services as a reason for the rate change.

- Medical Cost Trend rate was at its lowest of the three years in 2015, at 6.73% (2013: 7.33%; 2014: 8.70%)

- The Medical Cost Trend rates tended to be higher in large and small groups filings, rather than in the individual market filings. The distribution of Medical Cost Trend rates reported by large groups was wider and more variable.

- HMO plan filings noted increases in premium rates due to increasing pharmacy costs and increasing outpatient visits and professional services. Inpatient hospital use remained stable over the three years.

Conclusion

Interview respondents and rate filings did not identify the Healthy Michigan Plan as a factor affecting changes in premiums in 2013, 2014, or 2015.

Overall Conclusion

Based on hospital cost reports submitted to MDHHS, Michigan hospitals experienced a substantial decline in the costs of uncompensated care in FY 2015 compared to FY 2013. Yet rate filings and interviews with key stakeholders do not offer a connection between reductions in uncompensated care and premium rates.

Appendix A: Literature Review on Cost Shifting

Governmental reports

1. Key issues in analyzing major health insurance proposals. [Internet]. Congress of the United States Congressional Budget Office. 2008 [cited 2014 Nov 21]. p. 112. Available from: http://www.cbo.gov/sites/default/files/12-18-keyissues.pdf

This CBO report notes that cost shifting can only occur under certain conditions. One example is limited competition in which an isolated community is served by a single hospital or in a competitive provider market to offset the costs of uncompensated care or to make up for low public payment rates. Uncompensated care and low payment rates from public programs may result in hospitals reducing their costs by providing care that is less intensive or of lower quality.

2. Forslund TO. Cost shifting and the impact of new hospitals on existing markets. Wyoming Department of Health. 2014.

In its analysis of cost shifting in Wyoming, the Wyoming Department of Health reached two conclusions: First, cost shifting is one of three potential strategies that hospitals can pursue in the face of revenue shortfalls. Two other strategies, including cost cutting and "volume shifting" or lowering private prices to attract more private volume, may also be used. Second, hospitals' ability to cost shift depends on their market power. This analysis of Wyoming data supports the conclusion that hospital market concentration is one of the more significant factors driving prices paid by the private sector. Market power is more strongly associated with changes in private prices than uncompensated or unreimbursed care. However, the report notes that just because a hospital has more market power does not necessarily mean that they engage in cost shifting.

Reviews of the literature and observable trends

1. Frakt AB. How much do hospitals cost shift? A review of the evidence. Millbank Q; 2011; 89(1): 90-130.

In reviewing the evidence on cost shifting, Frakt notes that policymakers should view with skepticism hospital and insurance industry commentary on the existence of inevitable, visible, or large-scale cost shifting. Some cost shifting may be caused by changes in public payment policy, but this is one of many possible effects on private insurance prices. Rather the author cautions that changes in the balance of market power between hospitals and health insurers which result in consolidation can have a significant impact on private insurance rates.

2. Couglin TA, Holahan, J, Caswell, K, McGrath, M. Uncompensated care for the uninsured: A detailed examination. Kaiser Family Foundation. May 30, 2013. Available from: http://kff.org/report-section/uncompensated-care-for-the-uninsured-in-2013-a-detailed-examination-cost-shifting-and-remaining-uncompensated-care-costs-8596/

This Kaiser Family Foundation report notes that there is limited evidence to indicate that increases in uncompensated care have caused hospitals to increase their charges for those with private insurance. The report notes that even as the uninsured rate grew over the past two decades, hospitals' uncompensated care as a share of overall cost has remained steady. Further,

the private payment to cost ratio has steadily increased since 2001, which suggests that the rise in private surpluses is related to other forces, not a result of the cost of care provided to the uninsured. The authors estimate that in 2013, $21.1 billion in providers' uncompensated care costs could be financed by private insurance in the form of higher payments and ultimately higher insurance premiums. Total private health insurance expenditures in 2013 are estimated to be $925.2 billion, so the amount potentially associated with uncompensated care cost shift would be 2.3% of private health insurance costs in 2013. The authors note that even if the $21.1 billion estimate is an underestimate by a wide margin, the potential cost shift from uncompensated care would account for only 4.6% of private health insurance in 2013.

3. Lee J, Berenson R, Mayes R, Gauthier A. Medicare payment policy: Does cost shifting matter? Heal Aff. 2003;W3–480.

The authors examine cost shifting through the lens of Medicare payment policy and state that the extent to which cost shifting impacts private payers and hospitals is a result of their market power and the amount of revenue in the system. Medicare payment policy is based on responsibility to patients as well as supporting the public good. Payment rates are influenced by interest groups and budgetary considerations. The majority of the time Medicare payments cover their responsibilities to Medicare patients and the community. However, if providers' prices rise, and neither public nor private payers' compensation follows suit, consumers pay more. The result is that people lose coverage, which the authors note is the ultimate cost shift.

<u>Theoretical understandings of cost shift</u>
1. Dobson A, DaVanzo J, Sen N. The cost-shift payment "hydraulic": Foundation, history, and implications. Health Aff. 2006;25(1):22-33.

This paper reviews empirical examples of cost shift that show a correlation between lower Medicaid reimbursements and higher private insurance premiums leading to the explanation of cost shift as a potential explanation for increase in private premiums. In reality, the authors note that the potential for cost shift varies greatly over time and across health care markets. Hospitals can absorb some degree of cost shifting pressure through increases in efficiency and decreases in service intensity.

2. Frakt A. The end of cost shifting and the quest for hospital productivity. Health Serv Res. 2014;49(1):1–10.

This article explores the ways hospitals may respond to reductions in Medicare payments. Frakt describes cost shifting as one hypothesis for the ways in which hospitals may attempt to gain revenue in the face of declining Medicare payments. However, hospitals can also raise private prices commensurate with their market power in the absence of a public payment shortfall. Frakt notes that although there are circumstances under which hospitals could and did cost shift at high rates, recent research suggests that it is a far less pervasive phenomenon today.

3. Ginsburg P. Can hospitals and physicians shift the effects of cuts in Medicare reimbursement to private payers? Health Aff [Internet]. 2003;(Web Exclusive):W3–472 to W3–479. Available from: http://content.healthaffairs.org/content/early/2003/10/08/hlthaff.w3.472.full.pdf

This paper attempts to reconcile the different thinking between health care executives and economists regarding cost shifting. The potential for cost shifting varies according to structural factors that in turn vary by time and geography, and while Ginsburg says there is a theoretical basis exists for cost shifting, he shows other models where hospitals have room to adjust before cost shifting occurs.

4. Santerre R. The welfare loss from hospital cost-shifting behavior: A partial equilibrium analysis. Health Econ. 2005;14(6):621–6.

Microeconomic theory suggests that cost shifting can take place under specific conditions, and empirical studies indicate that cost shifting may have occurred in certain instances. This study models potential welfare loss caused by hospital cost shifting under ideal yet possible conditions.

Empirical studies

1. Friesner D, Rosenman R. Cost shifting revisited: The case of service intensity. Health Care Manag Sci. 2002;5(1):15–24.

This research found support for cost shift in some nonprofit hospitals in California while no cost shift was observed in profit-maximizing hospitals. However, both types of hospitals respond to lower service intensity, thus supporting the theoretical conclusion that lower service intensity may be utilized as an alternative to cost shifting.

2. Garthwaite C, Gross T, Notowidigdo MJ. Hospitals as insurers of last resort [Internet]. NBER Working Paper. 2015. Available from: http://www.nber.org/papers/w21290

The authors used previously confidential hospital financial data obtained through a research partnership with the American Hospital Association from 1984 to 2011 to study uncompensated care provided by hospitals and found that the uncompensated care costs for hospitals increase in response to the size of the uninsured population. They found that each additional uninsured person costs local hospitals $900 each year in uncompensated care. Nonprofit hospitals were found to be more exposed to changes in demand for uncompensated care. The closure of a nearby hospital increases the uncompensated care costs of remaining hospitals. Increases in the uninsured population were found to lower hospital profit margins, which suggests that hospitals cannot or do not pass along all increased costs onto patients with private insurance.

3. Showalter M. Physicians' cost shifting behavior: Medicaid versus other patients. Contemp Econ Policy. 1997;15(2):74–84.

This article examines whether physicians practice cost shifting. This study found, in contradiction to cost shift, that lower Medicaid reimbursement rates resulted in physicians charging lower fees to privately insured patients though evidence also suggests that lower Medicaid reimbursements tend to cause physicians to treat fewer Medicaid patients.

4. Wagner KL. Shock, but no shift: Hospitals' responses to changes in patient insurance mix. J Health Econ. 2016;49:46-58.

Wagner analyzes hospital cost-shifting in response to a change in patient insurance mix resulting from recent Medicaid expansions for individuals with disabilities. Wagner found that hospitals actually reduced charges for disabled patients with private insurance. While the ACA Medicaid expansions affect a broader population and the results of this study may not be generalizable, the findings do suggest that cost-shifting is not the only way in which hospitals respond to a revenue reduction.

5. White C. Contrary to cost-shift theory, lower Medicare hospital payment rates for inpatient care lead to lower private premium rates. Health Aff. 2013;32(5):935–43.

Policymakers believe when Medicare constrains its payment rates for hospital inpatient care, private insurers pay higher rates. This demonstrates that slow growth in Medicare inpatient hospital payment rates also results in slow growth in private hospital payment rates. Greater reductions in Medicare payment rates led to a reduction in private payment rates, reflecting hospitals' efforts to rein in operating costs at a time of lower Medicare payments. Hospitals facing cuts in Medicare payment rates may also reduce the payment rates they seek from private payers to attract more privately insured patients.

6. White C, Wu V. How Do Hospitals Cope with Sustained Slow Growth in Medicare Prices? Health Serv Res. 2013;49(1):11-31.

White and Wu analyze the effects of changes in Medicare inpatient hospital prices on hospitals' overall revenues, operating expenses, profits, assets, and staffing. The authors findings suggest that hospitals recoup Medicare cuts not through cost shifting, but instead they adjust their operating expenses over time.

7. Wu V. Hospital cost shifting revisited: new evidence from the Balanced Budget Act of 1997. Int J Healthc Financ Econ. 2010;10(1):61–83.

Wu analyzes hospital cost shifting using a natural experiment generated by the Balanced Budget Act of 1997. This study found that urban hospitals were able to shift part of the burden of Medicare payment reductions onto private payers, but the overall degree of cost shifting was very small, and changes were based on the hospital's share of privately insured patients.

8. Zwanziger J, Bamezai A. Evidence of cost shifting in California hospitals. Health Aff. 2006;25(1):197–203.

This study of California hospitals examines whether decreases in Medicare/Medicaid payments were associated with increases in private insurance payments. A 1% decrease in Medicare price was associated with a 0.17% increase in the price for privately insured patients. This suggests that cost shifting from public to private payers accounted for a small percentage of the total increase in private payer prices from 1997-2001 in California.

Appendix B: Data Elements for Calculating Uncompensated Care and Discharges

Data Elements and Methods for Calculating Uncompensated Care

1. Defining uncompensated care

Uncompensated care is defined as the cost of charity care plus the cost of bad debt.

Charity care is the cost of medical care for which there was no expectation of payment because the patient has been deemed unable to pay for care. Each hospital has its own criteria for identifying patients who are eligible for charity care. For example, hospitals in the Mercy Health system pay 100% of the charges for patients who are uninsured and have family income below 100% of the federal poverty level. The University of Michigan's charity care program pays 55% of total charges for uninsured patients that do not qualify for public insurance programs, have family income below 400% of the federal poverty level, and meet several other criteria. However, not all discounted medical care is charity care. Discounts provided for prompt payment or discounts negotiated between the patient and the provider to standard managed care rates do not represent charity care.

Bad debt is the cost of medical care for which there was an expectation of payment because the patient was deemed to be able to pay for care. For example, bad debt includes the unpaid medical bills of an uninsured patient who applied for charity care but did not meet the hospital's specific criteria. Insured patients who face deductibles and coinsurance payments for hospital care can also generate bad debt.

Hospitals report charity care and bad debt separately on the Michigan Medicaid Forms, though as just noted hospitals vary in the criteria they use to distinguish charity care from bad debt. Even within a particular hospital, rules governing eligibility for charity care are often not strictly applied and may take into account the judgment of individuals determining eligibility.

For purposes of this report, Medicaid and Medicare shortfalls — the difference between reimbursements by these programs and the cost of care— are not included in the estimate of uncompensated care. Similarly, expenditures for community health education, health screening or immunization, transportation services, or loss on health professions education or research are not considered uncompensated care. Although the hospital does not expect to receive reimbursement for these services, they do not represent medical care for an individual. These costs incurred by hospitals fall into the broader category of "community benefit," a concept used by the Internal Revenue Service in assessing hospitals' non-profit status.

2. Measuring uncompensated care using Michigan Medicaid cost report data

The cost of charity care is measured as full charges for uninsured charity care patients minus patient payments toward partial charity discounts, multiplied by the cost-to-charge ratio. The cost of bad debt is measured as unpaid patient charges for which an effort was made to collect payment minus any recovered payments, multiplied by the cost-to-charge ratio. Bad debts

include charges for uninsured patients who did not qualify for a reduction in charges through a charity care program, and unpaid coinsurance, co-pays and deductibles for insured patients.

The cost-to-charge ratio is the ratio of the cost of providing medical care to what is charged for medical care, aggregated to the hospital-level. For example, a cost-to-charge ratio of 0.6 means that on average, 60 cents of every charged dollar covers the cost of care. Variation in cost-to-charge ratios among different payment source categories reflects differences in the mix of services received by patients in those categories. Charity care and bad debt charges for uninsured patients are translated to costs using the cost-to-charge ratio for uninsured patients. Bad debt charges for insured patients are translated to costs using the whole hospital cost-to-charge ratio.

The specific data elements from the Michigan Medicaid Forms (MMF) that are used for these calculations are as follows.

Measures of care for which payment was not received enter positively:

- Uninsured charity care charges (MMF line 6.00)
  Full charge of care provided to patients who have no insurance and qualify for full or partial charity care. Payment is not expected.

- Uninsured patient-pay charges (MMF line 6.10)
  Full charge of care provided to patients who have no insurance and do not qualify for full or partial charity care (self-pay). Payment is expected but hospital has not yet made a reasonable attempt to collect payment.

- Uninsured bad debts (MMF line 6.36)
  Full charge of care provided to patients who have no insurance and do not qualify for charity care. Payment is expected and hospital has made a reasonable attempt to collect payment.

- Third party bad debts (MMF line 6.38)
  Insured patients' unpaid coinsurance, co-pays or deductibles when there is an expectation of payment. This includes gross Medicare bad debts. Payment is expected and the hospital has made a reasonable attempt to collect the amount from the patient

These amounts are offset by payments that were received by patients who qualify for charity care as well as bad debt recoveries. These payments enter the calculation of uncompensated care negatively:

- Uninsured payments from charges (MMF line 6.60)
  Total payments made by uninsured charity care patients and uninsured self-pay patients towards charges.

- Recoveries for uninsured bad debt (MMF line 10.96)

Recovered amounts for uninsured bad debts, which can include amounts that were collected from patients or amounts from community sources (such as an uncompensated care pool).

- Recoveries for third party bad debts and offsets (MMF line 10.98)
  Recovered amounts for insured patients' co-pays, co-insurance and deductibles, including Medicare beneficiaries.

The cost-to-charge ratios used in the calculation are:

- Uninsured inpatient cost-to-charge ratio
  Cost-to-charge ratio calculated by MDHHS for the purposes of determining Disproportionate Share Hospital (DSH) payments. It is used to convert charges for care provided to uninsured patients to costs.

- Whole hospital cost-to-charge ratio
  Cost-to-charge ratio calculated by MDHHS and used to convert charges for care provided to insured patients to costs.

In addition to measuring the dollar amount of uncompensated care costs, we also measure these costs relative to total hospital costs (MMF line 11.30) as a percentage.

Appendix C: Uncompensated Care Data by Hospital

Table 1. Uncompensated Care Expenses by Individual Hospital, FY 2013, FY 2014 and FY 2015

Hospital Name	CMS ID	Qtr of FY end	FY 2013 Total UC	FY 2013 as a % of Cost	FY 2014 Total UC	FY 2014 as a % of Cost	FY 2015 Total UC	FY 2015 as a % of Cost
Allegan General Hospital	1328	4	1.73	4.5%	1.69	4.4%	----	----
Allegiance Health	92	2	35.39	9.8%	29.41	8.0%	15.50	4.2%
Alpena Regional Medical Center	36	2	2.53	2.9%	1.84	2.0%	0.94	1.0%
Aspirus Grand View Hospital	1333	2	1.98	5.1%	2.30	5.9%	0.59	1.6%
Aspirus Keweenaw Hospital	1319	2	1.34	4.5%	1.40	4.2%	0.90	2.5%
Aspirus Ontonagon Hospital	1309	2	0.16	1.7%	0.11	1.1%	0.42	4.0%
Baraga County Memorial Hospital	1307	3	0.99	6.7%	0.78	5.1%	0.47	3.0%
Barbara Ann Karmanos Cancer Hospital	297	3	2.11	1.0%	1.98	1.0%	1.41	0.6%
BCA StoneCrest Center	4038	4	0.13	0.8%	0.11	0.7%	----	----
Beaumont Hospital - Dearborn	20	4	17.82	3.5%	13.14	2.4%	----	----
Beaumont Hospital - Farmington Hills	151	4	16.42	6.9%	7.57	3.1%	----	----
Beaumont Hospital - Taylor	270	4	6.05	5.1%	3.50	2.8%	----	----
Beaumont Hospital - Trenton	176	4	3.44	2.8%	2.33	1.8%	----	----
Beaumont Hospital - Wayne	142	4	7.84	6.6%	5.10	4.1%	----	----
Beaumont Hospital, Grosse Pointe	89	4	9.01	5.4%	5.48	3.3%	----	----
Beaumont Hospital, Royal Oak	130	4	45.87	4.0%	22.50	2.0%	----	----
Beaumont Hospital, Troy	269	4	19.35	3.9%	12.35	2.3%	----	----
Bell Memorial Hospital	1321	2	3.18	8.7%	1.38	4.4%	0.33	1.1%
Borgess Hospital	117	2	27.17	7.6%	20.59	5.8%	12.92	3.6%
Borgess-Lee Memorial Hospital	1315	2	4.00	13.7%	3.70	12.7%	2.18	7.6%
Brighton Hospital	279	2	----	----	----	----	----	----
Bronson Battle Creek Hospital	75	4	15.34	8.5%	11.31	6.6%	----	----
Bronson Lake View Hospital	1332	4	2.76	6.2%	2.43	5.9%	----	----

Bronson Methodist Hospital	17	4	49.41	10.2%	30.27	6.4%	----	----
Caro Community Hospital	1329	4	0.47	4.8%	0.48	4.5%	----	----
Charlevoix Area Hospital	1322	1	0.87	3.1%	0.96	3.2%	0.45	1.4%
Children's Hospital of Michigan	3300	4	3.48	1.1%	3.56	1.1%	----	----
Chippewa War Memorial Hospital	239	4	2.35	3.3%	1.03	1.3%	----	----
Clinton Memorial Hospital	1326	4	0.62	2.6%	0.71	3.1%	----	----
Community Health Center, Branch County	22	4	5.55	9.2%	3.60	5.9%	----	----
Covenant Medical Center, Inc.	70	2	9.72	2.7%	8.08	2.3%	3.35	0.9%
Crittenton Hospital	254	4	5.26	2.6%	3.32	1.8%	----	----
Deckerville Community Hospital	1311	2	0.21	3.5%	0.41	6.0%	0.25	3.9%
Detroit Receiving Hospital	273	4	31.25	14.3%	14.65	6.7%	----	----
Dickinson County Memorial Hospital	55	4	1.57	2.2%	0.91	1.2%	----	----
Doctors' Hospital of Michigan	13	4	3.48	12.9%	1.62	7.0%	----	----
Eaton Rapids Medical Center	1324	2	1.55	9.9%	1.76	9.5%	1.25	7.1%
Edward W. Sparrow Hospital	230	4	21.31	3.1%	17.34	2.5%	----	----
Forest Health Medical Center, Inc.	144	4	0.40	1.2%	0.28	0.8%	----	----
Forest View Psychiatric Hospital	4030	4	0.19	1.4%	0.17	1.2%	----	----
Garden City Hospital	244	4	6.08	5.2%	5.24	4.4%	----	----
Garden City Hospital	244	4	6.08	5.2%	5.24	4.4%	----	----
Genesys Regional Medical Center	197	2	14.78	4.0%	14.46	3.8%	5.59	1.5%
Harbor Beach Community Hospital	1313	4	0.06	0.8%	0.14	1.6%	----	----
Harbor Oaks Hospital	4021	2	0.06	0.5%	0.15	1.3%	0.18	1.4%
Harper University Hospital	104	4	8.63	2.2%	6.90	1.6%	----	----
Havenwyck Hospital	4023	2	0.22	0.9%	0.32	1.1%	0.22	0.7%
Hayes Green Beach Memorial Hospital	1327	1	3.56	7.8%	4.23	9.8%	2.21	4.9%
Healthsource Saginaw	275	4	0.19	0.8%	0.29	1.1%	----	----
Helen Newberry Joy Hospital	1304	4	1.85	7.4%	1.21	4.8%	----	----
Henry Ford Hospital	53	4	96.32	8.5%	83.36	7.6%	----	----
Henry Ford Macomb Hospital	47	4	14.63	4.7%	12.39	4.1%	----	----

Henry Ford West Bloomfield Hospital	302	4	6.24	2.5%	6.91	2.8%	----	----
Henry Ford Wyandotte Hospital	146	4	21.43	9.1%	16.46	7.2%	----	----
Hills & Dales General Hospital	1316	3	0.61	3.2%	0.50	2.5%	0.45	2.2%
Hillsdale Community Health Center	37	2	2.65	5.6%	2.10	4.6%	1.86	4.1%
Holland Community Hospital	72	1	4.82	3.0%	5.50	3.3%	3.38	1.9%
Hurley Medical Center	132	2	27.29	9.4%	16.01	5.4%	10.04	3.2%
Huron Medical Center	118	3	0.80	2.9%	0.75	2.5%	0.40	1.3%
Huron Valley - Sinai Hospital	277	4	8.62	5.7%	3.35	2.0%	----	----
Ionia County Memorial Hospital	1331	4	1.39	5.4%	1.08	4.2%	----	----
Kalkaska Memorial Health Center	1301	2	1.90	8.9%	1.83	8.4%	0.70	3.6%
Kingswood Psychiatric Hospital	4011	4	0.20	1.0%	0.11	0.6%	----	----
Lakeland Community Hospital - Watervliet	78	3	2.04	9.2%	1.56	6.3%	0.38	1.5%
Lakeland Hospital - St. Joseph	21	3	13.91	5.3%	12.10	4.3%	7.20	2.5%
Mackinac Straits Hospital	1306	1	2.20	11.3%	2.03	9.2%	1.73	7.2%
Marlette Regional Hospital	1330	2	0.76	3.4%	0.85	4.0%	0.64	3.1%
Marquette General Hospital	54	2	3.95	2.0%	3.37	1.9%	0.76	0.4%
Mary Free Bed Hospital & Rehab. Center	3026	1	0.86	1.9%	1.48	3.0%	0.67	1.4%
McKenzie Memorial Hospital	1314	3	0.59	4.6%	0.42	3.3%	0.30	2.4%
McLaren - Central Michigan	80	3	2.23	2.9%	2.08	2.7%	1.19	1.6%
McLaren - Greater Lansing	167	3	7.52	2.7%	11.18	4.2%	6.52	2.2%
McLaren Bay Regional	41	3	6.79	2.9%	5.82	2.3%	4.01	1.5%
McLaren Flint	141	3	14.07	3.7%	12.86	3.3%	4.75	1.2%
McLaren Lapeer Region	193	3	5.64	5.6%	5.77	5.8%	3.25	3.2%
McLaren Oakland	207	3	5.87	5.0%	6.49	5.2%	3.65	2.9%
McLaren-Northern Michigan	105	3	5.05	2.9%	3.42	1.9%	1.75	0.9%
Memorial Healthcare	121	4	2.04	2.6%	1.21	1.6%	----	----
Memorial Medical Center of W. Michigan	110	2	2.25	4.1%	1.84	3.3%	1.63	2.8%
Mercy Health Partners - Hackley Campus	66	2	10.88	6.8%	6.80	4.2%	4.02	2.4%
Mercy Health Partners - Lakeshore Campus	1320	2	1.03	6.4%	0.81	4.0%	0.54	3.3%

Mercy Health Partners - Mercy Campus	4	2	8.79	6.2%	7.47	3.4%	4.17	1.8%
Metro Health Hospital	236	2	13.20	6.1%	11.79	4.9%	10.60	3.7%
Mid Michigan Medical Center - Gladwin	1325	2	0.87	4.4%	0.91	4.4%	0.72	3.2%
Mid Michigan Medical Center - Clare	180	2	1.62	5.3%	2.77	8.4%	0.94	2.7%
Mid Michigan Medical Center - Gratiot	30	2	3.06	3.8%	2.74	3.5%	1.59	2.0%
Mid Michigan Medical Center - Midland	222	2	7.50	3.1%	7.27	2.9%	5.32	1.9%
Mount Clemens Regional Medical Center	227	3	19.85	8.1%	18.17	6.9%	8.90	3.3%
Munising Memorial Hospital	1308	1	0.44	5.8%	0.55	7.6%	0.32	4.1%
Munson Healthcare Cadillac Hospital	81	2	2.73	4.5%	2.64	3.7%	1.76	2.6%
Munson Healthcare Grayling Hospital	58	2	2.48	4.2%	1.87	2.6%	1.57	2.6%
Munson Medical Center	97	2	22.54	5.0%	17.25	3.8%	8.12	1.8%
North Ottawa Community Hospital	174	2	2.03	4.7%	1.73	3.8%	1.15	2.2%
Oakland Regional Hospital	301	4	0.10	0.4%	0.11	0.5%	----	----
Oaklawn Hospital	217	1	4.35	5.1%	2.99	3.5%	1.62	1.9%
Otsego County Memorial Hospital	133	4	1.34	2.6%	0.97	1.8%	----	----
Paul Oliver Memorial Hospital	1300	2	1.09	8.2%	0.97	7.2%	0.72	5.2%
Pennock Hospital	40	3	2.23	4.7%	2.57	5.9%	2.07	4.6%
Pine Rest Christian Hospital	4006	2	0.53	1.0%	0.63	1.0%	0.61	0.9%
Port Huron Hospital	216	3	7.58	4.7%	7.10	4.3%	4.45	2.8%
Promedica Bixby Hospital	5	4	1.18	1.7%	1.33	1.9%	----	----
ProMedica Herrick Hospital	1334	4	0.58	1.9%	0.65	2.4%	----	----
ProMedica Monroe Regional Hospital	99	2	9.39	6.5%	9.08	6.9%	6.34	4.6%
Providence Hospital	19	2	0.00	0.0%	20.71	3.6%	14.43	2.4%
Rehabilitation Institute	3027	4	1.51	1.9%	0.93	1.2%	----	----
Saint Mary's Standish Community Hospital	1305	2	0.87	4.5%	0.84	4.6%	0.49	2.6%
Samaritan Behavioral Center	4040	4	0.08	1.0%	0.05	0.6%	----	----
Scheurer Hospital	1310	2	1.54	5.4%	1.38	4.5%	1.35	4.0%
Schoolcraft Memorial Hospital	1303	4	0.33	1.7%	0.28	1.4%	----	----
Sheridan Community Hospital	1312	1	1.02	8.1%	1.01	7.4%	1.28	9.1%

Sinai-Grace Hospital	24	4	27.02	8.7%	11.42	3.8%	----	----
South Haven Community Hospital	85	2	1.42	4.6%	0.95	2.9%	0.39	1.2%
Southeast Michigan Surgical Hospital	264	4	0.04	0.3%	0.11	0.9%	----	----
Southwest Regional Rehabilitation Hospital	3025	2	0.45	3.9%	0.32	3.3%	----	----
Sparrow Carson Hospital	208	4	1.37	3.2%	1.77	4.3%	----	----
Spectrum Health	38	2	32.61	2.9%	40.51	3.4%	20.39	1.6%
Spectrum Health - Reed City Campus	1323	2	2.87	6.8%	3.14	6.8%	1.72	3.6%
Spectrum Health Big Rapids	93	2	2.61	5.8%	2.06	4.3%	1.99	3.8%
Spectrum Health Gerber Memorial	106	2	2.92	5.0%	3.37	5.6%	2.51	4.1%
Spectrum Health United Memorial - Kelsey	1317	2	0.87	7.0%	1.22	9.4%	0.91	7.0%
Spectrum Health United Memorial - United	35	2	2.55	4.4%	0.00	0.0%	2.26	3.3%
Spectrum Health Zeeland Community	3	2	1.56	3.9%	2.35	5.3%	1.72	3.4%
St Joseph Mercy Chelsea	259	2	2.55	2.8%	2.72	2.9%	0.99	1.0%
St. Francis Hospital & Medical Group	1337	3	4.16	7.3%	3.24	6.0%	1.87	3.2%
St. John Hospital and Medical Center	165	2	35.80	5.5%	34.65	5.3%	19.52	2.9%
St. John Macomb-Oakland, Macomb	195	2	21.95	6.2%	20.03	5.9%	11.44	3.3%
St. John River District Hospital	241	2	1.17	2.7%	1.11	2.4%	0.63	1.5%
St. Joseph Mercy Hospital - Ann Arbor	156	2	29.89	4.5%	26.09	4.3%	11.34	1.9%
St. Joseph Mercy Livingston Hospital	69	2	8.23	8.9%	7.23	8.0%	2.51	3.4%
St. Joseph Mercy Oakland	29	2	13.68	4.8%	18.41	6.7%	5.27	1.8%
St. Joseph Mercy Port Huron	31	2	4.87	7.3%	3.66	5.8%	1.26	2.0%
St. Mary Mercy Hospital	2	2	10.55	5.3%	14.36	7.1%	6.04	2.9%
St. Mary's Health Care (Grand Rapids)	59	2	15.48	4.7%	12.72	3.6%	7.78	1.8%
St. Mary's of Michigan Medical Center	77	2	17.86	8.0%	13.69	6.5%	5.33	2.6%
Straith Memorial Hospital	71	4	0.03	0.3%	0.03	0.3%	----	----
Sturgis Memorial Hospital	96	3	2.29	7.0%	1.86	5.5%	1.33	3.9%
Tawas St. Joseph Hospital	100	2	2.17	5.3%	1.41	3.6%	1.21	3.0%
The Behavioral Center of Michigan	4042	4	0.08	0.9%	0.09	1.0%	----	----
Three Rivers Health	15	4	2.54	6.6%	1.68	4.4%	----	----

University of Michigan Health System	46	2	51.02	2.4%	54.64	2.4%	37.08	1.5%
UP Health System - Portage	108	4	1.09	1.9%	0.54	1.1%	----	----
West Branch Regional Medical Center	95	1	2.17	5.8%	2.02	5.3%	1.75	4.5%

Notes: Because hospitals submit their data with a lag, for hospitals with fiscal years ending in the fourth quarter the most recent data available are from hospital FY 2014.

Appendix D: Key Stakeholder Interviews: Respondent Characteristics

Healthcare Providers		*N=9*
Size	Small/Private Practice	2
	Medium/Hospital	1
	Large/Regional Hospital System	6
Payer Mix	Primarily Private	6
	Primarily Public	1
	Mixed	1
	Other	1
Employers		*N=17*
Size	Small Employer 50 or fewer Employees	9
	Medium Employer 51-499	4
	Large Employer 500+	4
Payer Mix	Self-Funded	4
	Mixed	2
	Fully Insured	9
	N/A	2
Economic Sector	Professional, Scientific and Technical Services	3
	Retail Trade	3
	Healthcare	1
	Accommodation and Food Service	3
	Construction	2
	Finance and Insurance	1
	Manufacturing	2
	Other Services	2
Health Insurers		*N=6*
Market	Public	2
	Private	4
Covered members	< 250,000	1
	500,000 -1 million	2
	>1 million	3

Appendix E: DIFS Filings Sampling Exclusions, Inclusions and Rationale

Filings Sampling Exclusions

- Filings without a requested premium rate change. We are interested in the causes of rate change; thus we are excluding from our sample filings that did not submit a rate increase or decrease.
- New products. New products are filings that are submitted to go on the market in the coming year. These filings do not have any prior experience or claims data to compare or predict change in premium rates.
- 2016 filing data. 2016 filing data are incomplete; not all of the filings have been submitted which will apply to 2017 premium rates.

Filings Sampling Inclusions

Insurance filings provide a multitude of data. The following elements were abstracted from each 2015 filing for which a change (negative or positive) in rates was requested.

- Descriptive Data:
  - Filing Number
  - Date
  - Company Name

- Market
  - Health Insurance Market (Individual, Small Group, Large Group, Other)
  - Product Type

- Reason(s) for Rate Change
  - Reason for Rate Change (direct quotes from filings if available)
  - Medical Costs (trend in cost of medical care, physician contracts, etc.)
  - Morbidity (change in morbidity level of risk pool)
  - Benefits (change in benefits offered)
  - ACA (i.e., taxes and fees, legislative compliance, essential health benefits)
  - Utilization of Services (increasing or decreasing)
  - Demographics (age, community rating)
  - Other (i.e., tobacco Status)

Experience [Experience period is a time period used to calculate the premium in order to evaluate risk and return] and Claims

- Affected Policy Holders
- Covered Lives Benefit Change
- Benefit Change
- % Change Approved – weighted average
- Percent Rate Change Requested – weighted average
- Requested Rate: Annual – weighted average

Total Annual Premium Rate

- Premium Rate Change
- Prior Rate: Annual – weighted average
- Projected Earned Premium
- Projected Incurred Claims (Annual Dollars)

Medical Costs
- Trend Factors %
- Medical Trend %
- MLR %
- Pharmacy Trend %

Administrative
- Administrative Fees (Dollars PMPM)
- Administrative Fees % of Premium
- Profit and Risk % of Premium
- Taxes and Fees
    - Taxes and Fees % of Premium
- Uniform Rate Review Template
    - Administrative Expenses % (projected experience)
    - Profit and Risk % (projected experience)
    - Taxes and Fees % (PMPM component of premium increase)
    - Taxes and Fees as a percentage % (projected experience)
    - Single Risk Pool Gross Premium Avg Rate (PMPM)
    - Inpatient (Component of Premium Increase Dollars PMPM)
    - Outpatient (Component of Premium Increase Dollars PMPM)
    - Professional (Component of Premium Increase Dollars PMPM)
    - Prescription (Component of Premium Increase Dollars PMPM)
    - Other (Component of Premium Increase Dollars PMPM)

Rationale for DIFS Filings Inclusions (Drivers of Premium Rates)

Health insurers include several factors in the creation of the premium rate. The state requires that filings include the actuarial methods and data used. Often, this section of the filings is noted as "Confidential/Proprietary/Trade Secret." Many insurers contract with actuarial firms; these firms often use proprietary methods for estimating risk, based on data specific to a number of plan and population features, including the plan type, size, benefits, region, and estimated numbers and types of claims.

Proposed Rate Increases: When included, the filing sections enumerate the contributions of the following (as titled on the forms) to the rate:

- **Medical Loss Ratio (MLR)**: The claims experience on Michigan policies in a specific block of business must be adequate to achieve an 80% Federal Medical Loss Ratio.

- **Allowed and Incurred Claims Incurred during the Experience Period**: Allowed Claims data are available to the company directly from company claims records, with some estimation due to timing issues.

- **Claim Liabilities for Medical Business** are often calculated using proprietary methods.

- **Benefit Categories:** Claims are assigned to each of the varying benefit category by place services were administered, and types of medical services rendered.

- **Projection Factors**
    - **Single Risk Pools**, for policy years beginning after 1/1/14.
    - **Changes in Morbidity of the Population Insured**: The assumptions used are from the experience period to the projection period.
    - **Trend Factors (cost/utilization):** The assumption for cost and utilization is often developed from nationwide claim trend studies, using experience from similar products that were marketed earlier.
    - **Changes in Benefits, Demographics, and other factors: Non-Benefit Expenses and Risk Margin Profit & Risk Margin:** Projected premiums include a percent of premium for risk, contingency, and profit margin. Assumptions are often derived from analysis of pre-tax underwriting gain, less income taxes payable on the underwriting gain, and on the insurer fee, which is not deductible for income tax purposes.

- **Taxes and Fees** include premium tax, insurer fees, risk adjustment fees, exchange fees, and federal income tax.
    - **Premium Tax**: The premium tax rate is 1.25% on Michigan gross direct premiums written in the state of Michigan.
    - **Insurer Fees**: This is a permanent fee that applies to fully insured coverage. This fee will fund tax credits for insurance coverage purchased on the exchanges. The total fee increases from $8B in 2014 to $14.3B in 2018 (indexed to premium for subsequent years). Each insurer's assessment will be based on earned health insurance premiums in the prior year, with certain exclusions.
    - **Risk Adjustment Fees**: The HHS Notice of Benefit and Payment Parameters includes a section on risk adjustment user fees and specifies a $0.08 per member per month user fee for the benefit year 2014. For benefit year 2015, HHS imposes a per-enrollee-per-month risk adjustment fee of $0.10, and for 2016 benefit year, $0.15. (See Federal Register / Vol. 80, No. 39 / Friday, February 27, 2015 / Rules and Regulations 10759).
    - **Federal Income Tax**: Income tax is calculated as 35% * (Pre-Tax Income + Insurer Fees), since insurer fees are not tax deductible.
    - **Reinsurance Fees**: This is a temporary fee that applies to all commercial groups (both fully insured and self-funded) and individual business from 2014 to 2016 for the purpose of funding the reinsurance pool for high cost claimants in the individual market during this three-year transitional period. The total baseline amounts to be collected to fund this pool are $12B in 2014, $8B in 2015, and $5B in 2016, and

individual states can add to this baseline. Each insurer is assessed on a per capita basis. This fee expires in 2017.

- **Changes in Medical Service Costs:** There are many different health care cost trends that contribute to increases in the overall U.S. health care spending each year. These trend factors affect health insurance premiums, which can mean a premium rate increase to cover costs. Some of the key health care cost trends that have affected this year's rate actions include:
  - **Coverage Mandates** – Estimated impacts of changes in benefit design and administration due to the Patient Protection and Affordable Care Act mandates. Direct impacts include the effects of specific changes made to comply with new Federal and State laws.
  - **Increasing Cost of Medical Services** – Annual increases in reimbursement rates to health care providers, such as hospitals, doctors and pharmaceutical companies. The price of care can be affected by the use of expensive procedures, such as surgery, as opposed to monitoring or certain medications.
  - **Increased Utilization** – Annual increases in the number of office visits and other services. In addition, total health care spending may vary by the intensity of care and/or use of different types of health services.
  - **Higher Costs from Deductible Leveraging** – Health care costs may rise every year, while deductibles and copayments may remain the same.
  - **Impact of New Technology** - Improvements to medical technology and clinical practice may require use of more expensive services, leading to increased health care spending and utilization.
  - **Underwriting Wear Off** – The variation by policy duration in individual medical insurance claims, where claims are higher at later policy durations as more time has elapsed since initial underwriting.

- **Administrative Costs:** Expected benefit and administrative costs.

Factors that determine premiums vary by type of plan *market* (individual plans, small group plans, and large group plans):

Individual Plans (for those who purchase their coverage directly from an insurer, not job-based coverage):
- Age (the premium rate cannot vary more than 3 to 1 for adults for all plans)
- Benefits and cost-sharing selected
- Number of family members on the plan
- Location of residence in Michigan
- Tobacco use (the premium rate cannot vary by more than 1.5 to 1)

Small Group Plans (for those who have coverage through an employer with 50 or fewer employees):
- Benefits the employer selects
- How much the employer contributes to the cost
- Family size

- Age (the premium rate cannot vary more than 3 to 1 for adults for all plans)
- Tobacco use (the premium rate cannot vary by more than 1.5 to 1)
- Location of employer in Michigan

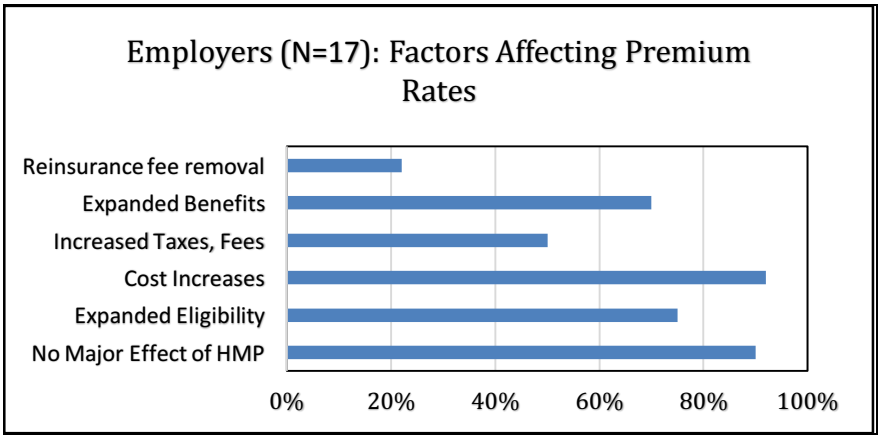
Large Group Plans (for those who have coverage through an employer with more than 50 employees):

- Benefits the employer selects
- Employee census information including age, gender, family status, health status and geographic location
- How much the employer contributes to the cost
- Industry
- Group size
- Wellness programs

Appendix F: Results from Stakeholder Interviews and DIFS Rate Filings Analysis

I. Interview Respondents' Reports on Factors Affecting Premium Rates

Employers:



"…yes, we are paying a lot more fees, we pay a lot of fees and don't get more administrative effort to file reports for all folks …"

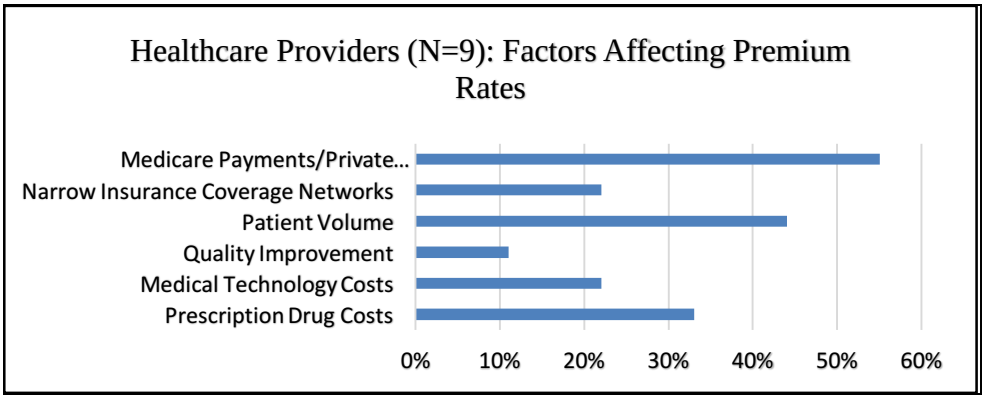
"Decision-making for benefits and ACA has seen the biggest changes…"

"It's [the decision to offer health insurance] almost entirely based on cost; I don't think changes to the Medicaid expansion have influenced it… it's been pretty consistently cost-prohibitive… would like to be able to offer it, but it has just been so expensive that we haven't been able to."

"…Same portfolio as the previous year…Overall, we didn't have to make the drastic adjustments that other employers or insurers did - our rates didn't change much because we already offered pretty extensive coverage."

"…Employees have a larger co-premium pay than before. That increased co-premium has been the biggest change this year. We pay more out of pocket."

Hospitals and Healthcare Providers



"Medicare reimbursement definitely affects the payment rates, depending on if it changes."

"If a major payer comes to us and says 'your case costs are too high- we are excluding you from our network' this has major implications for who we treat, our volumes, and all; if they include us in their narrow network, they have the bargaining power to keep their rates below our costs- this puts us in a financial bind…"

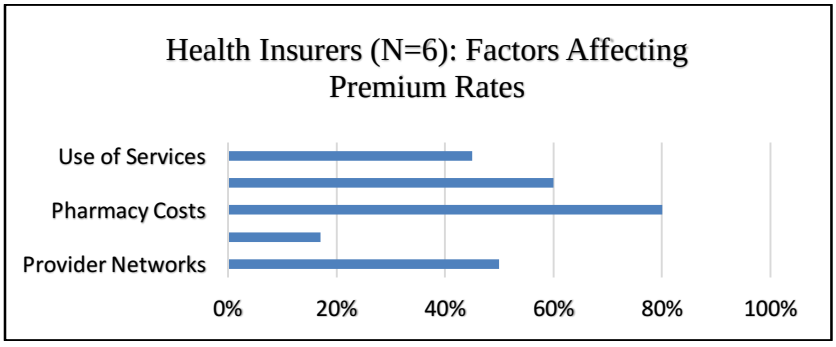
"Volume is critical, and so is the role of consumerism…the dynamics have changed where it is not just the payers making the payments, a key piece is coming from the patient …"

"Patient safety and quality often increase costs in the short run, with reporting and payment tied to quality, but in the long run, quality and quality improvement are why we exist."

"…we've actually thought of changes to charity care to include people who are underinsured because of the [now] significant contributions people have to make…"

"Technology and device costs and the prescription drug costs are the biggest concerns for our payment rates."

Health Insurers



"In the individual market it becomes enrollee membership, a lot of selection issues, lots of healthy enrollees are not enrolling, so we are seeing issues of high use and cost with too many unhealthy persons in the market."

"Then there is also the issue of more of a regulation in terms of the federal reinsurance is going away, so we are losing the protections there for the individual and small group markets."

"As we are reflecting on changes in healthcare costs, pharmacy is becoming a big driver of it…."

"The biggest factors [affecting premium rates] are medical costs and pharmacy cost trends, medical inflation in general. Medical cost has been relatively low over the past year, and pharmacy has really been the biggest contributor."

"Pharmaceutical absolutely, specialty especially… you need the tools and care coordination to handle it … but pharmacy is so out of control, these single patent companies charging whatever they want…."

"I think [Healthy Michigan] has helped hospitals, but they definitely don't say, 'because we've got more money, because our uncompensated care has decreased, we're going to give you a price discount'…and we can't say the same thing in fairness, 'we had a good operating margin, so we'll pay you more,' we don't do it either, in all fairness. It just doesn't work that way, in consideration of all of the other costs and factors affecting costs."

"For the health insurance exchange we had to build our own premium – we based that on our hospital contracts, this is the number one factor, and it's a new market, so that is difficult."

"We are trying to keep premiums down and narrow our provider networks [to keep the costs down]."

II. DIFS Rate Analysis Tables and Charts

The findings from the rate filings analysis are organized into four sections:

A. Number and type of filing
B. Magnitude of the premium rate change requested
C. Reasons for premium rate changes requested
D. Medical cost trend rates noted in filings
All data are presented by year of filing (2013, 2014, and 2015).

A. Number and Type of Filing

Number of filings with rate change increase or decrease by market, by year

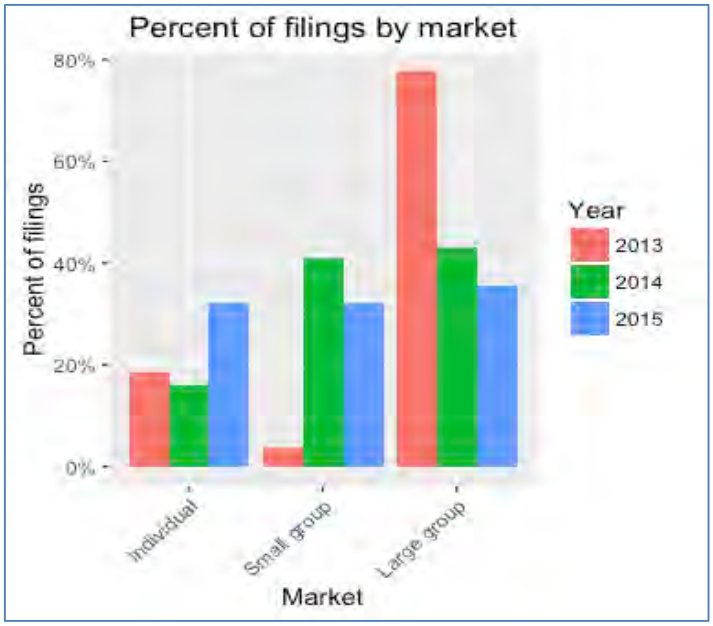
Year	Market	Decrease	Increase
2013	Individual	1	9
	Small group	0	2
	Large group	3	39
2014	Individual	1	6
	Small group	1	17
	Large group	6	13
2015	Individual	3	16
	Small group	4	15
	Large group	0	21

Number of filings with rate change increase or decrease by product, by year

Year	Product	Decrease	Increase
2013	HMO	4	32
	PPO	0	7
	MM	0	10
	POS	0	1
2014	HMO	8	14
	PPO	0	12
	MM	0	8
	POS	0	2
2015	HMO	6	25
	PPO	1	13
	MM	0	11
	POS	0	3

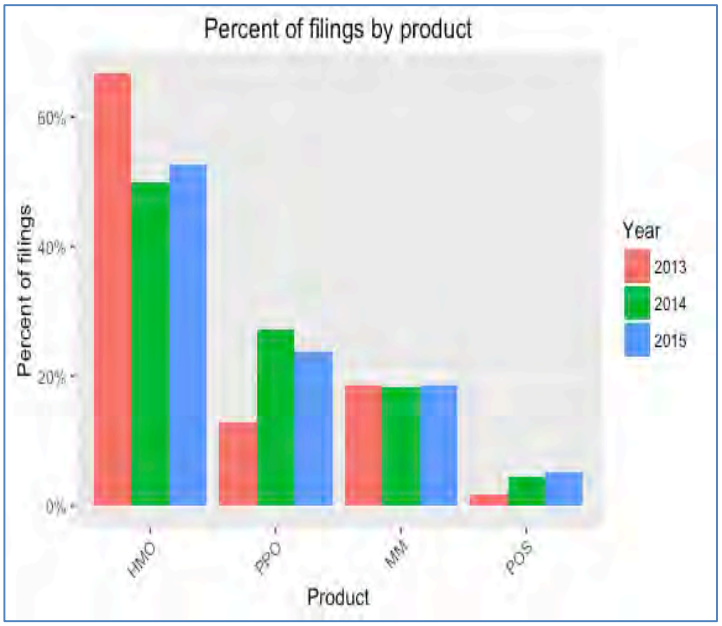
Percent of Filings Requesting Rate Change, by Market, by Year

Year	Individual	Small group	Large group
2013	18.5%	3.7%	77.8%
2014	15.9%	40.9%	43.2%
2015	32.2%	32.2%	35.6%



Percent of Filings Requesting Rate Change, by Product, by Year

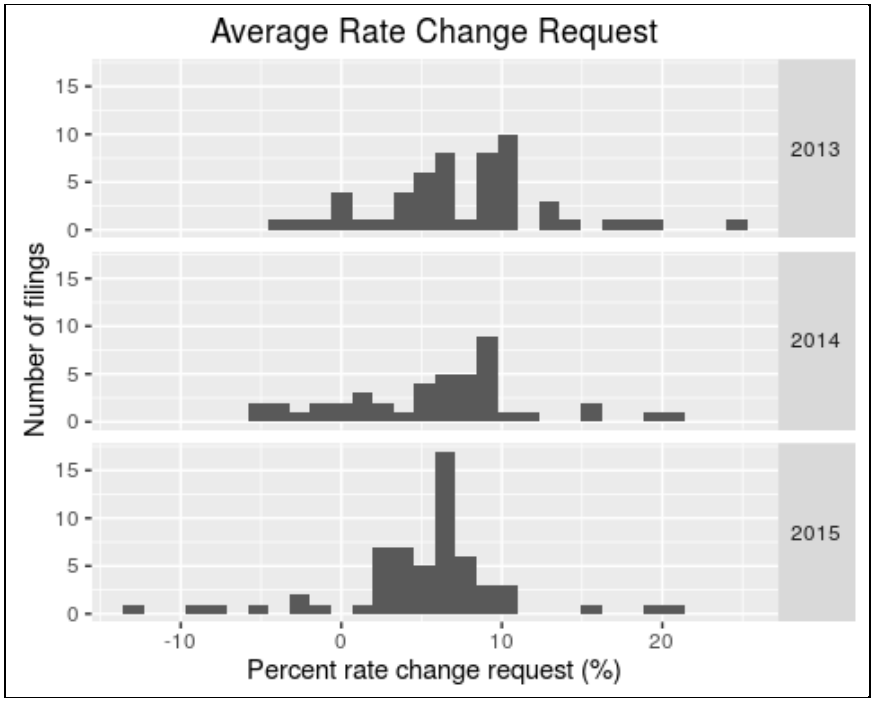
Year	HMO	PPO	MM	POS
2013	66.7%	13.0%	18.5%	1.9%
2014	50.0%	27.3%	18.2%	4.5%
2015	52.5%	23.7%	18.6%	5.1%



B. Magnitude of the Premium Rate Requested

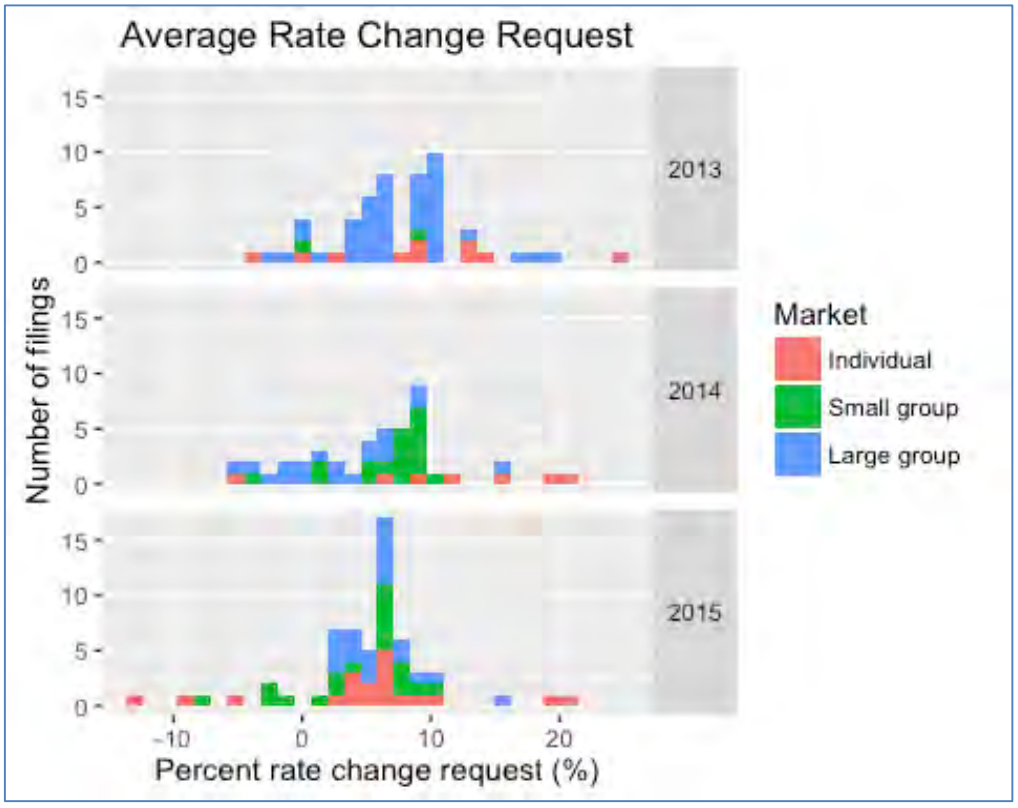
Percent Rate Change Request by Year (%)

Year	Filings	Average (%)	Min (%)	Max (%)
2013	54	7.55	-3.97	25.0
2014	44	5.77	-5.10	21.0
2015	59	5.22	-12.60	20.5



Percent Rate Change Request, by Market, by Year (%)

Year	Market	Filings	Average (%)	Min (%)	Max (%)
2013	Individual	10	8.87	-3.97	25.00
	Small group	2	4.68	0.50	8.86
	Large group	42	7.37	-3.19	19.80
2014	Individual	7	10.90	-4.90	21.00
	Small group	18	6.63	-3.70	9.90
	Large group	19	3.07	-5.10	15.00
2015	Individual	19	5.20	-12.60	20.50
	Small group	19	4.13	-8.30	9.90
	Large group	21	6.21	2.90	15.00



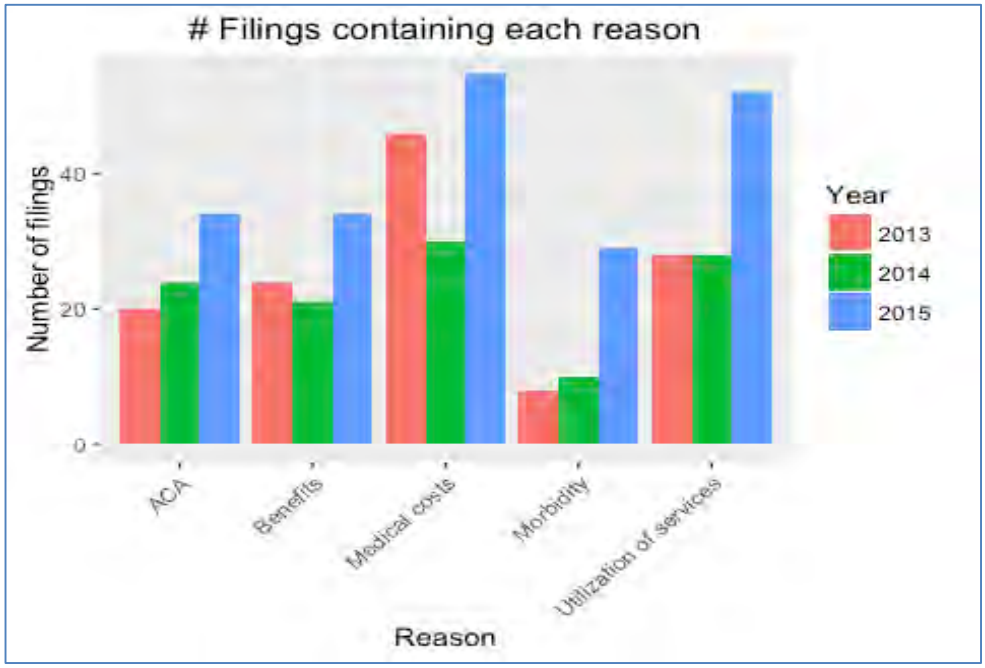
Percent Rate Change Request, by Product, by Year

Year	Product	Filings	Average (%)	Min (%)	Max (%)
2013	HMO	36	6.20	-3.97	18.50
	PPO	7	8.67	0.50	14.60
	MM	10	11.69	5.48	25.00
	POS	1	6.73	6.73	6.73
2014	HMO	22	2.41	-5.10	9.50
	PPO	12	7.76	1.27	19.00
	MM	8	12.00	9.00	21.00
	POS	2	5.84	2.90	8.77
2015	HMO	31	3.40	-12.60	9.90
	PPO	14	6.48	-8.30	20.50
	MM	11	8.58	0.80	20.00
	POS	3	5.70	4.10	6.50

C. Reasons for Premium Rate Changes Requested

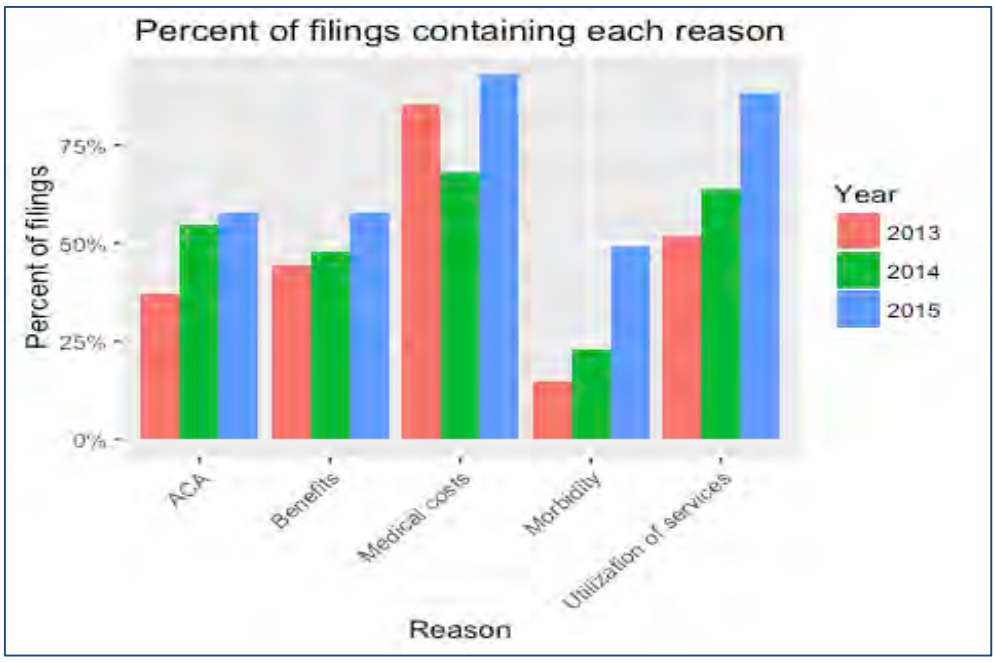
Number of Filings by Reasons for Rate Change Request, by Year

Year	ACA	Benefits	Medical costs	Morbidity	Utilization of services
2013	20	24	46	8	28
2014	24	21	30	10	28
2015	34	34	55	29	52



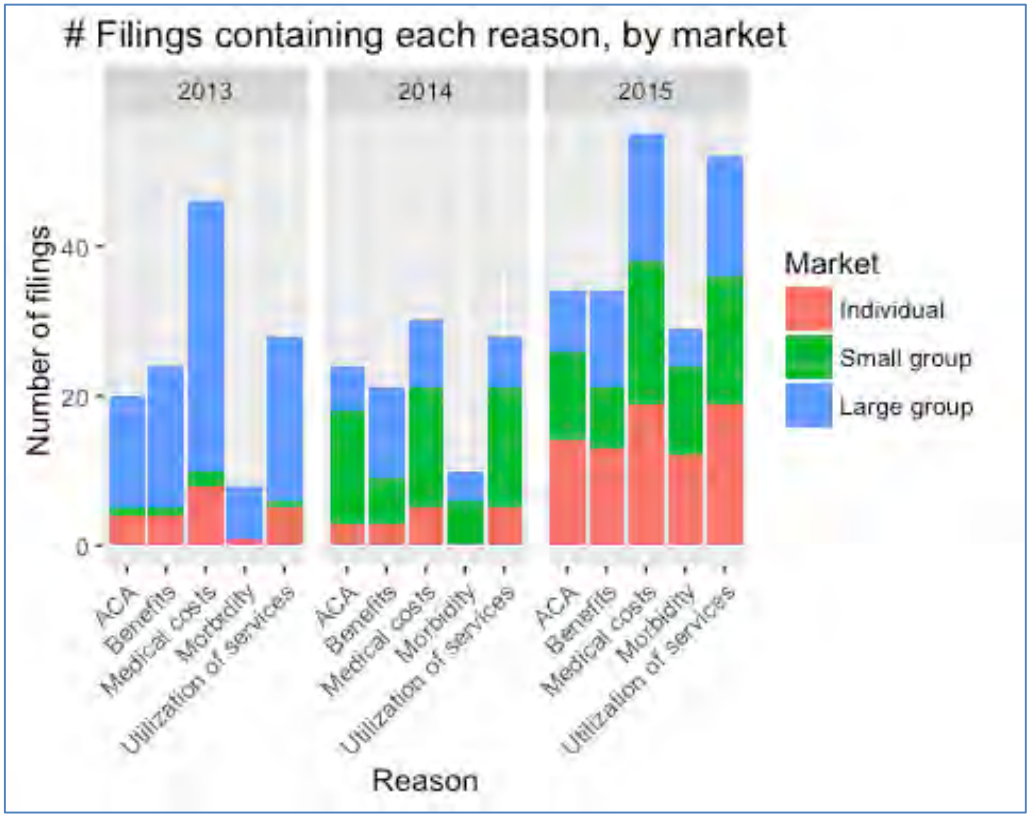
Percent of Filings by Reason for Rate Change Request, by Year

Year	ACA	Benefits	Medical costs	Morbidity	Utilization of services
2013	37.0%	44.4%	85.2%	14.8%	51.9%
2014	54.5%	47.7%	68.2%	22.7%	63.6%
2015	57.6%	57.6%	93.2%	49.2%	88.1%



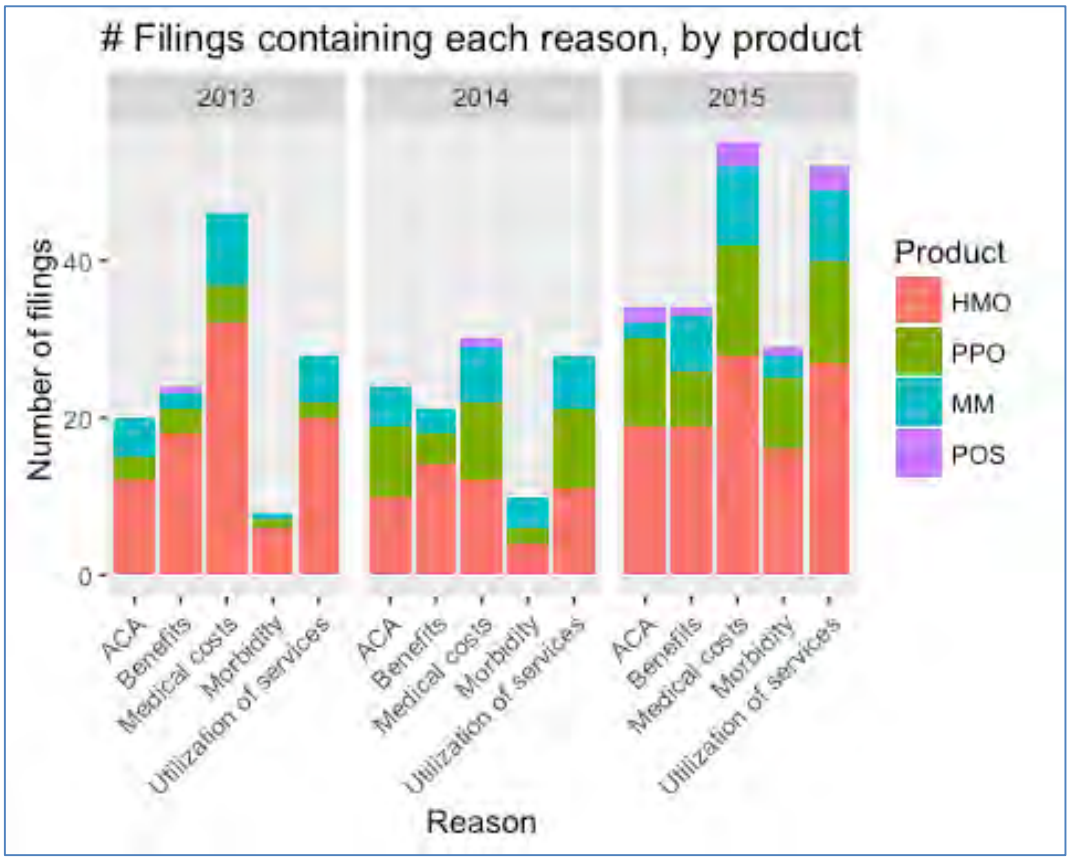
Number of Filings Noting Selected Reasons for Changes in Premium Rates, by Market, by Year

Year	Market	ACA	Benefits	Medical costs	Morbidity	Utilization of services
2013	Individual	4	4	8	1	5
	Small group	1	1	2	0	1
	Large group	15	19	36	7	22
2014	Individual	3	3	5	0	5
	Small group	15	6	16	6	16
	Large group	6	12	9	4	7
2015	Individual	14	13	19	12	19
	Small group	12	8	19	12	17
	Large group	8	13	17	5	16



Number of Filings Noting Selected Reasons for Changes in Premium Rates, by Product, by Year

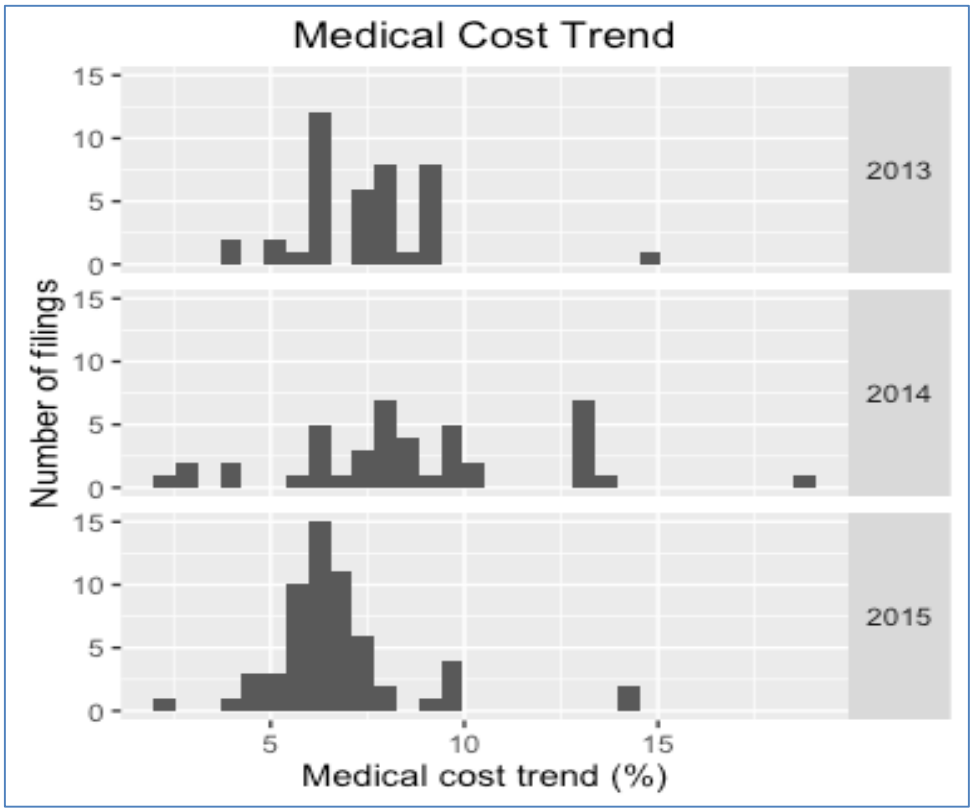
Year	Product	ACA	Benefits	Medical costs	Morbidity	Utilization of services
2013	HMO	12	18	32	6	20
	PPO	3	3	5	1	2
	MM	5	2	9	1	6
	POS	0	1	0	0	0
2014	HMO	10	14	12	4	11
	PPO	9	4	10	2	10
	MM	5	3	7	4	7
	POS	0	0	1	0	0
2015	HMO	19	19	28	16	27
	PPO	11	7	14	9	13
	MM	2	7	10	3	9
	POS	2	1	3	1	3



D. Medical/ RX Cost Trend Rates Noted in Filings (Actuarial memos)

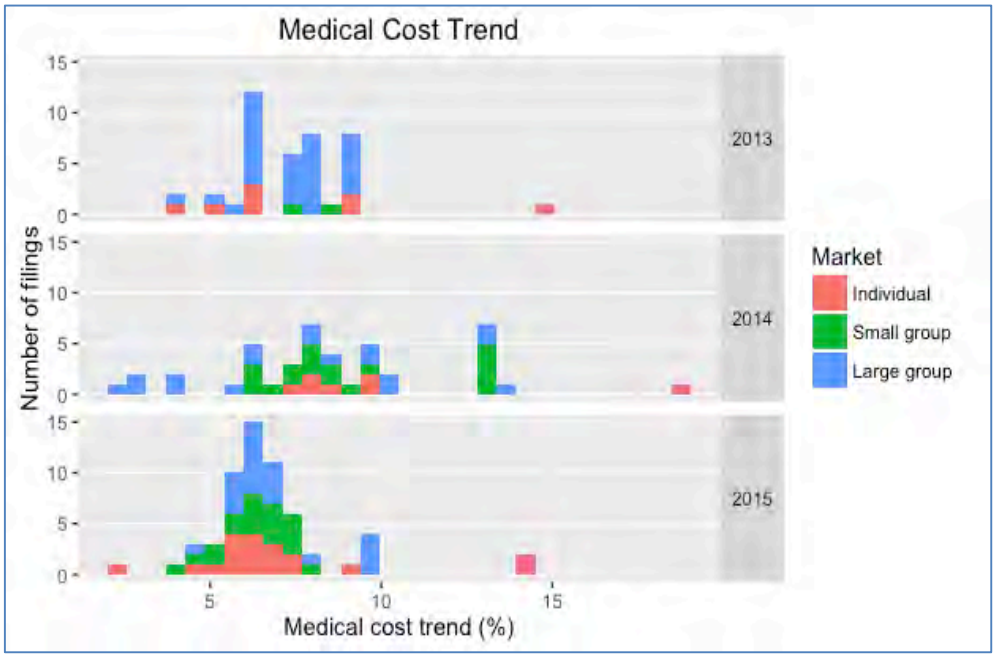
Medical/RX Cost Trend Rate, by Year

Year	Filings	Average (%)	Min (%)	Max (%)
2013	54	7.33	4.0	14.6
2014	44	8.70	2.5	19.0
2015	59	6.73	2.5	14.5



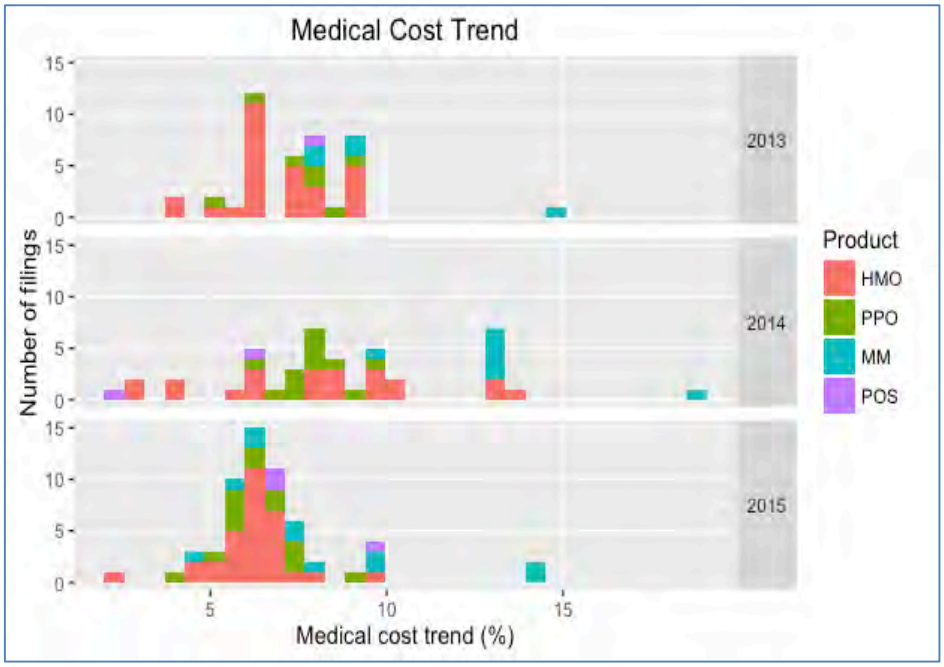
Medical/RX Cost Trend Rate, by Market, by Year

Year	Market	Filings	Average (%)	Min (%)	Max (%)
2013	Individual	10	7.60	4.0	14.60
	Small group	2	7.85	7.2	8.50
	Large group	42	7.22	4.2	8.84
2014	Individual	7	10.06	7.5	19.00
	Small group	18	9.16	6.0	13.00
	Large group	19	7.71	2.5	13.70
2015	Individual	19	6.98	2.5	14.50
	Small group	19	6.29	4.0	7.90
	Large group	21	6.89	4.6	9.60



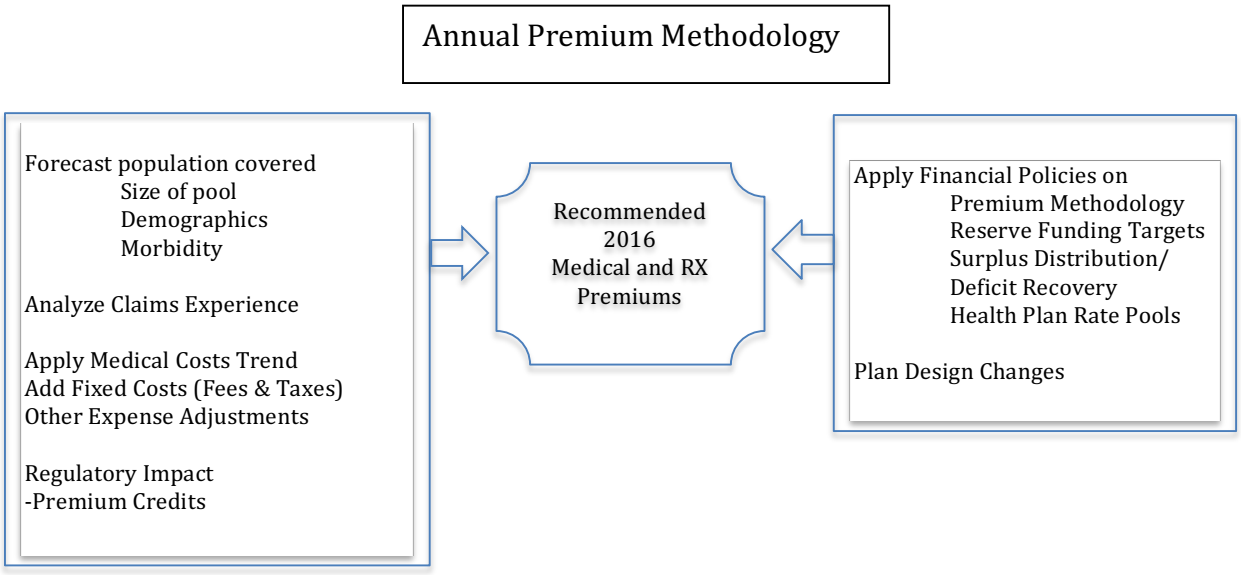
Medical/RX Cost Trend Rate, by Product, by Year

Year	Product	Filings	Average (%)	Min (%)	Max (%)
2013	HMO	36	6.88	4.0	8.9
	PPO	7	7.41	5.2	9.1
	MM	10	9.64	7.9	14.6
	POS	1	7.70	7.7	7.7
2014	HMO	22	8.05	2.9	13.7
	PPO	12	7.91	6.0	9.9
	MM	8	13.37	9.6	19.0
	POS	2	4.25	2.5	6.0
2015	HMO	31	6.16	2.5	9.5
	PPO	14	6.36	4.0	9.0
	MM	11	8.54	4.3	14.5
	POS	3	7.70	6.8	9.5



Appendix G: Overview of Process for Setting Health Insurance Premiums

Actuaries develop premiums based on projected medical claims and administrative costs for a pool of individuals or groups with insurance. Pooling risks allows the costs of the less healthy to be subsidized by the healthy. In general, the larger the risk pool, the more predictable and stable premiums can be. But, the composition of the risk pool is also important. Although the ACA prohibits insurers from charging different premiums to individuals based on their health status, premium levels reflect the health status of an insurer's risk pool as a whole. The majority of premium dollars goes to medical claims, which reflect unit costs (e.g., the price for a given health care service), utilization, the mix and intensity of services, and plan design. Premiums must cover administrative costs, including those related to product development, enrollment, claims processing, and regulatory compliance. They also must cover taxes, assessments and fees, as well as profit (or, for not-for-profit insurers, a contribution to surplus). Laws and regulations can affect the composition of risk pools, projected medical spending, and the amount of taxes, assessments and fees that need to be included in premiums.



Appendix H: Major Drivers of Premium Rate Changes Over Time

FACTORS IN PREMIUM INCREASES	
Risk Pool Composition	
Composition of the risk pool and How it compares to what was projected How it is expected to change	CMS Proposed Standard Age Curve published in the Federal Register on November 26, 2012. This age curve has a 3:1 ratio for age rating. There is also a published factor for children. Insurer expectations regarding the composition of the enrollee risk pool, including the distribution of enrollees by age, gender, and health status.
Single risk pool requirement	The ACA requires that insurers use a single risk pool when developing rates. That is, experience inside and outside the health insurance marketplaces (exchanges) must be combined when determining premiums. Premiums for 2016 will reflect demographics and health status factors of enrollees both inside and outside of the marketplace, as was true for 2014 and 2015.
Transitional policy for non-ACA-compliant plans	For states that adopted the transitional policy that allowed non-ACA compliant plans to be renewed, the risk profile of 2014 ACA-compliant plans might be worse than insurers projected. This would occur if lower-cost individuals retain their prior coverage and higher-cost people move to new coverage. The transitional policy was instituted after 2014 premiums were finalized; meaning insurers were not able to incorporate this policy into their premiums.
Regional, within-Michigan variations	Premiums are set at the state level (with regional variations allowed within a state) and will reflect state- and insurer-specific experience. These factors are reflected in the trend factors reported by insurers.
Reduction of reinsurance program funds	The ACA transitional reinsurance program provides for payments to plans when they have enrollees with especially high claims, thereby offsetting a portion of the costs of higher-cost enrollees in the individual market. This reduces the risk to insurers, allowing them to offer premiums lower than they otherwise would be. Funding for the reinsurance program comes from contributions from all health plans; these contributions are then used to make payments to ACA-compliant plans in the individual market (For more information see: http://kff.org/health-reform/issue-brief/explaining-health-care-reform-risk-adjustment-reinsurance-and-risk-corridors/).

Prices & use of services	
Medical trend: Underlying growth in health care costs	The increase in medical trend reflects the increase in per-unit costs of services and increases in health care utilization and intensity
	Short term National projection: National Health spending growth projected to rise 6.1% 2014-2015 (adjusted for inflation (CPI-U)). Long term projection: 2015-2022 national health spending projected to grow 6.2% annually. Health care reform impact on trend projected to be an average increase of 0.1% annually from 2012 to 2022 (CMS report on National Heath Expenditure Projections 2012-2022).
Employer Plan Taxes & Fees	
Temporary Reinsurance Fees (2014 thru 2016)	Fees from self-insured plans will be used to make reinsurance payments to individual market insurers that cover high-cost individuals in each state. National fee rate of $63 per (non-Medicare) member per year for 2014, $44 PMPY for 2015, and $31.50 PMPY for 2016.
Temporary tax for PCORI fees (2012 thru 2018)	Assessments will fund "patient centered outcomes research trust fund" Fees basis: $1 per covered health plan member per year for CY 2012, $2 per member per year for CY 2013, with PMPY amounts indexed to per capita increases in National Health Expenditures for years 2014-2018.
Employer Shared Responsibility for Health Care, "Pay or Play"	Requires large employers to "offer" medical coverage to employees averaging 30 or more hours of work per week Health care coverage will be offered to temporary employees Medical plans offered must satisfy mandated coverage levels; Employee premium must not exceed 9.5% of the employees pay rate Employers must successfully "offer" coverage to 70% of their qualified population beginning 2015, and 95% by 2016

Health claims assessment tax of 1% of claims and/or premium	State of Michigan Public Act 142 of 2011: Effective Jan 2012, applies to medical, Rx and dental services delivered in Michigan to Michigan residents
Plan Structure & Operations	
Changes in provider networks	Mix of practitioner specialties; "narrowness" of network
Changes in provider reimbursement structures	Per service payment formulae; example: Inpatient stays paid on DRG, Percent of Charges, bundled rates
Benefit package changes	Changes to benefit packages (e.g., through changes in cost-sharing requirements or benefits covered) can affect claim costs and therefore premiums. This can occur even if a plan's actuarial value level remains unchanged.
Risk margin changes	Insurers build risk margins into the premiums to reflect the level of uncertainty regarding the costs of providing coverage. These margins provide a cushion in case costs are greater than projected. Greater levels of uncertainty typically result in higher risk margins and higher premiums.
Changes in administrative costs	Wages, information technology, profit
Increase in the health insurer fee	In 2014, the ACA health insurer fee is scheduled to collect $8 billion from health insurers. The fee will increase to $11.3 billion in 2015 and gradually further to $14.3 billion in 2018, after which it will be indexed to the rate of premium growth. The fee is allocated to insurers based on their prior year's premium revenue as a share of total market premium revenue. In general, insurers pass along the fee to enrollees through an increase to the premium. The effect on premiums will depend on the number of enrollees over which the fee is spread—a greater number of enrollees will translate to the fee being a smaller addition to the premium. The increase in health insurer fee collections from 2014 to 2015 will, in most cases, lead to a small increase in 2015 premiums relative to 2014 (See Exchange and Insurance Market Standards for 2015 and Beyond (Final Rule), Federal Register: 79 (101), May 27, 2014. Available at: http://www.gpo.gov/fdsys/pkg/FR-2014-05-27/pdf/2014-11657.pdf.

Changes in geographic regions	Within a state, health insurance premiums are allowed to vary across geographic regions established by the state according to federal criteria. Changes in the number of geographic regions in the state or how those regions are defined could cause premium changes that would vary across areas. For instance, assuming no other changes, if a lower-cost region and a higher-cost region are combined into one region for premium rating purposes, individuals in the lower-cost area would see premium increases, and individuals in the higher-cost areas would see premium reductions.
Market Competition	
Market forces and product positioning	Insurers might withstand short-term losses in order to achieve long-term goals. Due to the ACA's uniform rating rules and transparency requirements imposed by regulators, premiums are much easier to compare than before the ACA, and some insurers lowered their premiums after they were able to see competitors' premiums.