Michigan Department of Community Health

Recommendations for Addressing the Needs of High Utilizer/Super Utilizer Patients in Michigan

Based on a Statewide Stakeholder Process, 2013-2014

Submitted to the Michigan State Legislature

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Produced by the Michigan Department of Community Health

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MOTIVATION AND WORKGROUP PARTICIPATION FOR THIS REPORT

Pursuant to PA 107 of 2013, section 105d(30) (the "Healthy Michigan Act"), the Michigan Department of Community Health has prepared recommendations for the legislature to address patterns of emergency services use across the state.

The Healthy Michigan Act specified:

> By November 30, 2013, the department of community health shall convene a symposium to examine the issues of emergency department overutilization and improper usage. By December 31, 2014, the department of community health shall submit a report to the legislature that identifies the causes of overutilization and improper emergency service usage that includes specific best practice recommendations for decreasing overutilization of emergency departments and improper emergency service usage, as well as how those best practices are being implemented. Both broad recommendations and specific recommendations related to the Medicaid program, enrollee behavior, and health plan access issues shall be included.

Accordingly, MDCH convened a statewide symposium in November 2013 to present initial information and stimulate discussion about the challenge of patients who use emergency services at high frequencies. As part of the symposium, data were shared about frequent utilizers of emergency services who are enrolled in Michigan Medicaid, and the innovators of clinical programs at four Michigan healthcare institutions shared their approaches and perspectives about how this problem may be addressed.

Following the symposium, MDCH convened a series of statewide workgroup meetings to bring stakeholders together to formulate recommendations for the legislature. The workgroups centered on three specific areas:

1) Recommendations to address patterns of very high rates of utilization of emergency services (Workgroup A)
2) Recommendations to develop new models of payment that would promote greater effectiveness of care and improved outcomes (Workgroup B)
3) Recommendations to address use of emergency services for health concerns that could be addressed appropriately in other healthcare settings, such as primary care and dental care (Workgroup C).

The workgroups met from February-June 2014, culminating in a second statewide symposium held at Michigan State University in June and hosted by the Center for Integrative Medicine at Spectrum Health. As part of the symposium, members of the statewide workgroups shared their draft recommendations with the other groups. The resulting discussion was also informed with the perspectives of national thought leaders who have developed innovative model initiatives at city and state levels to address the challenges of high utilization of emergency services in Maine, New Jersey, and Washington State.

These recommendations are presented in this report to the Michigan Legislature to inform future initiatives in Michigan – within the Healthy Michigan Plan and beyond.

ACKNOWLEDGMENTS

Contributors to the statewide stakeholder process that informed this report are listed beginning on p. 23. For key contributions throughout this stakeholder process, the Michigan Department of Community Health is indebted to:

- Former Michigan Department of Community Health Director James Haveman and current Director Nick Lyon.
- Michigan Chief Medical Executive Matthew Davis, MD, MAPP, who led the stakeholder process, served as Co-Chair of Workgroup A, and drafted this report.
- Office of Medical Affairs Chief Medical Director Debera Eggleston, MD, of the Medical Services Administration, who served as lead collaborator with Dr. Davis and Co-Chair of Workgroup C.
- Co-Chairs from the community for the workgroups who collaborated with co-chairs from the Michigan Department of Community Health: Workgroup A – Allen Jansen of Pine Rest; Workgroup B – Dick Miles of Medical Services Administration and Nick Vitale of Beaumont Health System; Workgroup C – Robin Reynolds of Ingham Health Plan.
- Michelle Milam and Robin Reynolds of Ingham Health Plan; Dr. David Rosenberg and Dr. Alireza Amirsadri of Wayne State University; Dr. Brent Williams and Dr. Timothy Peterson of the University of Michigan; and Dr. Corey Waller of the Center for Integrative Medicine, who led by example at the November 2013 symposium by sharing the vision and operationalization of their high/super utilizer programs that have served as innovative models within the state of Michigan.
- Dr. Corey Waller and the Center for Integrative Medicine staff for hosting the 2014 stakeholder symposium, and Dr. Jeffrey Brenner, Kelly Craig, and Stephen Singer of the Camden Coalition; Commissioner Mary Mayhew of the Maine Department of Health and Human Services; Helena Peterson of Maine Quality Counts; and Dr. Stephen Anderson of the Washington Chapter of the American College of Emergency Physicians; who shared their perspectives and expertise with symposium participants.
- The Institute for Healthcare Policy and Innovation (IHPI) at the University of Michigan – with special thanks to Allison Marlatt, Medicaid Policy Fellow, and Dr. John Ayanian, Director. IHPI organized and hosted the 2013 stakeholder symposium in November 2013 and then organized and staffed all subsequent deliberations of the workgroups. In addition, students from the University of Michigan School of Public Health (Tiffany Huang, Andrew Jessmore, and Jacqueline Rau) provided specific staff support for the individual workgroups.
- The Michigan Public Health Institute (MPHI) for conduct of data analyses to inform the deliberations of the workgroups, with special thanks to Chris Wojcik, Cheribeth Tan-Schreiner and Clare Tanner of MPHI.

SUMMARY OF RECOMMENDATIONS

Introduction

Emergency services play a vital role in the healthcare system of Michigan, at the intersection of inpatient (hospital) care and outpatient (clinic-based) care. Overall, in more than 130 hospitals throughout Michigan every day, emergency departments (EDs) and their professional staff members are key resources for their communities—including patients, caregivers and healthcare professionals.

The average Medicaid beneficiary in Michigan has less than one ED visit per year. In fact, among Medicaid beneficiaries in Michigan for 2011-2013, 60 percent had zero ED visits. Another 29 percent of beneficiaries had only one to two ED visits per year, and 7 percent had three to four ED visits. Overall, only 4 percent of Medicaid beneficiaries had five or more ED visits in a given 12-month period.

High-frequency utilization of ED care raises questions about how these patients' care can be improved through greater coordination and communication among healthcare providers. In the scientific literature, such patients are referred to as "high utilizers," "super utilizers," and "frequent utilizers," with an inconsistent set of definitions chosen by researchers for each of these terms. Regardless of the labels and definitions, the Michigan Department of Community Health and dozens of organizations involved in this stakeholder process agree that healthcare systems, facilities, and providers must address the needs of individuals who use ED services at high frequencies—in order to improve their care and health outcomes and reduce burden on the healthcare system.

It was increasingly clear through the stakeholder process that the reasons for high-utilization patterns are complex. Consequently, high-frequency ED utilization cannot be characterized uniformly as "inappropriate," "excessive," or "unnecessary." On the contrary, evidence from Michigan and elsewhere indicates that individuals who frequently use emergency services often have multiple serious health needs that prompt them to seek medical care. Those needs include combinations of physical and behavioral health conditions, with a predominance of pain-related diagnoses and substance use disorders. Such health challenges would benefit from greater coordination among healthcare providers, across healthcare facilities and systems including community mental health, and with community-based non-health support services related to housing and meals.

Better coordination among healthcare providers, systems, and support services can effectively address the so-called "social determinants of health"—factors such as poverty, lack of education, lack of health insurance, homelessness, food insecurity and interpersonal violence that increase a person's risk of poor health and reduce his likelihood of receiving timely care. Physicians and other healthcare professional staff who work in EDs recognize that the social determinants of health frequently challenge the patients whom they serve and sometimes have severe health consequences. In response, hospitals and community partners across the state of Michigan have developed formal and informal ways of addressing the social determinants of

health for their patients, often with the ED as a focal point because it serves as the "front door" of a hospital for the most medically and socially needy individuals in the local area.

Despite such innovations in ED settings and dedication to task among ED staff, the persistent challenge of high-frequency utilization for a subset of patients is a strong reminder that relying on EDs alone to initiate and sustain support for high-utilizing patients will not be enough. Many stakeholders who participated in this process expressed the sentiment that high-frequency ED use is most accurately characterized as a symptom of larger problems related to unaddressed healthcare needs and a lack of coordinated services, rather than the problem itself.

The larger problem is that Michigan, like many other states, currently has a fragmented healthcare system that: (a) encourages patients to seek healthcare in EDs rather than in other settings such as primary care practices that would be appropriate for managing their concerns; (b) is unprepared to coordinate the complex healthcare required to address the combined physical and behavioral health needs of its sickest community members, except for a few innovative programs that have not been disseminated to other facilities and systems; and (c) does not effectively identify high-utilizing patients in real time so that programmatic interventions can be implemented to address their needs.

These problems are daunting, but it was also clear from this stakeholder process that there are many professionals and institutions across Michigan who are determined to address the challenges that face high-utilizing patients in our state. This report summarizes the work of healthcare professionals, healthcare organizations, community leaders, community groups, and subject-matter experts who collaborated from November 2013-December 2014 to discuss the challenges of high-utilizer patterns and how Michigan can work to identify, evaluate, and disseminate best practices to address the needs of high-utilizing patients.

We have provided **Appendix A - additional readings and resources** regarding emerging innovations to address the needs of high-utilizer patients, drawn from the scientific literature, the lay press, and the federal Centers for Medicare and Medicaid Services. The list of resources includes hyperlinks to facilitate access for readers who would like to learn more.

To accompany data about high-utilizer patterns that we provide in the report, we also include **Appendix B - summary of data analyses.** These additional details regarding our analyses provide readers with information beyond the data presented alongside the recommendations. Throughout our analysis, we focus on data regarding healthcare utilization for beneficiaries of the Michigan Medicaid program, as discussed during the stakeholder process.

Emergency Services by Medicaid Beneficiaries in Michigan – By the Numbers

In the most recent 3-year period from January 2011 through December 2013, there were approximately 1.8 million individuals enrolled in Michigan Medicaid for at least six months in each calendar year. Of note, this time period falls *before* enrollment began for the Healthy Michigan Plan. At the time of this report deadline (December 2014), less than one year of data are available for enrollees in the Healthy Michigan Plan.

Among Michigan Medicaid beneficiaries in 2011-2013:

- 60 percent had zero ED visits while they were on Medicaid in a given year; 29 percent had one to two ED visits in a given year; 7 percent had three to four ED visits in a given year

- 4 percent had five or more ED visits in any given 12-month period, corresponding to more than 75,000 Medicaid beneficiaries with enough ED visits to meet many stakeholders' criteria to be "high/super utilizers" of ED services in that 12-month period

- The most common primary diagnoses at ED visits for Medicaid beneficiaries who utilized the ED most often were pain-related, such as abdominal pain, chest pain, headache, and back problem; while these diagnoses were common for ED visits by less frequent ED users as well, pain-related problems constituted a much larger proportion of visits for the highest ED utilizers

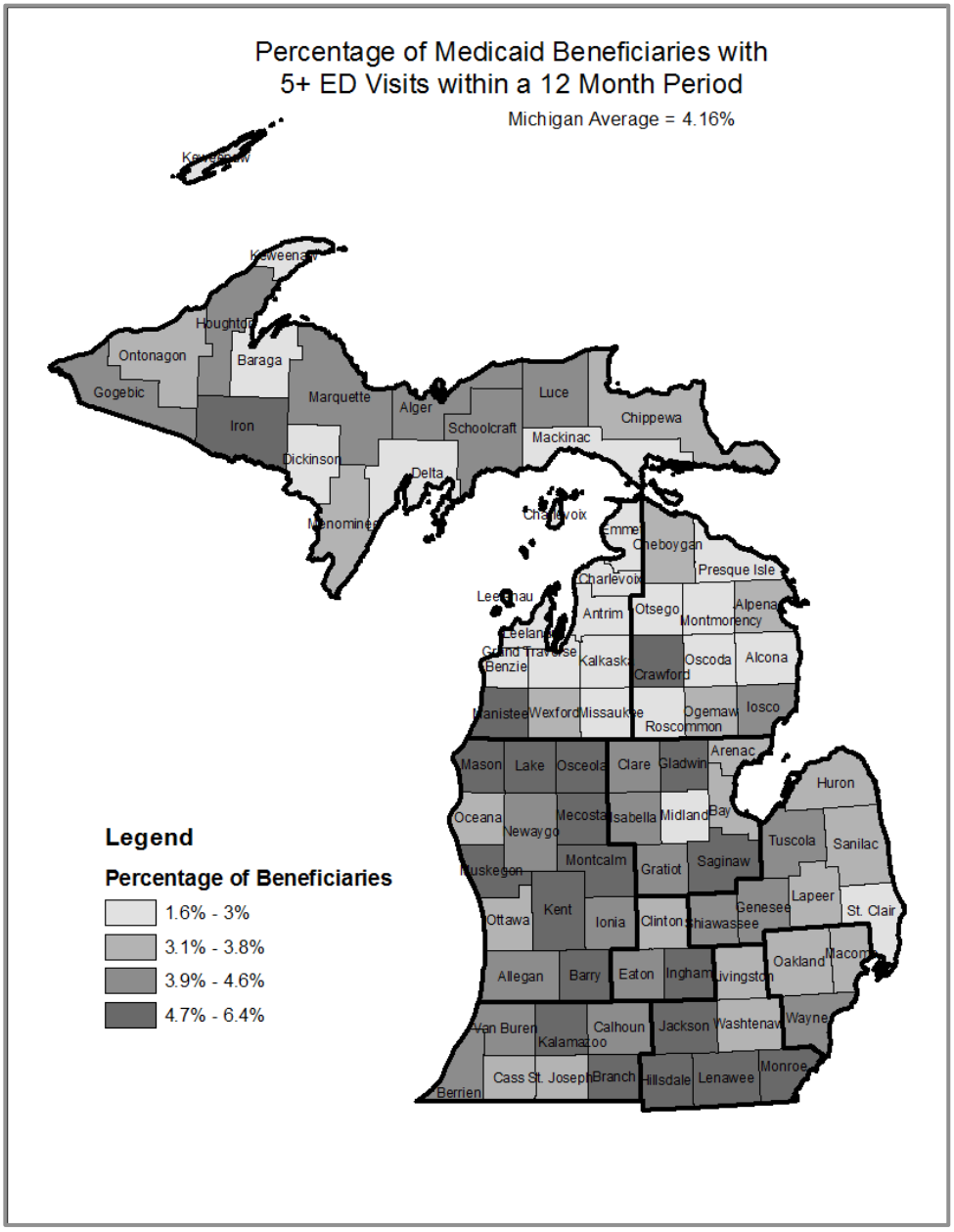
- As the number of ED visits increased for a given beneficiary, so did the likelihood that the beneficiary would have at least one healthcare visit (to an ED, doctor's office, clinic, or hospital) with a diagnosis related to mental illness

- The majority of ED high/super utilizers in a given year are not ED high/super utilizers in the next year: 37 percent of ED high/super utilizers in 2011 and 36 percent of ED high/super utilizers in 2012 remained so in the following year; 20 percent of ED high/super utilizers in 2011 remained ED high/super utilizers in both 2012 and 2013

- Proportions of Medicaid beneficiaries who were ED high/super utilizers differed substantially across Michigan counties in all years: in the most recent year (2013), the proportion ranged four-fold across Michigan counties, from a low of 1.6 percent to a high of 6.4 percent (see map, next page)

- In 2013, among 1,721,368 ED visits for Medicaid beneficiaries, ED high/super utilizers accounted for 36 percent (619,874) of ED visits overall while accounting for only 4.2 percent of the beneficiary population

- 45 percent of ED high/super utilizers had at least one hospitalization in 2013, compared with only 8 percent of beneficiaries who were not ED high/super utilizers



Note: This map reflects high-utilizer patterns for children and adults and includes Medicaid fee-for-service beneficiaries as well as beneficiaries in Medicaid managed care plans. Specific proportions for each county are listed in Appendix B, Table 5.

Recommendations for "Decreasing Overutilization of Emergency Departments and Improper Emergency Service Usage"

In response to the request of the Michigan legislature, statewide working groups met to identify and refine best-practice recommendations to address patterns of high ED utilization and deliberate what the Healthy Michigan Act describes as "improper emergency service usage."

Underlying the working groups' efforts was the understanding and consensus that "**overutilization of emergency departments" and "improper emergency service usage" reflect <u>two distinct challenges</u>:**

1. "Overutilization of emergency departments," as described by the Michigan legislature, largely reflects a phenomenon that involves individuals with multiple health problems, often a combination of physical health and behavioral health challenges, and insufficient coordination of healthcare services and support across multiple healthcare settings including emergency departments, hospitals, clinics, and home care. Pioneering work by Dr. Jeffrey Brenner and others has indicated that such individuals and their high-utilization patterns are known to respond very well to efforts that focus fundamentally on care coordination and support in health and non-health (e.g., housing, employment, education) settings.

2. "Improper emergency service usage," as described by the legislature, is a phenomenon that reflects intertwined challenges of insufficient access to timely primary healthcare (e.g., during weekday evenings, weekends, or overnight) for problems that could be appropriately addressed in primary care settings and insufficient awareness by the public about which health problems are appropriate for which healthcare settings (e.g., for common cold symptoms, primary care is preferable to other healthcare settings). Broad efforts to enhance the availability of primary care through patient-centered medical home initiatives are designed to promote better access (e.g., through extended hours and more accessible scheduling processes) and reduce demand for conditions that can be adequately addressed in primary care settings. However, primary care shortages nationwide and in Michigan present persistent challenges for patients to receive care they seek in the time frame they desire. Of note, there is no universally accepted list or designation of health conditions or circumstances that indicates "improper emergency service usage".

While it is possible that individuals with complex healthcare needs are visiting the ED for reasons that could be addressed in primary care, it is clear that ED high/super utilizers commonly have an array of serious health needs that warrant attention in ED settings. Conversely, the majority of individuals visiting the ED for "improper" reasons that could be addressed effectively in primary care are not patients with complex needs and are not extremely frequent ED visitors.

The recommendations below reflect these distinctions between the groups of individuals identified in the Healthy Michigan Act.

RECOMMENDATION 1: Establish a Uniform Set of Terms	
Goal	MDCH and stakeholder organizations in Michigan will use a common set of terms to describe high levels of healthcare utilization.
Rationale	• Use of common terms will permit clear points of reference in analyses and policy discussions and permit clearer messaging about initiatives designed to address individuals' needs. • Specific references to high- and super-utilizer groups will underscore differences in magnitude of needs for patients in these groups. • Distinctions regarding the settings for high utilization patterns (ED, hospital [inpatient], psychiatric facility [behavioral]) will facilitate the development of targeted programs to address the unique needs of individuals identified in these groups. • The workgroups considered several different possible definitions that had been used in the literature and also discussed the definitions with national experts at the June 2014 symposium. The recommendations below reflect this deliberative process.
Recommendation	Groups of high utilizer and super utilizer patients should be identified by frequency-based, setting-specific healthcare utilization patterns as follows: • ED High Utilizer: 5-19 visits per year to any ED • ED Super Utilizer: 20 or more ED visits per year • Inpatient High Utilizer: 2-3 hospital admissions per year • Inpatient Super Utilizer: 4 or more hospital admissions per year • Behavioral High Utilizer: Combination of 3-4 hospital admissions per year OR 20-39 inpatient days per year in a psychiatric facility • Behavioral Super Utilizers: Combination of 5 or more hospital admissions per year OR 40 or more inpatient days per year in a psychiatric facility **The combined term "high/super utilizers" is recommended to refer to all individuals within the groups meeting either the high-utilizer or super-utilizer definitions.**
Additional Notes	• For this stakeholder process, data have been analyzed for the ED high/super utilizer groups. Further analyses would illuminate the value of distinguishing the different high- and super-utilizer designations by setting of care (ED, hospital, psychiatric facility). Workgroup participants anticipate that focusing on high/super utilizers across different settings would help target interventions.
RECOMMENDATION 2: Establish a Standing Advisory Council on Healthcare Utilization	
Goal	Statewide efforts to further address the needs of high/super utilizers will be informed by the input of a permanent standing Advisory Council, coordinated by MDCH, to sustain and expand the activities of the working groups convened in response to stipulations of the Healthy Michigan Act regarding ED utilization.
Rationale	• Participants suggested that a standing council would sustain intensified

	focus on the challenges of high/super utilizer patterns. • The Council would serve as a coordinating focal point for high/super utilizer efforts involving MDCH and could be staffed and supported by non-governmental organizations.
Recommendation	The MDCH Director will form a Standing Advisory Council on Healthcare Utilization with the following composition and tasks: • Will be comprised of physicians, nurses, social workers, community health workers, patients, payers, healthcare organizations, public health professionals, and health information exchange experts; a minimum of one member will be a practicing emergency physician; a minimum of one member will be a practicing behavioral health specialist • Will include liaison members from: Licensing and Regulatory Affairs to facilitate communication about prescription drug monitoring efforts; Department of Human Services to facilitate communication about government-sponsored programs for which high/super utilizers are frequently eligible; Michigan State Housing Development Authority to facilitate communication about housing needs that high/super utilizers frequently face • Will be tasked with maintaining a high/super utilizer program clearinghouse, to share best practices and insights from programs across the state; the clearinghouse function may be performed in collaboration with a third party external to MDCH • Will create or choose performance measures and outcome measures; existing measures will be used unless additional requirements are evidence-based and judged to provide added value for high/super utilizer efforts • Will act as the hub for statewide public health efforts for high/super utilizer populations, including serving as a connector to other population-level interventions that involve MDCH as the lead or partner organization (e.g., Michigan Primary Care Transformation, State Innovation Model, Behavioral Health and Chronic Disease Management; Keystone initiatives led by Michigan Health and Hospital Association) • Will act as a connector to similar metropolitan and state-level efforts across the United States • Will advise on setting standards of education, training, and scope of practice for workforce related to high/super utilizers in Michigan • Will advise regarding need for investments in public health and population health in Michigan, to sustain cooperative initiatives across communities to address high/super utilizers that involve healthcare organizations as well as non-healthcare organizations • Will explore issues that do not rise to action at the time of this report, such as: o Standards for primary care settings and urgent care facilities as opportunities to expand primary care access o Appropriateness of current emergency medical services laws and

	whether these should be revised to incorporate greater discretion in initial triage, to allow for dispatch and disposition to other facilities beside ED settings; considering funding pilot programs to study the impact of community care coordination through community paramedics. o Consider non-traditional services for Medicaid reimbursement to meet the clinical and social needs of high/super utilizers (e.g., State Innovation Model, Community Paramedics Program, others) o Consider supporting innovations in Medicaid reimbursement that benchmark Medicaid reimbursement for primary care in Michigan at Medicare levels, in order to emphasize and recognize the importance of primary care in addressing the needs of high/super utilizer patients
Additional Notes	• This recommendation represents a common theme for all three workgroups – that a state role in coordinating and convening a standing council regarding high/super utilizer challenges would be welcome. • The Council would have the discretion to invite subject matter experts in workgroups that would advise the Council. • Leadership of the Council should be at MDCH Director level, or his/her designee.
RECOMMENDATION 3: Support Targeted State Development and Deployment of Health Information Exchange	
Goal	Michigan will continue to support and encourage statewide health information exchange (HIE), with specific goals of involving healthcare providers, community mental health, and community organizations in coordinated care of high/super utilizers.
Rationale	• In other states (e.g., Washington), focused enhancement of and provider participation in statewide health information exchange has been credited as a central key to success in addressing the needs of high/super utilizers. • The Michigan Health Information Network (MiHIN) serves as the statewide health information infrastructure with a common set of standards and shared services that enable secure electronic health data exchange. MiHIN is a network of existing health information exchanges that have been established across the state. • MiHIN provides a natural platform and conduit for key sharing of information among healthcare providers who provide care for high/super utilizer patients, but Michigan-based data sharing developments must continue to strive for real-time goals and optimal management across multiple facilities and settings of care; these needs are especially acute for management of high/super utilizers. • Initiatives regarding high/super utilizer patients may serve as a galvanizing focus for the development of "use cases" (key illustrative frameworks for collaboration) for health information data sharing in Michigan, as well as a key arena for assessment of HIE and MiHIN functionality and opportunities

	for further intensification of collaborations and investment. Areas of particular need for high/super utilizer-focused use cases relate to care coordination across organizations, reconciliation of medications, person identification across multiple facilities, and attribution of care attachments between patients and healthcare providers.
Recommendation	The State should continue to support and encourage investment in statewide HIE activities with the primary purpose of facilitating coordinated care of high/super utilizer individuals, and should prioritize participation of primary care providers, community mental health, emergency departments, hospitals/health systems, and community organizations with responsibility for coordinating care. • HIE functioning regarding high/super utilizer patients could be improved with adaptations of the state's interpretation of federal regulations (42 CFR) that facilitate universal release of information for behavioral health. MI PA 129 (to establish a standard consent form for behavioral health) is an important first step in integrating care for physical and behavioral health. Forthcoming MDCH form 3927 will serve as a standard consent form for sharing behavioral health information; adoption and use of this form must be integrated into routine practice. In addition, steps must be taken to ensure that sharing of information about substance use disorders is facilitated, given that such disorders are disproportionately common among high/super utilizers. • Workgroup participants support statewide use of the Universal Release of Information form, which would facilitate real-time exchange of information for patients to improve coordination of their care. • Specific to MiHIN and participating health information exchanges: o Permit access by all licensed professionals involved in patient care o Use a "push" model (avoid providers needing to query the system; use flags to alert provider to high/super utilizers) o Make available Admissions Discharge and Transfer (ADT) feeds to all licensed facilities, hospital systems, and payers o Integrate with the Michigan prescription drug monitoring program (MAPS), including modifying MAPS to incorporate "push" functionality through which acute-care physicians will be automatically notified of prior controlled substance prescriptions for patients to whom they are administering care o Link patient-specific care plans to MiHIN, so that healthcare professionals can access a care plan at the point of care and the moment of care
Additional Notes	• To avoid a competitive approach across health systems regarding personal health information and who owns these data, MiHIN can serve as the "network of networks" in order to serve as a common backbone for health data exchange, with multiple organizations aligned under a common framework. • Although there may be multiple points of entry or access points for health

	information about a given patient, the future state for MiHIN is that one common infrastructure links data across disparate systems and permits healthcare providers across multiple organizations to share in planning and providing care to high/super utilizer patients. • In concert with the Advisory Council (above), HIE advancement can include development of predictive analytics to identify patterns of high/super utilization and cue healthcare professionals to incorporate early intervention strategies in patient-centered ways. This would be an area of great potential for partnerships among the Advisory Council and high/super utilizer stakeholder organizations.
RECOMMENDATION 4: Reform Payment to Promote Development & Implementation of High/Super Utilizer Programs by Healthcare Providers	
Goal	Michigan Medicaid will work toward payment reform to promote development and implementation of high/super utilizer care coordination programs by healthcare providers.
Rationale	• Care coordination for high/super utilizers is a common core element of successful programs in Michigan and across the United States. However, such programs have often been supported by special arrangements with payers or through research grants to innovate new programs. • Given best evidence, Michigan Medicaid should implement payment reform for healthcare providers that supports and accelerates adoption of care coordination strategies to address the needs of high/super utilizer patients. • Other MDCH-led initiatives with multiple community partners in Michigan have addressed the need for innovations in health payment. One recent example is the "Michigan Blueprint" for the State Innovation Model; payment reform for high/super utilizer care should be complementary to strategies undertaken as part of other statewide initiatives, to maximize synergies and minimize confusion among healthcare providers, patients, and community members.
Recommendation	• The Medicaid program should consider how its payment arrangements and contracts with Medicaid managed care plans align incentives for care coordination among healthcare providers. Specifically, there should be an effort to prioritize care coordination and care continuity for high/super utilizers and the healthcare providers who work to address their needs. As new reimbursement models are established, there should be educational programs to inform healthcare providers across the state about reimbursement opportunities and expectations, especially relating to ED care as it connects to post-ED support from clinicians and non-clinicians. Conceptually, these recommendations are consistent with proposals related to MiHIN participation by providers. • Priority recipients of incentives are primary care providers and community mental health providers; these providers will be further encouraged through payment reform to partner with emergency departments,

	hospitals, and community organizations – particularly through involvement of community health workers who can serve in roles such as care navigators.
Additional Notes	• Payment reform should focus on clear and concrete performance and outcome measures for care coordination; examples of such measures are available from exemplary programs in Michigan that were highlighted at the November 2013 symposium held to launch this stakeholder process. • Through care coordination, identifying factors that drive a particular patient's high/super utilization (and identifying an effective intervention) requires time and rapport; support for care coordination must ensure that primary care/behavioral health providers and their care coordinators have sufficient payment over the period of care to accomplish these patient-centered goals.
RECOMMENDATION 5: Reform Payment to Promote Development & Implementation of High/Super Utilizer Programs by Medicaid Health Plans	
Goal	Michigan Medicaid will work toward payment reform to promote development and implementation of high/super utilizer care coordination programs by Medicaid health plans.
Rationale	• Care coordination for high/super utilizers is a common core element of successful programs in Michigan and across the United States. However, such programs have often been supported by special arrangements with payers or through research grants to innovate new programs. • Given best evidence, Michigan Medicaid should implement payment reform through payers (e.g., Medicaid health plans) that supports and accelerates adoption of care coordination strategies to address the needs of high/super utilizer patients.
Recommendation	• The Medicaid program should promote alignment of incentives for care coordination by Medicaid health plans, in ways that do *not* duplicate care coordination efforts of healthcare providers. • Medicaid health plans may be further incentivized to innovate regarding models of care coordination (e.g., shared care planning with community mental health, facilitation of multi-community care coordination; identification of high utilizers likely to transition to super utilizers), in ways that encourage development of novel initiatives and sharing best practices with the Michigan healthcare community.
Additional Notes	• In developing an approach, it is essential to recognize that primary care access is not the greatest immediate need for all high/super utilizer patients. Instead, social determinants of health such as homelessness, food insecurity, and interpersonal violence present immediate threats to individuals' health that must be addressed as part of a comprehensive intervention to support high/super utilizers in the most effective and efficient ways. Therefore, Michigan should consider models such as "housing first", community aggregator models of coordination of care across facilities, co-location of primary care and mental health, and

	incentives to patients for participation. These types of ideas have met with success in pilot programs (e.g., HUB programs supported by the Health Care Innovations Initiative of the federal Centers for Medicare and Medicaid Services) in Michigan and can be adopted in an evidence-based way more broadly across the state.
RECOMMENDATION 6: Broaden State Resources to Support Innovation Regarding High/Super Utilizer Patterns	
Goal	The State of Michigan will be a fertile arena for development of nationally leading programs to meet the needs of high/super utilizer patients.
Rationale	• As one of the most populous states, and with over 75,000 individuals who are high/super utilizers in the Medicaid program annually, Michigan stands to gain from promotion of novel, successful initiatives that address the needs of high/super utilizer patients and can serve as models for implementation across the state and in other areas of the U.S. The Michigan legislature can serve a catalyzing role in this arena by allocating resources to support a sustainable model of care across the continuum of different care settings (ED, primary care, hospital) with adequate reimbursement and also provide incentives for innovative program development. • There are recent examples of state-level focus and investment to support innovation in addressing the high/super utilizer care challenge. One of the most well studied examples is in Washington State, where focused investment in improving real-time health information exchange at the level of EDs, especially regarding narcotic medications and diagnoses that patients had received in prior ED visits. As a result of a 7-component intervention (see details available in resources #5 and #6 in Appendix A), rates of ED visits for Medicaid beneficiaries were reduced 9.9 percent and the state realized program savings of $33.6 million in state fiscal year 2013.
Recommendation	The Legislature should support initiatives in Michigan to sponsor development, evaluation, and continuous improvement of high/super utilizer programs using innovative approaches, including but not limited to the following topic areas: • Identification and evaluation of leading programs statewide and nationally, and share insights through the clearinghouse overseen by the Advisory Council (see Recommendation 2) • Models of timely data sharing of personal health information that facilitate care coordination and mitigate high/super utilizer patterns while protecting individuals' personal health information • Education, training, and certification of the workforce necessary to address high/super utilizer patterns of care, including community health workers • Behavioral Health Homes (as an analogue and companion to primary care medical homes) • Avoidance of redundant testing across multiple healthcare settings that adds to the healthcare costs of high/super utilizers • Coordination of referrals for medical clearance related to inpatient

	psychiatric admissions (more frequent for high/super utilizer patients than other individuals) • Optimization of community resources for crisis residential treatment
Additional Notes	• There are many funding streams of public-sector and private-sector programs serving the same population that do not collaborate or communicate well currently; organizations that operate or support such programs were included among the stakeholders. The Advisory Council would have the opportunity to facilitate an inventory of such programs statewide, to identify opportunities for synergies and thereby illuminate remaining gaps. The Council could then make funding recommendations for closing these gaps in service.
RECOMMENDATION 7: Encourage and Support Care Coordination for High/Super Utilizers	
Goal	Ensure hospitals know when they are treating a high/super utilizer, and implement care accordingly, assist these individuals with their care plans, and improve care overall.
Rationale	Care coordination is the lynchpin for management of high/super utilizers and must be encouraged, supported, and facilitated across institutions and providers.
Recommendation	• MDCH should create and strongly encourage utilization of a uniform care plan, driven by what healthcare providers need to know in order to care for the patient • The state will encourage facilities, healthcare providers, and payers to embed care coordination for high/super utilizers at the emergency department level • MDCH should explore existing efforts, funding, and models that are relevant to addressing the needs of high/super utilizers (e.g., HUB models, Michigan Primary Care Transformation, State Innovation Model, and local innovations)
Additional Notes	• Healthcare providers providing care coordination must consider how to engage consumers who decline such coordination. These circumstances may be effectively addressed through community-based models of shared responsibility for the care of patients with multiple co-occurring health and non-health needs; effective examples of such models in Michigan are the HUB innovation programs in three pilot communities.
RECOMMENDATION 8: Implement Statewide Narcotic Prescribing Guidelines	
Goal	Reduce drug-seeking among, and drug-dispensing to, high/super utilizers, and reduce inappropriate prescribing of narcotics.
Rationale	Opiate (narcotic) prescription medication abuse has been on the rise across the United States, including in Michigan; opiate addiction is a common health problem for high/super utilizers who have chronic pain syndromes. ED prescriptions are a common source of opiate prescription medications that are diverted to users for whom they were not intended.
Recommendation	• MDCH should call for implementation of statewide narcotic prescribing

	guidelines; a set of guidelines has been proposed by the Michigan College of Emergency Physicians to be implemented in EDs across the state, with the understanding that each healthcare facility can add to it to meet its own community needs. In addition, Michigan Health and Hospital Association has just launched a Keystone initiative to standardize opiate prescription prescribing practices in hospital settings including ED and post-operative care. These partner initiatives represent a timely opportunity for MDCH to collaborate and consider co-branding in dissemination of these guidelines. • MDCH should emphasize the use of such guidelines as rooted in patient health and safety. • MDCH should work with its stakeholder partners to educate primary care physicians and the broader physician community of these guidelines. • MDCH should strongly encourage healthcare providers in all settings to utilize existing systems, such as Michigan's prescription drug monitoring program (MAPS), to reduce inappropriate narcotic prescribing. Participation by healthcare providers would likely be increased if MAPS were updated to a "push" model to facilitate more timely access to shared patient information across participating providers; please see Recommendation #3 for additional details.
Additional Notes	• Several working members also recommended that MDCH should consider working with Michigan Licensing and Regulatory Affairs agency to implement greater transparency in the volume of narcotic prescriptions by physicians within the context of their specialties, in ways that would lead to confidential remediation for physicians whose prescribing habits were substantially higher than the norm for their specialties. Use cases related to these issues are currently contemplated regarding health information exchange related to MiHIN.
RECOMMENDATION 9: Promote and Facilitate Continuous Quality Improvement Regarding High/Super Utilizer Healthcare in Michigan	
Goal	MDCH will continuously review reports of high/super utilizer patterns (in the ED, inpatient, and psychiatric inpatient settings) among Medicaid beneficiaries, to ensure that interventions are successful—defining success with patient-centered metrics related to ED use and prescribing patterns.
Rationale	• At the national level, there are gaps in understanding about what approaches to high/super utilizers are most effective because the initiatives have not had timely assessment such as that implemented by healthcare facilities and payers. • As a state, Michigan can do better by applying principles of continuous quality improvement to initiatives undertaken to address the needs of high/super utilizers.
Recommendation	MDCH and its Advisory Council should convene regular meetings of a Quality Improvement Working Group of subject matter experts drawn from healthcare facilities, healthcare provider organizations, and academic research units in

	Michigan to examine data from Michigan Medicaid and community-level initiatives in Michigan to understand how high/super utilizer initiatives are affecting care. Such discussions would intersect well with the efforts of data-sharing stakeholders working through MiHIN to examine ways to standardize quality reporting in ways that lessen the administrative burden on healthcare providers.
Additional Notes	• Workgroup members emphasized the importance of selecting a manageable number of meaningful data points to track initially, and look at performance and outcomes and then include additional measures only if needed to measure the value-added nature of novel programs. • Work under this recommendation will have likely synergies with anticipated activities related to the Michigan Health Care Cost and Quality Advisory Committee, also formed as part of the enabling legislation for the Healthy Michigan Plan.
RECOMMENDATION 10: Increase Access to Primary Care in Michigan	
Goal	Leverage and build upon existing primary care infrastructure in Michigan—including programs like patient-centered medical homes and Michigan Primary Care Transformation, urgent care, nurse triage lines, and telemedicine—to heighten public awareness and appropriateness of seeking care in ED and non-ED settings; health plans will be encouraged to participate in these initiatives.
Rationale	• Timely access to primary care is essential to reduce population-level reliance on ED care for minor medical complaints. • If access to primary care-level services can be increased throughout the state, ED visits may be reduced for the high/super utilizer group and for individuals who select the ED when their health concerns are minor and can be effectively addressed in non-ED settings. • Importantly, urgent care and after-hours clinics serve a role in amplifying access to primary care-level services in Michigan during hours when primary care office practices may have limited or no access (e.g., evenings and weekends); these centers must be included in consideration of optimizing primary care access.
Recommendation	• The Michigan legislature should act to sustain primary care reimbursement through Medicaid in Michigan, to ensure that primary care providers have incentives to continue to accept individuals with Medicaid coverage and will be able to receive reimbursement that covers their costs; these actions will maintain an appropriate focus on primary care as an important component of care for high/super utilizers. • MDCH should consider novel payment initiatives that would align incentives for timely primary care, such as: (a) reimbursing at a higher rate through evening and weekend hours; (b) reimbursing at a higher rate for a patient recently seen in an ED setting who is seen for follow-up in primary care; (c) reimbursing at a higher rate for care coordination services; (d) incentives for providers whose ED visit rates for their established patients are lower than average, adjusted for severity of illness.

Additional Notes	• Training and expansion of the healthcare workforce in Michigan must prioritize recruitment, retention, and deployment of primary care practitioners (including physicians, advanced practice nurses, and physician assistants) across the state. • Beyond existing initiatives, MDCH may wish to add special emphasis and incentives for recruitment and retention of primary care providers in counties with the highest proportions of high/super utilizers and the highest counts of high/super utilizers at the population level.
RECOMMENDATION 11: Educate the Public Regarding Appropriate Use of Healthcare at Different Levels of Care	
Goal	The Michigan population will use levels of healthcare services that correspond to the severity and complexity of illness.
Rationale	• The healthcare system will function at its best and the population will likely enjoy its best health when healthcare is sought and provided at the level of care appropriate for the patient and his/her condition(s). • Some patients use the ED even when their symptoms and chronic illnesses do not warrant that level of sophisticated care, for a variety of reasons including insufficient availability of primary care-level services in a time frame perceived as appropriate by the patient. • States such as Washington State have innovated ways to educate their population about care-seeking behavior (the "ED is for emergencies" program), with subsequent decreases in the volume of ED visits. In Michigan, the Greater Detroit Area Health Council has initiated a public information campaign with similar objectives (http://www.gdahc.org/content/providers), financed in part by an MDCH Health Innovation grant.
Recommendation	The state should examine evidence from programs that have been implemented elsewhere to encourage patients' use of healthcare settings that correspond with the severity and complexity of illness, and should also encourage and evaluate programs that are implemented in Michigan, in terms of intended and potentially unintended consequences—keeping in mind that efficient healthcare must be paired with optimal patient and population health outcomes.
Additional Notes	• Workgroup participants emphasized the importance of a core, universal approach to any initiative that would educate patients about the value of primary care and also the timely use of preventive dental services that can prevent the occurrence of health problems elsewhere in the body. • A highly functional health information exchange (see Recommendation #3) would help healthcare providers assure patients that there is sufficient coordination across the system – and thereby gain patient trust. • Health (and healthcare) literacy is important to success of initiatives to help the public make more informed decisions about their own healthcare needs. Michigan may consider investing in statewide educational efforts for adolescents about healthcare, in order to raise the next generation of

	adults whose healthcare literacy will facilitate appropriate care-seeking behavior. The general importance of public health, as it intersects K-12 education, was also endorsed by several stakeholders. • In addition, members of the workgroup indicated the emerging appreciation of the importance of adverse childhood experiences in prompting high/super utilizer patterns of healthcare for adults. The Advisory Council may wish to examine further the potential for implementing screening questions for adverse childhood experiences in ED settings, as a way to inform efforts to address current or potential high/super utilizer patterns of healthcare use.

LIST OF PARTICIPATING STAKEHOLDERS

Stakeholders Who Participated in One or More Workgroups

First Name	Last Name	Self-Identified Organization	Workgroup
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Linda	Alexander	Total Health Care	A, C
Deborah	Bach-Stante	Michigan Department of Community Health	C
Michael	Baker	Michigan College of Emergency Physicians	A, B, C
Melissa	Barton	Detroit Medical Center	A
Donald	Beam	Blue Cross Complete	C
Renee	Benard	Clinton - Eaton - Ingham Community Mental Health	A
Rebecca	Blake	Michigan State Medical Society	A, B
Diane Kay	Bollman	Michigan College of Emergency Physicians	A, B, C
Antonio X.	Bonfiglio	Michigan College of Emergency Physicians	B
Wanda	Brown	Bronson Methodist Hospital/Family Health Center of Kalamazoo	A
Ellen	Bunting	Michigan Data Collaborative	B, C
Cheryl	Bupp	Michigan Associate of Health Plans	A, C
Jennifer	Carpenter	Genesys Regional Medical Center	A
Sheilah	Clay	Neighborhood Service Organization	A
Jaimie	Clayton	Oakland Family Services	A
Connie	Conklin	Livingston County Community Mental Health	A
Thomas	Curtis	Michigan Department of Community Health	A, C
Matthew	Davis	Michigan Department of Community Health	A, B, C
Pam	Diebolt	Michigan Department of Community Health	A, B, C
David	Donigian	Molina	B
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Debbie	Eggleston	Michigan Department of Community Health	A, B, C
Huda	Fadel	Blue Cross Blue Shield of Michigan	A, B, C
Sheri	Falvay	Michigan Department of Community Health	A
Joseph	Ferguson	Advantage Heatlh Centers & Michigan Primary Care Association	B
Kristin	Finton	St. John Providence Health System	A, C
Colin	Ford	Michigan State Medical Society	C
James	Forshee	Molina Healthcare	C
James M.	Fox	Michigan College of Emergency Physicians	B
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First Name	Last Name	Self-Identified Organization	Workgroup
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Marvin	Helmker	Michigan Department of Community Health	C
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Melissa	Holmquist	Upper Peninsula Health Plan	A
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Lauren	Hughes	U-M Health System	A
Allen	Jansen	Pine Rest Christian Mental Health Services	A
Kristi	Johnson	Munson Medical Center	A
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Rami	Khoury	Allegiance Health	C
Kathleen	Kobernik	Blue Cross Blue Shield of Michigan	A, B
Keith	Kocher	University of Michigan	C
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Monica	Kwasnik	Michigan Department of Community Health	C
Marie	LaPres	Michigan Department of Community Health	A
Scott	Larson	Bronson Healthcare Group	A
Justin	List	University of Michigan	A
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Sarah	Lyon-Callo	Michigan Dept of Community Health	A
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Lorne	McKenzie	Livingston County Community Mental Health	A,B,C
Mark	Meijer	Life EMS Ambulance	A, C
Steve	Meyers	Mobile Medical Response	C
Michelle	Milam	Ingham Health Plan Corp.	C
Richard	Miles	Michigan Department of Community Health	B
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Kevin	Monfette	Michigan College of Emergency Physicians	A, B, C
Drew	Murray	Michigan Health Council	B
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David	Nerenz	Henry Ford Health System	B
J. Marshall	Newbern	Meridian Health Plan	A
Kim	Nuyen	Borgess/ProMed	C
Tim	Peterson	University of Michigan	A, B, C
Thomas	Platt	Cherry Street Health Services	B
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John	Stewart	Hurley Medical Center	C
Gwenda	Summers	Clinton - Eaton - Ingham Community Mental Health	B
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Renu	Tipirneni	U-M Health System	A
John	Truba	Hayes Green Beach Memorial Hospital	B
Brad	Uren	Michigan College of Emergency Physicians	C
Nick	Vitale	Beaumont	B
Corey	Waller	Spectrum Health	A, B, C
David	Walters	Botsford Hospital	A
Sam	Watson	Michigan Health & Hospital Association	C
William	Weld-Wallis	Neighborhood Service Organization	A
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Brent	Williams	University of Michigan	A
Chris	Wojcik	Michigan Public Health Institute	B
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Kara	Zivin	U-M Health System	B

Stakeholders Who Attended Symposium(s) Only

First Name	Last Name	Self-Identified Organization
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Pam	Sorensen	Upper Peninsula Health Plan
Meghan	Swain	Michigan Association for Local Public Health
Joseph	Tardella	Southwest Counseling Solutions
Michael	Vizena	Michigan Association of Community Mental Health Boards
Roberta	Walker	Southwest Counseling Solutions
Patrick	Visser	Southwest Mich Behavioral Health
Keith	White	State Budget Office
Tanya	Young	Holland PHO

APPENDIX A – ADDITIONAL READINGS AND RESOURCES REGARDING HIGH-UTILIZER PATTERNS

1. Brenner J. Reforming Camden's health care system – One patient at a time. *Prescriptions for Excellence in Health Care*. 2009;5:1-3. http://jdc.jefferson.edu/cgi/viewcontent.cgi?article=1047&context=pehc. Accessed December 8, 2014.

   This brief summarizes three innovative projects, implemented by the Camden Coalition of Healthcare Providers, to target super utilizers, improve access to care, and improve the efficiency and coordination of care. Experts from the Camden Coalition provided insight from this experience into the development of Michigan's high and super utilizer recommendations.

2. CMCS informational bulletin: Reducing nonurgent use of emergency departments and improving appropriate care in appropriate settings. *Centers for Medicare & Medicaid Services.* January 16, 2014. http://www.medicaid.gov/Federal-Policy-Guidance/downloads/CIB-01-16-14.pdf. Accessed December 8, 2014.

   This policy document summarizes three strategies to deliver appropriate care in the most appropriate setting: broaden access to primary care services, focus on frequent ED users, and target the needs of people with behavioral health problems. This document also provides guidance on the regulatory issues related to distinguishing between emergent and non-emergent use of the ED.

3. CMCS informational bulletin: Targeting Medicaid super-utilizers to decrease costs and improve quality. *Centers for Medicare & Medicaid Services.* July 24, 2013. http://www.medicaid.gov/federal-policy-guidance/downloads/CIB-07-24-2013.pdf. Accessed December 8, 2014.

   The purpose of this policy document is to share details of care delivery and payment models to help states and Medicaid providers better meet the complex needs of the highest utilizers of acute care in Medicaid populations. This document describes key policy questions for states and providers interested in launching super utilizer programs to consider, and details existing Medicaid funding mechanisms and policies to support super utilizer programs. This document also describes six state based case studies identified as successful programs, including Michigan's own Spectrum Health Center for Integrative Medicine.

4. Gawande A. The hot spotters. *The New Yorker*. January 24, 2011. http://www.newyorker.com/magazine/2011/01/24/the-hot-spotters. Accessed December 8, 2014.

This 2011 magazine piece highlights the efforts of the Camden Coalition to contain high health care costs. Focusing on geographic "hot spots" of chronically ill patients incurring the highest costs of care, a care management team follows patients over time to assure access to appropriate care and social services.

5. Report to the legislature: Emergency department utilization: Update on assumed savings from best practices implementation. *Washington State Health Care Authority*. March 20, 2014. http://www.hca.wa.gov/Documents/EmergencyDeptUtilization.pdf. Accessed December 8, 2014.

6. Washington State seven best practices. *American College of Emergency Physicians, Washington Chapter.* http://wsma.org/doc_library/ForPatients/KnowYourChoices/ErIsForEmergencies/ED_best_practices.pdf. Accessed December 8, 2014.

   In 2012, a public-private partnership in the state of Washington implemented the "ER is for Emergencies" campaign, enacting legislation to create the "Washington State Seven Best Practices" for reducing preventable emergency visits by Medicaid beneficiaries. The Washington Health Care Authority published a report in 2014 summarizing the preliminary results of the initiative on utilization and cost savings.

Selected Academic Literature on High and Super Utilizers

7. LaCalle E, Rabin E. "Frequent users of emergency departments: the myths, the data, and the policy implications." *Ann Emerg Med.* 2010 Jul;56(1):42-8. doi: 10.1016/j.annemergmed.2010.01.032

   The authors conduct a systematic review of the literature on frequent ED users and their demographics, acuity of illness, and patterns of health care utilization. This review seeks to inform the development of policies pertaining to frequent ED users.

8. Pines JM, Asplin BR, Kaji AH et al. "Frequent Users of Emergency Departments Services: Gaps in in Knowledge and a Proposed Research Agenda." *Acad Emerg Med*. 2011 Jun;18(6):e64-9. doi: 10.1111/j.1553-2712.2011.01086.x.

   The authors propose a research agenda aimed to increase the understanding of frequent ED use, which includes the creation of a categorization system for frequent users, predicting patterns for patients at risk of becoming frequent users, implementing interventions within and outside of the ED, and conducting studies to explore reasons for frequent use related to differences among populations and by conditions.

9. Westfall JM. Cold-spotting: Linking primary care and public health to create communities of solution." *J Am Board Fam Med*. 2013 May-Jun;26(3):239-40. doi: 10.3122/jabfm.2013.03.130094.

This paper makes the case for identifying "cold spots" – communities with poor social determinates of health – as a way to target communities amenable to interventions linking primary care and public health at the community and population levels, in order to the improve health and lower the costs of ED high utilization.

APPENDIX B – SUMMARY OF DATA ANALYSES

Overview

Information presented in this section is based on Medicaid claims data stored within the State of Michigan's Data Warehouse and covers the period spanning January 1, 2011, through December 31, 2013. Unless otherwise stated, only beneficiaries that were enrolled with full Medicaid coverage (scope code of 1 or 2 and coverage codes of D, E, F, K, P, T, U, or V) for at least 6 months of the measurement period were included in the analyses. In all, this inclusion criterion consists of 90 percent in 2011, 92 percent in 2012, and 90 percent in 2013 of all ED visits that occurred within each year.

Overall Frequency of ED Visits

More than 1.8 million Michigan Medicaid beneficiaries had full Medicaid coverage for 6 or more months within each year between 2011 and 2013 and accounted for more than 1.7 million ED visits per year. This translates to less than one ED visit per Medicaid beneficiary, per year. The highest average number of ED visits per beneficiary during this timeframe was observed among beneficiaries enrolled in fee-for-service (FFS) for six or more months at 1.04 ED visits per beneficiary for both 2011 and 2012 before decreasing to 0.97 in 2013, which was the same as for managed care beneficiaries.

Please note, the total beneficiary count is larger than the sum of the managed care and FFS beneficiary counts, as it includes beneficiaries that may have been enrolled in either benefit plan for less than six months individually, but more than six months in total among all benefit plans. Additionally, ED visits were attributed to beneficiaries who met the six month or more eligibility criteria for managed care or FFS and may not necessarily reflect the beneficiary's enrollment status at the time of the ED visit.

Table 1: Summary of ED Visits by Medicaid Beneficiaries by Year

	Total Beneficiaries			Beneficiaries Enrolled in Managed Care			Beneficiaries Enrolled in Fee-For-Service		
Year	Medicaid Beneficiaries	ED Visits	Ave. ED Visit / Ben.	Medicaid Beneficiaries	ED Visits	Ave. ED Visit / Ben.	Medicaid Beneficiaries	ED Visits	Ave. ED Visit / Ben.
2011	1,831,206	1,741,366	0.95	1,274,698	1,210,109	0.95	463,284	481,345	1.04
2012	1,823,896	1,775,943	0.97	1,295,164	1,267,479	0.98	438,935	457,251	1.04
2013	1,817,472	1,721,368	0.95	1,306,826	1,264,621	0.97	417,911	403,795	0.97

Distribution of ED Visits Among Medicaid Beneficiaries

Table 2 shows the distribution of Medicaid beneficiaries by their number of ED visits within each of the measurement years. Approximately 40 percent of Medicaid beneficiaries had at least one ED visit within each calendar year. This proportion is higher by 1.5 percentage points in 2011 and 2012 and 1.8 percentage points in 2013 for beneficiaries enrolled in managed care versus FFS. Conversely, this proportion is lower for those enrolled in FFS, at 38.1 percent and 36.4 percent for 2011 and 2013, respectively, while remaining relatively stable in 2012.

Table 2: Distribution of ED Visits Among Medicaid Beneficiaries for 2011, 2012, & 2013

	2011		2012		2013	
ED Visits	#	%	#	%	#	%
All beneficiaries with 6+ months of coverage.						
No visits	1,095,732	59.8%	1,083,164	59.4%	1,091,623	60.1%
1-2 visits	534,226	29.2%	535,180	29.3%	527,502	29.0%
3-4 visits	125,475	6.9%	126,730	6.9%	122,848	6.8%
5-7 visits	50,006	2.7%	51,505	2.8%	49,687	2.7%
8-14 visits	20,037	1.1%	21,368	1.2%	20,142	1.1%
15-24 visits	4,027	0.2%	4,138	0.2%	3,975	0.2%
25-39 visits	1,181	0.1%	1,253	0.1%	1,156	0.1%
40+ visits	522	0.0%	558	0.0%	539	0.0%
Total	1,831,206	100.0%	1,823,896	100.0%	1,817,472	100.0%
Beneficiaries with 6+ months of coverage in managed care.						
No visits	743,269	58.3%	749,567	57.9%	761,608	58.3%
1-2 visits	391,415	30.7%	398,692	30.8%	399,082	30.5%
3-4 visits	89,866	7.0%	92,777	7.2%	92,233	7.1%
5-7 visits	34,186	2.7%	36,272	2.8%	36,117	2.8%
8-14 visits	12,622	1.0%	14,142	1.1%	14,027	1.1%
15-24 visits	2,400	0.2%	2,640	0.2%	2,677	0.2%
25-39 visits	672	0.1%	760	0.1%	745	0.1%
40+ visits	268	0.0%	314	0.0%	337	0.0%
Total	1,274,698	100.0%	1,295,164	100.0%	1,306,826	100.0%
Beneficiaries with 6+ months of FFS coverage.						
No visits	286,739	61.9%	271,182	61.8%	265,658	63.6%
1-2 visits	120,379	26.0%	114,440	26.1%	105,585	25.3%
3-4 visits	31,893	6.9%	30,140	6.9%	26,614	6.4%
5-7 visits	14,770	3.2%	14,067	3.2%	12,354	3.0%
8-14 visits	7,138	1.5%	6,912	1.6%	5,831	1.4%
15-24 visits	1,615	0.3%	1,464	0.3%	1,267	0.3%
25-39 visits	500	0.1%	481	0.1%	405	0.1%
40+ visits	250	0.1%	249	0.1%	197	0.0%
Total	463,284	100.0%	438,935	100.0%	417,911	100.0%

Inconsistent Trends in Repeat High/Super ED Utilization Over Time

High/super ED utilization in one year is associated with high ED utilization in the following year, but only for about one-third of high/super utilizer patients (Table 3). For example, 37.5 percent of Medicaid beneficiaries who had 5 or more ED visits in the 2011 calendar year also had 5 or more ED visits in 2012. Similarly, 36.4 percent of beneficiaries had 5 or more ED visits in 2012 and 2013. Twenty percent of high/super utilizers in 2011 were also high/super utilizers in both 2012 and 2013. As shown in Table 3, the more ED visits a beneficiary had in 2011 or 2012, the more likely they were to meet high/super utilizer criteria of 5 or more ED visits in the following year.

Table 3: ED Utilization in Consecutive Years

	2011 (Baseline) & 2012 (Follow-up)			2012 (Baseline) & 2013 (Follow-up)			2011 (Baseline) & Both 2012 & 2013 (Follow-up)		
Number of ED Visits in Baseline Year	Total Beneficiaries	# with 5+ ED Visits	% with 5+ ED Visits	Total Beneficiaries	# with 5+ ED Visits	% with 5+ ED Visits	Total Beneficiaries	# with 5+ ED Visits	% with 5+ ED Visits
No ED Visits in Baseline Year*	1,095,732	7,038	0.6%	1,083,164	6,461	0.6%	1,095,732	1,282	0.1%
1 to 2 ED Visits	534,226	17,856	3.3%	535,180	16,658	3.1%	534,226	4,353	0.8%
3 to 4 ED Visits	125,475	14,920	11.9%	126,730	14,180	11.2%	125,475	4,815	3.8%
5 to 7 ED Visits	50,006	13,527	27.1%	51,505	13,218	25.7%	50,006	5,851	11.7%
8 to 14 ED Visits	20,037	10,308	51.4%	21,368	10,758	50.3%	20,037	5,862	29.3%
15 to 24 ED Visits	4,027	3,102	77.0%	4,138	3,132	75.7%	4,027	2,229	55.4%
25 to 39 ED Visits	1,181	1,011	85.6%	1,253	1,082	86.4%	1,181	805	68.2%
40+ ED Visits	522	475	91.0%	558	523	93.7%	522	391	74.9%
Overall High Utilizers (5+ ED visits in baseline and follow-up year)	75,773	28,423	37.5%	78,822	28,713	36.4%	75,773	15,138	20.0%

Reasons for Decreased ED Utilization Among High/Super Utilizers in Subsequent Years

Among beneficiaries who were high/super utilizers in 2011 or 2012 but were not in that category the following year, about 62 percent of these individuals were still enrolled in Medicaid for 6 or more months during the following year (Table 4)—i.e., their patterns of ED utilization as a Medicaid beneficiary decreased for reasons unrelated to program eligibility. About 7 percent of the original high/super utilizer group died, about 17 percent were pregnant

in the baseline year but not subsequently and were not eligible for Medicaid, slightly more than 4 percent were receiving nursing or long-term care services in either year, and 10 percent did not meet the inclusion criteria of 6 or more months of full Medicaid coverage during the follow-up year but would have met the criteria for high/super utilization.

Table 4: Reasons for Non-High ED Utilization in Consecutive Years

Reasons for Non-Repeat High ED Utilization	2011 (Baseline) & 2012 (Follow-up)		2012 (Baseline) & 2013 (Follow-up)	
	#	%	#	%
Died in baseline or follow-up year	3,543	7.5%	3,724	7.4%
Pregnant in baseline year	7,781	16.4%	8,328	16.6%
Receiving nursing care services in baseline or follow-up year	2,163	4.6%	2,276	4.5%
Did not meet eligibility criteria in follow-up year*	4,715	10.0%	4,808	9.6%
Met eligibility criteria in follow-up year but had <5 ED visits	29,148	61.6%	30,973	61.8%
Total	47,350	100.0%	50,109	100.0%

*Includes beneficiaries with less than 6 months of full Medicaid coverage within the baseline year.

Demographic Characteristics of High/Super Utilizer Patients

When looking at high/super ED utilization by population-adjusted rates, beneficiaries who utilize the ED most often (i.e., the proportion of beneficiaries with at least one ED visit within the year) were those between 20 and 34 years of age (Table 5, next page). However, beneficiaries with the highest number of visits within the year were those between 35 to 49 years of age; they had rates three times higher than average in the 15 to 29 ED visit category and 3.4 times higher than average in the 30 or more ED visit category when compared to the overall rates for these same categories. Females were found to utilize the ED more often than males in each ED visit category, except at the 30 or more ED visit level where rates were the same for both genders. In terms of differences by race/ethnicity, blacks were found to utilize the ED more often than beneficiaries in other race/ethnicity categories, in terms of proportion of the black beneficiary population meeting the five-or-more-ED-visits threshold and the relative proportion of black beneficiaries among individuals with the highest numbers of ED visits. American Indians also had a high population-adjusted rate of ED utilization with the 15 to 29 ED visit category, although their rates were similar to other racial/ethnic groups in the other ED-frequency categories.

Table 5: Number and Standardize Rates of ED Utilization by Age, Gender, and Race/Ethnicity

Demographic Characteristics	Total Beneficiaries	0 ED Visits		1 to 4 ED Visits		5 to 14 ED Visits		15 to 29 ED Visits		30+ ED Visits	
		#	Rate per 1,000	#	Rate per 1,000	#	Rate per 1,000	#	Rate per 1,000	#	Rate per 1,000
Total	1,817,472	1,091,623	600.6	650,350	357.8	69,829	38.4	4,552	2.5	1,118	0.6
Age*											
<3 yrs.	218,735	111,781	511.0	99,041	452.8	7,845	35.9	67	0.3	*	*
3 to 5 yrs.	178,907	114,420	639.6	62,404	348.8	2,076	11.6	7	0.0	*	*
6 to 10 yrs.	271,313	197,886	729.4	71,709	264.3	1,704	6.3	13	0.0	*	*
11 to 19 yrs.	408,665	281,625	689.1	119,042	291.3	7,726	18.9	240	0.6	32	0.1
20 to 34 yrs.	280,027	135,278	483.1	121,422	433.6	21,388	76.4	1,557	5.6	382	1.4
35 to 49 yrs.	205,247	106,847	520.6	82,170	400.3	14,279	69.6	1,525	7.4	426	2.1
50 to 64 yrs.	145,160	74,868	515.8	58,586	403.6	10,468	72.1	982	6.8	256	1.8
65+ yrs.	109,418	68,918	629.9	35,976	328.8	4,343	39.7	161	1.5	20	0.2
Gender											
Male	800,136	505,566	631.9	269,933	337.4	22,645	28.3	1,534	1.9	458	0.6
Female	1,017,336	586,057	576.1	380,417	373.9	47,184	46.4	3,018	3.0	660	0.6
Race/Ethnicity											
White	1,010,677	628,443	621.8	343,320	339.7	35,890	35.5	2,472	2.4	552	0.5
Black	534,615	288,468	539.6	218,107	408.0	26,030	48.7	1,566	2.9	444	0.8
Am. Indian	12,111	7,269	600.2	4,348	359.0	445	36.7	42	3.5	7	0.6
Asian/PI	31,748	24,033	757.0	7,318	230.5	373	11.7	22	0.7	*	*
Hispanic	105,816	68,579	648.1	34,538	326.4	2,565	24.2	105	1.0	29	0.3
Migrant	3,142	2,465	784.5	650	206.9	27	8.6	*	*	*	*
Unknown	115,997	70,093	604.3	41,064	354.0	4,414	38.1	343	3.0	83	0.7

*Cell size is less than 5 cases.
Race/ethnicity data provided by beneficiary.

Geographic Characteristics of High/Super Utilizer Patients

Table 6 (next two pages) presents the numbers and percentages of high/super ED utilizers by their county of residence and, at a broader level, the Michigan Prosperity Regions that cover the various sections of the state, for 2013. The table presents high/super ED utilizer rates based on two different methods: (a) based on the total number of Medicaid beneficiaries with six or more months of full Medicaid coverage within 2013; (b) based on the overall county population for 2013.

Table 6: High/Super ED Utilization by County and Prosperity Region of Residence, 2013

County	5+ ED Visits within 12 months					County	5+ ED Visits within 12 months				
	# individuals	Medicaid Beneficiaries	% of Medicaid Beneficiaries*	County Population	% of Population		# individuals	Medicaid Beneficiaries	% of Medicaid Beneficiaries*	County Population	% of Population
Michigan	**75,321**	**1,810,469**	**4.2**	**9,895,622**	**0.76**						
Region 1: Upper Peninsula	**1,703**	**48,509**	**3.5**	**309,387**	**0.55**	Region 4: West/ West Central LP					
Alger	51	1,341	3.8	9,522	0.54	(continued)					
Baraga	34	1,460	2.3	8,695	0.39	Kent	5,362	113,008	4.7	621,700	0.86
Chippewa	221	6,034	3.7	38,696	0.57	Lake	148	2,806	5.3	11,386	1.30
Delta	164	6,562	2.5	36,905	0.44	Mason	359	5,584	6.4	28,605	1.26
Dickinson	122	4,226	2.9	26,098	0.47	Mecosta	373	7,819	4.8	43,108	0.87
Gogebic	135	2,993	4.5	15,916	0.85	Montcalm	669	12,694	5.3	63,105	1.06
Houghton	219	5,582	3.9	36,225	0.60	Muskegon	2,551	41,758	6.1	171,008	1.49
Iron	117	2,220	5.3	11,516	1.02	Newaygo	448	11,059	4.1	48,001	0.93
Keweenaw	7	289	2.4	2,191	0.32	Oceana	245	6,682	3.7	26,245	0.93
Luce	50	1,233	4.1	6,502	0.77	Osceola	283	5,250	5.4	23,259	1.22
Mackinac	42	1,571	2.7	11,061	0.38	Ottawa	959	30,036	3.2	272,701	0.35
Marquette	343	8,794	3.9	67,700	0.51	**Region 5: East Central LP**	**4,874**	**107,745**	**4.5**	**571,246**	**0.85**
Menominee	110	3,658	3.0	23,791	0.46	Arenac	102	3,348	3.0	15,487	0.66
Ontonagon	32	994	3.2	6,322	0.51	Bay	715	19,046	3.8	106,832	0.67
Schoolcraft	56	1,552	3.6	8,247	0.68	Clare	307	7,582	4.0	30,569	1.00
Region 2: Northwest LP	**1,341**	**49,389**	**2.7**	**301,143**	**0.45**	Gladwin	241	5,175	4.7	25,493	0.95
Antrim	86	4,059	2.1	23,370	0.37	Gratiot	335	7,946	4.2	41,968	0.80
Benzie	76	2,776	2.7	17,428	0.44	Isabella	356	9,222	3.9	70,436	0.51
Charlevoix	78	4,051	1.9	26,129	0.30	Midland	317	11,433	2.8	83,919	0.38
Emmet	107	4,882	2.2	33,140	0.32	Saginaw	2,501	43,993	5.7	196,542	1.27
Grand Traverse	308	12,582	2.4	89,987	0.34	**Region 6: East LP**	**6,811**	**179,060**	**3.8**	**861,444**	**0.79**
Kalkaska	76	3,784	2.0	17,196	0.44	Genesee	3,926	99,307	4.0	415,376	0.95
Leelanau	33	1,904	1.7	21,747	0.15	Huron	180	5,215	3.5	32,224	0.56
Manistee	198	4,212	4.7	24,450	0.81	Lapeer	443	13,412	3.3	88,389	0.50
Missaukee	76	3,115	2.4	15,051	0.50	St Clair	1,167	29,177	4.0	160,469	0.73
Wexford	303	8,024	3.8	32,645	0.93	Sanilac	250	8,386	3.0	41,823	0.60
Region 3: Northeast LP	**1,297**	**42,183**	**3.1**	**204,896**	**0.63**	Shiawassee	437	12,813	3.4	68,900	0.63
Alcona	27	1,734	1.6	10,578	0.26	Tuscola	408	10,750	3.8	54,263	0.75
Alpena	217	5,999	3.6	29,091	0.75	**Region 7: South Central LP**	**3,320**	**70,376**	**4.7**	**467,321**	**0.71**
Cheboygan	160	5,063	3.2	25,726	0.62	Clinton	238	7,178	3.3	76,739	0.31
Crawford	135	2,757	4.9	13,904	0.97	Eaton	639	13,975	4.6	108,348	0.59
Iosco	223	5,680	3.9	25,429	0.88	Ingham	2,443	49,223	5.0	282,234	0.87
Montmorency	43	1,824	2.4	9,350	0.46	**Region 8: Southwest LP**	**6,748**	**155,126**	**4.4**	**778,967**	**0.87**
Ogemaw	160	4,948	3.2	21,234	0.75	Berrien	1,384	32,633	4.2	155,252	0.89
Oscoda	51	1,859	2.7	8,379	0.61	Branch	406	8,807	4.6	43,649	0.93
Otsego	107	4,909	2.2	24,129	0.44	Calhoun	1,173	30,710	3.8	135,012	0.87
Presque Isle	37	2,110	1.8	13,062	0.28	Cass	305	9,525	3.2	51,910	0.59
Roscommon	137	5,300	2.6	24,014	0.57	Kalamazoo	2,175	42,149	5.2	256,725	0.85
Region 4: West/West Central LP	**13,068**	**273,494**	**4.8**	**1,544,819**	**0.85**	St Joseph	611	13,736	4.4	60,964	1.00
Allegan	750	17,920	4.2	112,531	0.67	Van Buren	694	17,566	4.0	75,455	0.92
Barry	440	8,260	5.3	59,097	0.74						
Ionia	481	10,618	4.5	64,073	0.75						

for Regions 9 and 10 – please see next page

Region 9: Southeast LP	**5,365**	**128,233**	**4.2**	**994,717**	**0.54**	**Region 10: Detroit Metro**	**30,794**	**756,354**	**4.1**	**3,861,682**	**0.80**
Hillsdale	456	9,010	5.1	46,101	0.99	Macomb	4,279	132,274	3.2	854,769	0.50
Jackson	1,410	30,787	4.6	160,369	0.88	Oakland	5,019	135,999	3.7	1,231,640	0.41
Lenawee	773	16,660	4.6	99,188	0.78	Wayne	21,496	488,081	4.4	1,775,273	1.21
Livingston	505	14,407	3.5	184,443	0.27						
Monroe	1,007	21,124	4.8	150,376	0.67	Other or Unknown	178	7,003	2.5	-	-

Hospitalizations by ED Utilization

In 2013, 246,781 hospital inpatient admissions occurred among Medicaid beneficiaries with full benefit coverage for at least 6 months during the calendar year, which translates to an overall average of 0.14 hospitalizations per beneficiary. When stratifying the number of inpatient hospitalizations by ED utilization, the average number of hospitalizations per beneficiary increased more than 100 times over for those with the most visits, ranging from 0.04 hospitalizations per beneficiary for those with no ED visits during the year, to 4.08 for those with 30 or more ED visits (Table 6). Similarly, only 4.0 percent of Medicaid beneficiaries who did not visit the ED were admitted to the hospital, whereas 17.1 percent of beneficiaries with one to four ED visits during 2013 had at least one hospitalization. Among beneficiaries with 30 or more ED visits within the year, 71.6 percent had at least one hospitalization while 27.4 percent of these beneficiaries had five or more hospitalizations.

Table 7: Inpatient Hospitalization Frequencies by ED Utilization, 2013

Number of ED Visits	Beneficiary Count	Inpatient Hospitalization Count	Ave. # of Hosp. per Beneficiary	Number of Hospitalizations Among Beneficiaries					
				1 or More		3 or More		5 or More	
				N	%	N	%	N	%
Total	1,817,472	246,781	0.14	189,050	10.4%	10,695	0.6%	2,850	0.2%
0 Visits	1,091,623	44,691	0.04	43,340	4.0%	130	0.0%	26	0.0%
1-4 Visits	650,350	131,083	0.20	111,495	17.1%	2,663	0.4%	188	0.0%
5-14 Visits	69,829	56,795	0.81	30,591	43.8%	6,232	8.9%	1,636	2.3%
15-29 Visits	4,552	9,646	2.12	2,824	62.0%	1,225	26.9%	694	15.2%
30+ Visits	1,118	4,566	4.08	800	71.6%	445	39.8%	306	27.4%