Michigan Medical Monitoring Project Data Summary

Based on interviews conducted in the 2009 MMP cycle

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What is the Medical Monitoring Project (MMP)?

The Medical Monitoring Project (MMP) is an ongoing population-based surveillance system to assess clinical outcomes and behaviors of HIV-infected persons receiving care in the U.S. MMP is designed to collect data on a representative sample of HIV-infected persons receiving care through the selection of an annual probability sample. The sampling design consists of 3 stages- selection of geographic primary sampling units (state/city level), selection of facilities providing HIV care (provider level), and selection of patients. The state/city level and provider level selection uses probability proportional to size sampling methods (based on HIV/AIDS case reports for state/city level and estimated HIV caseload for provider level). Patients have an equal probability of being selected following selection of HIV providers.[1] Michigan is one of 17 states and 6 cities currently conducting MMP in collaboration with the Centers for Disease Control and Prevention (CDC).

The Medical Monitoring Project includes confidential interviews and medical record abstractions (MRA). Data from MMP can be used on a national and local level to describe the characteristics and trends of HIV-infected persons in care, identify utilization of services and unmet needs, and plan for improved prevention and care services. The data provided by MMP may be used by prevention planning groups, clinicians, Ryan White consortia, and policy leaders to help advocate for additional resources.

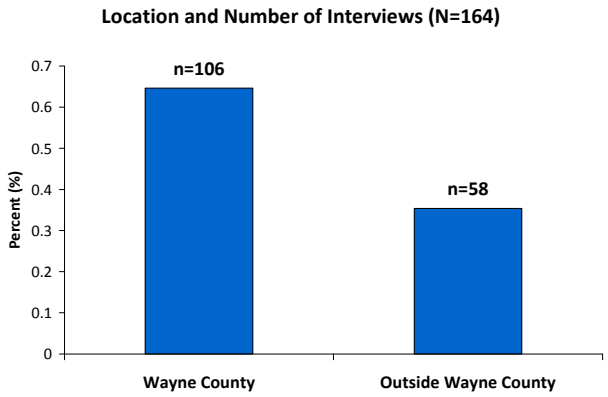
MMP presents a unique opportunity to contribute to knowledge about HIV care in the U.S. The true success of MMP depends upon the participation of HIV health care providers and HIV infected patients. In Michigan, we have not yet succeeded in interviewing/abstracting enough patients to meet the criteria for a representative sample of the HIV infected patients in care in the state. MMP in Michigan and nationally is making changes to increase the usefulness of the data. This report shows some of the data available from the patient interview; analysis of the MRA data is pending. Data from the interview is all self-reported and has not been validated by cross referencing to medical records.

Note: Percentages in tables in this document may not add up to 100% due to rounding error

Who participated in the Michigan 2009 MMP cycle?

Number of Facilities and Participants					
	Number sampled	**Participated**	**Refusals**	**Ineligible**	**Other**
Facilities	**40**	**21 (53%)**	**13 (33%)**	**6 (15%)**	**0 (0%)**
Public	20	10 (50%)	4 (20%)	6 (30%)	
Private	18	10 (56%)	8 (44%)		
Federal	2	1 (50%)	1 (50%)		
Patients	**400**	**165 (41%)***	**101 (25%)**	**9 (5%)**	**125 (31%)†**
Public	276	122 (44%)	63 (23%)	5 (2%)	86 (31%)
Private	99	34 (34%)	22 (22%)	4 (4%)	39 (39%)
Federal	25	9 (36%)	16 (64%)	0	0

**1 record had technical problems and could not be analyzed*
†The most common reasons these patients did not participate were no response to contact from project area or facility and not showing up at scheduled interview time



- Cities in Michigan with participating facilities: Ann Arbor, Berkeley, Detroit, East Lansing, Flint, Grand Blanc, Kalamazoo, Pontiac, Southfield, Westland, and Ypsilanti

Patient Demographic Information*

Race/Ethnicity	Male† (n=117) No. (%)	Female (n=44) No. (%)	Total (n=161) No. (%)
White, non-Hispanic	40 (34%)	10 (23%)	50 (31%)
Black, non-Hispanic	71 (61%)	32 (73%)	103(64%)
Hispanic	3 (3%)	1 (2%)	4 (2%)
Other	3 (3%)	1 (2%)	4 (2%)

"Other" racial group includes Asian and multiracial
†2 participants refused to answer and were excluded

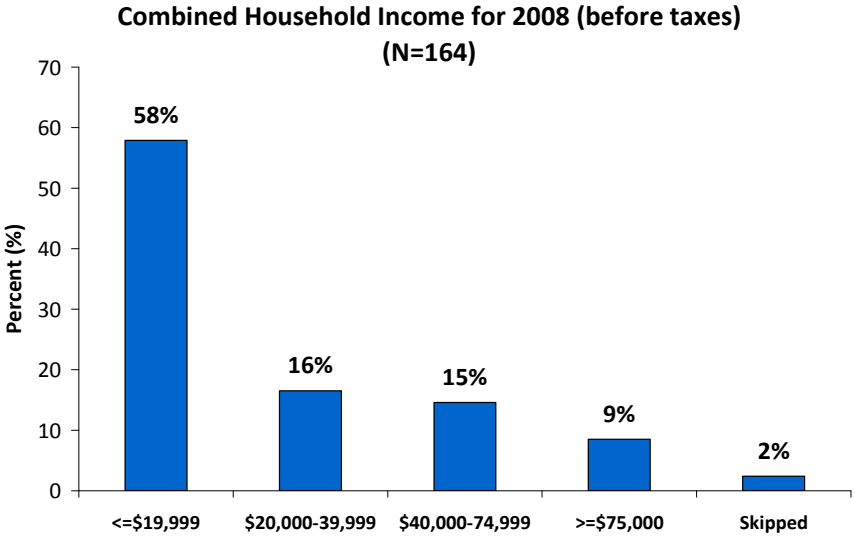
Age at the Time of Interview	Male (n=119) No. (%)	Female (n=44) No. (%)	Total (n=163) No. (%)
18-24	2 (2%)	1 (2%)	3 (2%)
25-34	6 (5%)	3 (7%)	9 (6%)
35-44	32 (27%)	14 (32%)	46 (28%)
45-54	55 (46%)	16 (36%)	71 (44%)
55+	24 (20%)	10 (23%)	34 (21%)

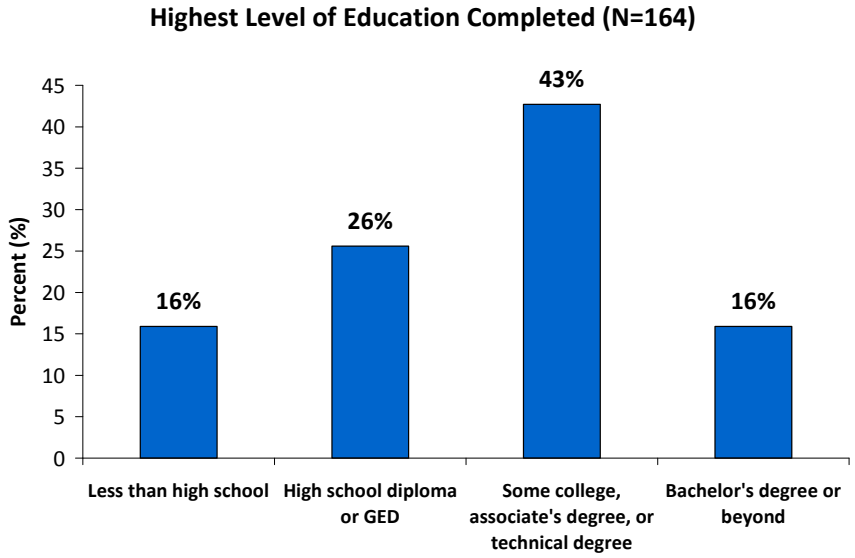
**1 participant identified as transgender (n=1) and so was excluded from patient demographic information*

- 95% (n=156) were born in the United States
  - Of the 8 respondents who were not born in the United States, 75% (n=6) have lived in the United States for >10 years
  - Half of those who were not born in the United States were born in Africa
- Sexual identity of respondents (n=164):
  - Heterosexual or straight (n=78): 48%
  - Homosexual, gay, or lesbian (n=63): 38%
  - Bisexual (n=17): 10%
  - Other (n=6): 4%
- 5% (n=9) have been arrested and put in jail, detention, or prison for longer than 24 hours during the 12 months prior to interview

Socioeconomic Status

- 34% (n=56) receive the majority of their money or financial support from Supplemental Security Income (SSI) or Social Security Disability Insurance (SSDI)
- 8% (n=13) report that they were homeless during the 12 months prior to interview (participants that reported at least 1 of the following: lived on the street, lived in a shelter, lived in a Single Room Occupancy (SRO) hotel, or lived in a car)



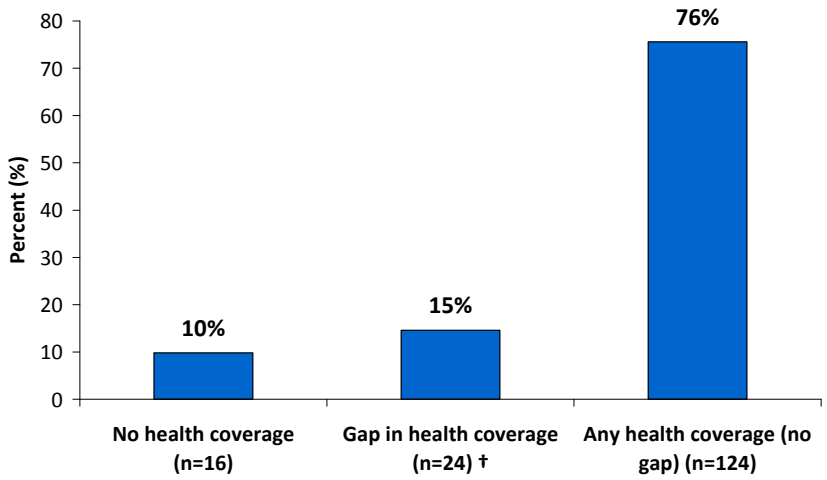


Medical Care and Coverage

In the 12 months prior to interview:

- 13% (n=22) had an HIV related ER visit
- 10% (n=17) had an HIV related hospitalization

Any Medical Coverage in the Past 12 Months (N=164)*



**Any medical coverage includes Medicaid, Medicare, private health insurance, Ryan White, Veterans administration coverage, Tricare or CHAMPUS, and other public assistance programs*

† A gap in health coverage includes 1 or more days without health coverage; may include transitions from coverage to lack of coverage (or vice versa) or waiting periods for benefits

HIV Testing and Treatment (n=31)*

- 39% (n=12) received their positive HIV test result from a private doctor's office
- 39% (n=12) reported that the most common reason for receiving the HIV test was due to an illness other than HIV or other STDs
- After testing positive for HIV, 74% (n=23) of participants reported that someone from the health department or a health care provider offered to tell or help them tell their sex or drug use partners that they may have been exposed to HIV
    - When asked, 65% (n=15) responded by asking them not to tell any of their partners
    - The most common reason was because they wanted to tell their partners personally (80%, n=12)

**Only among those who received a positive HIV diagnosis in the 5 years prior to interview date and provided a date for entry into care*

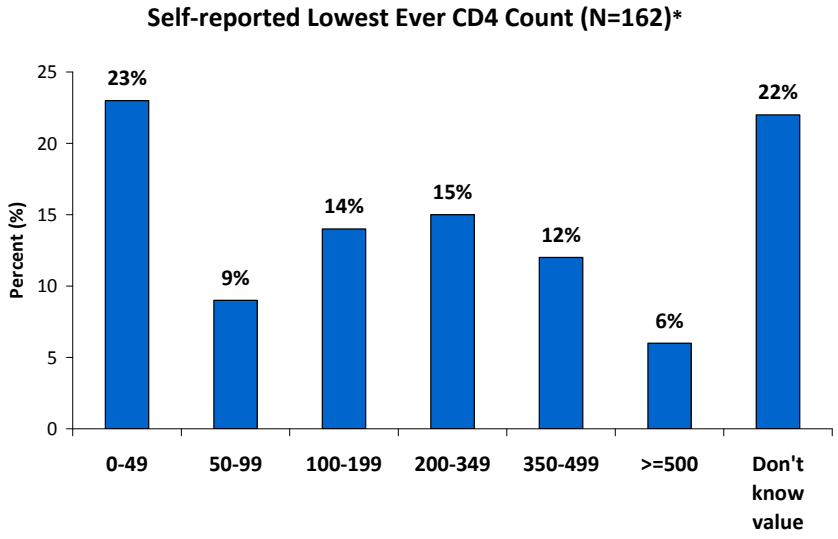
Time between HIV Diagnosis and Entry into Care (N=164)

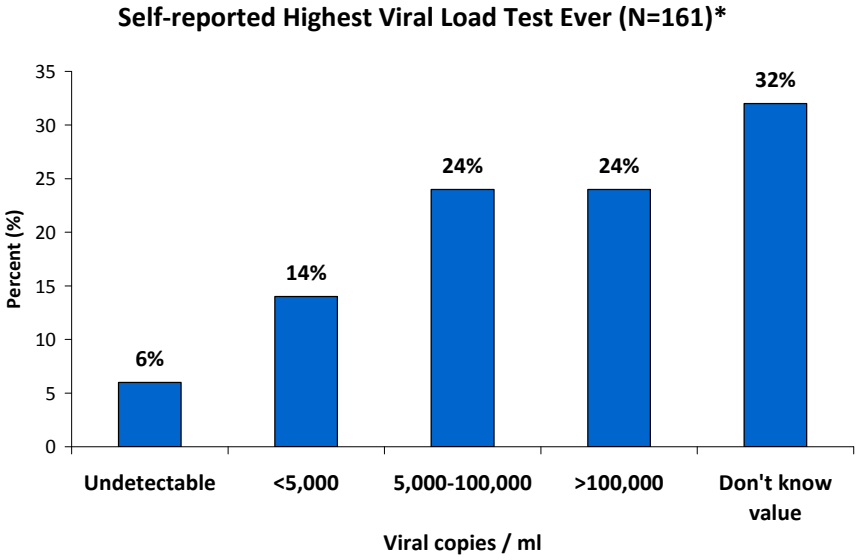
- 5% (n=8) did not recall the year they received an HIV diagnosis
- 74% (n=122) of participants received an HIV diagnosis more than 5 years before the interview date
- Of those who received an HIV diagnosis within 5 years of the interview date (21%, n=34):
    - 82% (n=28) entered HIV care in <=3 months following diagnosis
    - 9% (n=3) entered HIV care between 3 and 12 months following diagnosis
    - 9% (n=3) did not recall the month and year they first entered care for HIV

Clinical Outcomes

From the 2009 MMP interview data, 97% of 159 participants had at least 1 CD4 count and 95% of 156 participants had at least 1 viral load test in the 12 months prior to interview. The median number for both CD4 counts and viral load tests in the 12 months prior to interview was 3 (range: 1-12; excluding participants who don't know if they ever had a CD4 count or viral load test and those who do not know how many CD4 counts or viral load tests they had in the 12 months prior to interview). Current laboratory testing guidelines for HIV infected patients recommends CD4 counts and viral load tests to be done every 3-6 months (2-4 times a year, with the exception of 1-2 CD4 counts per year for clinically stable patients with suppressed viral load).†

† Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. December 1, 2009; 1-161. Available at http://www.aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf.





**Excluding participants who don't know if they ever had a CD4 count or viral load test*

Antiretroviral Therapy

- **93% (n=153) of participants have ever taken antiretroviral (ARV) medicines**

Types of Antiretroviral Medicines Ever Taken (N=153)*			
	Yes	**No**	**Don't know**
Nucleoside Analogue Combinations	**147 (96%)**	6 (4%)	0 (0%)
Combivir (AZT+3TC)	*74 (48%)*		
Truvada (FTC+TDF)	*63 (41%)*		
Atripla (EFV/FTC/TDF)	*51 (33%)*		
Nucleoside/Nucleotide Analogue Reverse Transcriptase Inhibitors (NRTI)	**128 (84%)**	23 (15%)	2 (1%)
Epivir (lamivudine, 3TC)	*48 (31%)*		
Retrovir (zidovudine, AZT, ZDV)	*41 (27%)*		
Viread (tenofovir, TDF)	*39 (25%)*		
Protease Inhibitors (PI)	**110 (72%)**	42 (27%)	1 (<1%)
Norvir (ritonavir, RTV)	*71 (46%)*		
Reyataz (atazanavir, ATV)	*48 (31%)*		
Kaletra (lopinavir/ritonavir, LPVr)	*45 (29%)*		
Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTI)	**67 (44%)**	83 (54%)	3 (2%)
Sustiva (efavirenz, EFV)	*47 (31%)*		
Entry/Fusion Inhibitors	**11 (7%)**	141 (92%)	1 (<1%)
Fuzeon (enfuvirtide, T-2O)	*7 (5%)*		
Integrase Inhibitors (Isentress)	**11 (7%)**	140 (92%)	2 (1%)
Other	**7 (5%)**	144 (94%)	2 (1%)

**Includes all participants who have ever taken ARV meds; table only includes top 3 or top 1 drug for each drug class*

- **91% (n=149) of participants have taken ARV medicines in the past 12 months**
  - The most commonly used method of payment for ARV meds in the last 12 months was the AIDS Drug Assistance Program (ADAP) (37%, n=55)
  - 13% (n=20) took a drug holiday from ARV in the past 12 months (defined as planning to not take any doses of one or more ARV meds for at least 2 whole days in a row)
    - Most common reasons: got tired of needing medicines or needed a break (30%, n=6) and medicine has side effects or makes me feel bad (25%, n=5)

- **87% (n=143) of participants are currently on ARV medicines at the time of interview**

Currently on Antiretroviral Therapy at Time of Interview*			
	Male (n=119)	Female (n=44)	Total (n=163)
No	16 (13%)	5 (11%)	21 (13%)
Yes	103 (87%)	39 (89%)	142 (87%)

**1 participant identified as transgender (n=1) and so was excluded from the table*

Currently on ARV Medication by Race/Ethnicity*					
	White (n=51)	Black (n=103)	Hispanic (n=4)	Other (n=4)	Total (n=162)
No	4 (8%)	14 (14%)	1 (25%)	2 (50%)	21 (13%)
Yes	47 (92%)	89 (86%)	3 (75%)	2 (50%)	141 (87%)

**2 participants refused to answer and were excluded*

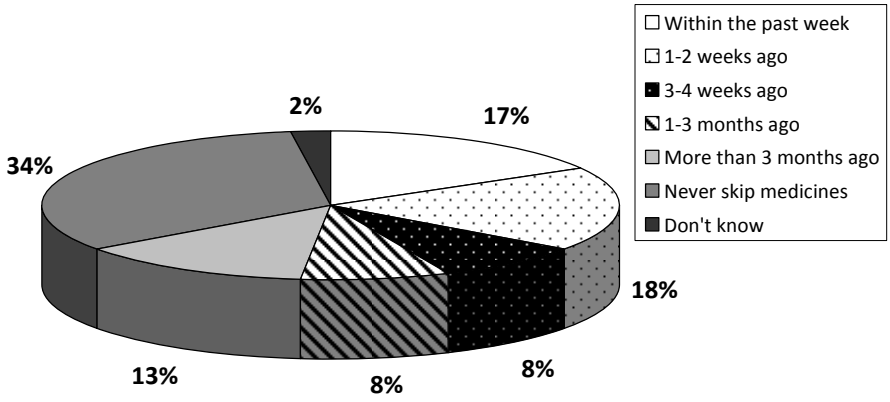
- Of those not currently on antiretroviral (ARV) meds, 52% (n=11) have never taken ARV meds
  - Main reason: Doctor advised to delay treatment (64%, n=7)
- The remaining 48% (n=10) have formerly but are not currently taking ARV meds
  - Main reason: Doctor advised to delay or stop treatment (40%, n=4)

ARV Adherence and Attitudes

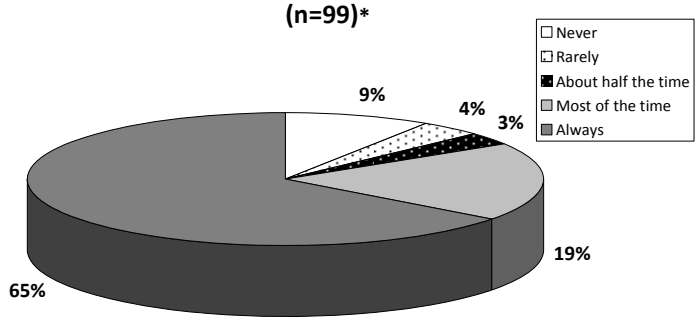
Of those who are currently on ARV medicines at time of interview (n=143):

- 20% (n=29) report that their friends and family help them to remember to take their ARV medicines "a lot"

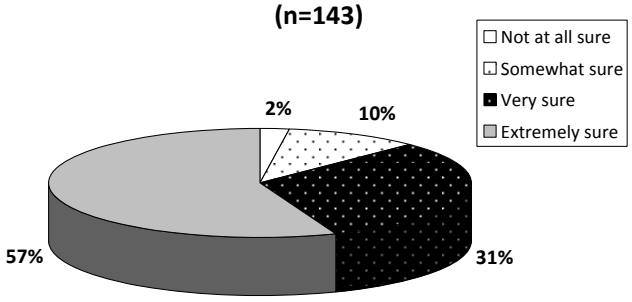
Last Time Missed Any ARV Medicines (n=143)



How Often Follow ARV Special Instructions (n=99)*

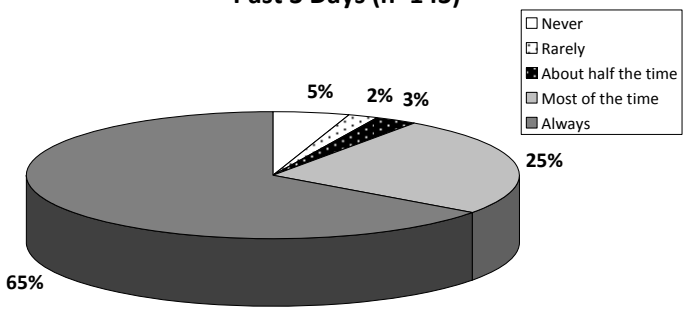


How Sure Are You that You will be Able to Take All or Most of Your ARV Meds as Directed (n=143)

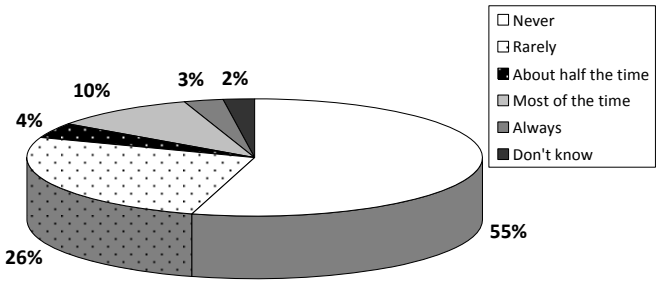


**Only includes participants who reported special instructions for their ARV meds*

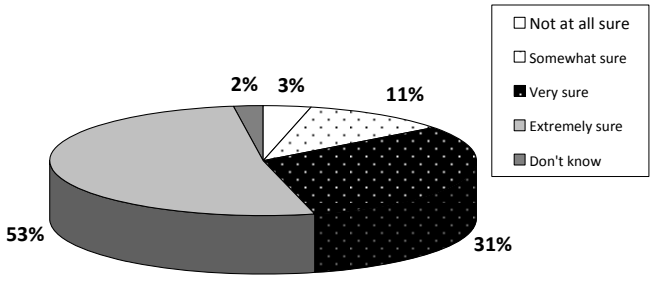
How Closely Follow Specific ARV Schedule During Past 3 Days (n=143)



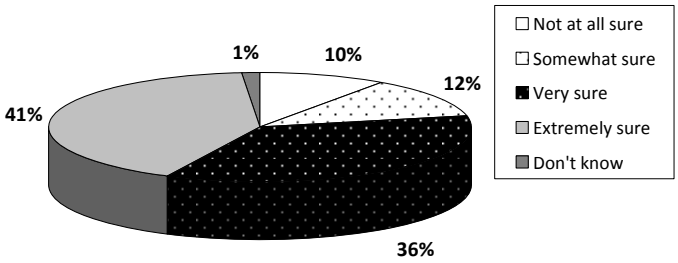
How Troubled by Side Effects from ARV Meds During the Past 30 Days (n=143)



How Sure Are You that Your ARV Medication will have a Positive Effect on Your Health (n=143)



How Sure Are You that if You Do Not Take Your ARV Meds Exactly as Instructed, the HIV Will Become Resistant to Meds (n=143)



Mental Health (N=164)

- 24% (n=39) of participants had depression at the time of interview as detected by the eight-item Patient Health Questionnaire depression scale (PHQ-8)*
    - Depression was higher among females compared to males (34% of females compared to 20% of males)
    - Depression was higher among blacks compared to whites (26% of blacks compared to 16% of whites)
    - The prevalence of depression was higher among the younger age groups compared to the older age groups (33% among 18-24, 30% among 25-34, 30% among 35-44, 23% among 45-54, and 15% among 55+)
    - A total of 17% of participants (n=28) met the PHQ-8 criteria for major depression and 7% (n=11) met the PHQ-8 criteria for other depressive disorder
- 32% (n=52) received mental health services in the 12 months prior to interview
    - 12% (n=6) enrolled in an inpatient mental health care facility
- 15% (n=17) of the 112 participants who did NOT receive mental health services in the 12 months prior to interview had current depression as detected by PHQ-8
    - Among these 17 participants, 24% (n=4) had severe depressive symptoms and 25% (n=6) had moderately severe depressive symptoms (all 10 also fit the criteria for major depression)**
- The table below summarizes the PHQ-8 results for the 112 participants who did NOT receive mental health services in the 12 months prior to interview:

Anxiety and Depression (PHQ-8)†					
	Nearly every day No. (%)	More than half the days No. (%)	Several days No. (%)	Not at all No. (%)	Don't know/refused to answer
Little interest or pleasure in doing things	14 (13%)	11 (10%)	30 (27%)	56 (50%)	1 (1%)
Feeling down, depressed, or hopeless	8 (7%)	11 (10%)	33 (29%)	60 (54%)	0
Trouble falling or staying asleep, or sleeping too much	23 (21%)	15 (13%)	25 (22%)	49 (44%)	0
Feeling tired or having little energy	24 (21%)	18 (16%)	32 (29%)	38 (34%)	0
Poor appetite or overeating	15 (13%)	12 (11%)	22 (20%)	63 (56%)	0
Feeling bad about yourself, that you are a failure, or have let yourself or family down	11 (10%)	5 (4%)	22 (20%)	72 (64%)	2 (2%)
Trouble concentrating on things, such as reading the newspaper or watching TV	8 (7%)	9 (8%)	19 (17%)	76 (68%)	0
Moving/speaking so slowly other people could notice/being fidgety or restless, moving around a lot more than usual	8 (7%)	4 (4%)	11 (10%)	86 (77%)	3 (3%)

**The PHQ-8 module consists of 8 of the 9 diagnostic criteria from the Diagnostic and Statistical Manual of Mental Disorders, version IV (DSM-IV). The item assessing suicidal and self-injurious ideation was omitted from the PHQ-8. Current depression was defined using the PHQ-8 algorithm criteria for major depression (requires the first or second item (anhedonia or depressed mood) to be present at least "more than half the days" and 5 of the 8 symptoms to be present "more than half the days") and for other depression (2 to 4 symptoms, including the first or second item, to be present at least "more than half the days")* [2]

***A total PHQ-8 score of 15-19 represents moderately severe depression and a total score of 20-24 represents severe depression; total score is found by summing the individual score for each item; "nearly every day"=3, "more than half the days"=2, "several days"=1, and "not at all"=0.* [2]

† Questions referred to the past 2 weeks

Health Conditions and Preventative Therapy (N=164)

- 68% (n=111) have received a vaccine to prevent hepatitis
    - 9% (n=15) don't know if they have received a hepatitis vaccine
- 18% (n=29) have been told by a health care provider that they had PCP (*Pneumocystis* pneumonia)
- 4% (n=7) have received the HPV vaccine (4 males, 3 females)
    - 9% (n=14) don't know if they have received the HPV vaccine

In the 12 months prior to interview:

- 37% (n=60) have had a test or exam to check for an STD
    - 20% (n=12) were diagnosed with 1 or more STDs
        - 8% (n=5) genital warts
        - 7% (n=4) herpes
        - 7% (n=4) Chlamydia
        - 3% (n=2) gonorrhea
        - 3% (n=2) syphilis
- 85% (n=139) received a flu vaccine
    - The majority received their flu vaccine at a doctor's office (83%, n=116)

Gynecological and Reproductive History (females only, n=44)

In the 12 months prior to interview:

- 41% of women (n=18) did NOT receive a pelvic examination
- 43% of women (n=19) did NOT receive a Pap smear
- 14% of women (n=6) had been pregnant since testing positive for HIV and 9% (n=4) have given birth

Complementary/Alternative Therapy (N=164)*

- The most commonly used complementary or alternative therapy used in the past 12 months were:
    - Vitamins, minerals, or herbs (n=40): 24%
    - Marijuana (n=31): 19%
    - Mind-body techniques including relaxation, hypnosis, visualization (n=21): 13%

**Therapies used specifically for HIV*

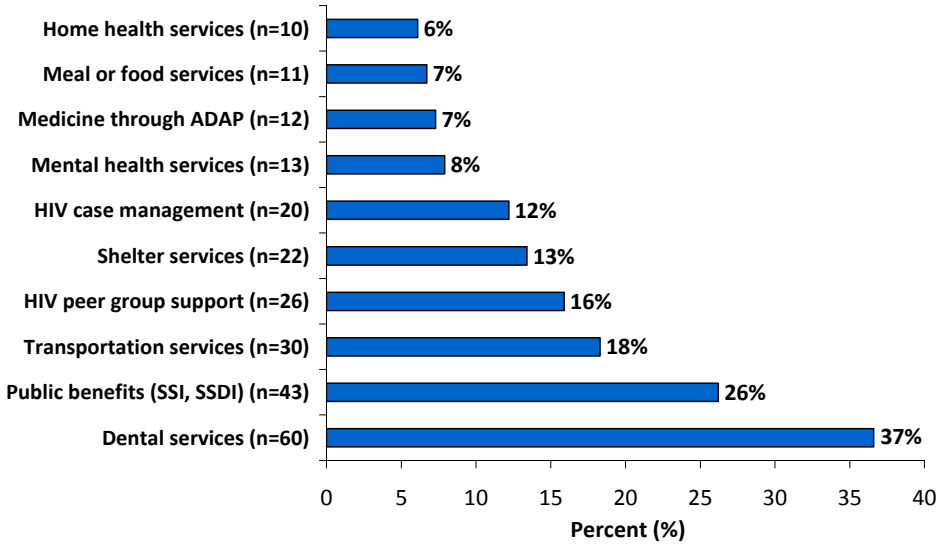
Services Used and Services Needed

- The top 10 most commonly used services in the 12 months prior to interview were (N=164):
  - HIV case management (n=83): 51%
  - Dental services (n=82): 50%
  - Public benefits including SSI and SSDI (n=61): 37%
  - HIV prevention education (n=61): 37%
  - Medicine through ADAP (n=60): 37%
  - Meals or food services (n=55): 34%
  - Mental health services (n=52): 32%
  - Transportation services (n=50): 30%
  - HIV peer group support (n=32): 20%
  - Shelter services (n=28): 17%

- 70% (n=114) had at least 1 unmet service need in the 12 months prior to interview

Top 10 Services Needed but Didn't Receive

During the 12 months prior to interview (N=164)



Health Literacy (N=164)

The following questions are part of the health literacy scale: [3]

- How often do you have problems learning about your medical condition because of difficulty understanding written information?
  - Most of the time (n=5): 3%
  - About half the time (n=6): 4%
  - Rarely (n=41): 25%
  - Never (n=112): 68%
- How confident are you filling out medical forms yourself?
  - Not confident at all (n=5): 3%
  - Somewhat confident (n=28): 17%
  - Completely confident (n=131): 80%
- How often do you have someone read you hospital materials?
  - Always (n=4): 2%
  - Most of the time (n=5): 3%
  - About half the time (n=7): 4%
  - Rarely (n=31): 19%
  - Never (n=117): 71%

Sexual Behavior

In the 12 months prior to interview (N=164, 119 males, 44 females, 1 transgender):

- 62% of respondents had 1 or more sexual partners (n=102)
- 38% of all respondents had no sexual partners (n=62)
- 34% (n=41) of males had no sexual partners
- 48% (n=21) of females had no male sexual partners (no females reported a female sex partner)
- 3 participants reported an exchange partner (2 MSM and 1 WSM; an exchange partner is someone you have sex with in exchange for things like money, drugs, food, or shelter)*

Number of Sexual Partners in the Past 12 Months*†

	MSM (n= 50)**	MSW (n=27)**	WSM (n=23)
One	**26 (52%)**	**21 (78%)**	**22 (96%)**
Main partner	19 (73%)	19 (90%)	20 (91%)
Casual partner	7 (27%)	2 (10%)	2 (9%)
Two or more	**24 (48%)‡**	**6 (22%)**	**1 (4%)**
Only main partners	2 (8%)	2 (33%)	0
Only casual partners	13 (54%)	3 (50%)	0
Main and casual	9 (38%)	1 (17%)	1 (100%)
No. of partners (range)	**1-30**	**1-4**	**1-4**

Reported Unprotected Vaginal or Anal Sex with at Least 1 Partner in the Past 12 Months*

	MSM (n=40)	MSW (n=24)	WSM (n=22)
No	19 (48%)	15 (63%)	14 (64%)
Yes	**21 (53%)**	**9 (38%)**	**8 (36%)**
Only main partner(s)	11 (52%)	9 (100%)	7 (88%)
Only casual partner(s)	7 (33%)	0	1 (13%)
Main and casual partners	3 (14%)	0	0

**Men who have sex with men (MSM), men who have sex with women (MSW), women who have sex with men (WSM); note that these MSM and MSW are not mutually exclusive categories*

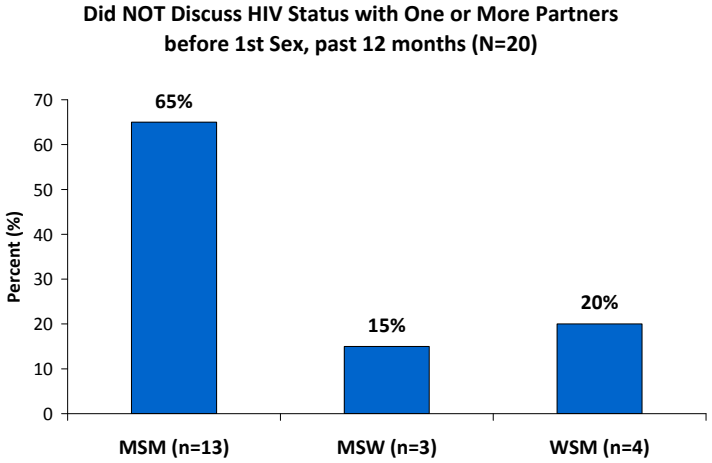
A main partner is defined as a partner the participant has sex with and feels committed to above anyone else, someone he or she would call a girl/boyfriend, wife/husband, significant other, or life partner and a casual partner is defined as a partner you have sex with but don't feel committed to or don't know very well

†Includes oral, anal, and vaginal sex

***1 missing-refused to answer number of partners*

‡ 1 missing information on partner types

- Of the 83 respondents that reported drinking alcohol and having sex in the past 12 months, 54% (n=45) had alcohol before or during sex
- The majority of the 38 respondents (71%, n=27) who reported unprotected vaginal or anal sex with at least 1 partner reported the unprotected sex with only a main partner(s)
  - 52% (n=11) of MSM
  - 100% (n=9) of MSW
  - 88% (n=7) of WSM
- 80% (n=82) of the 102 participants who had sex in the 12 months prior to interview discussed their HIV status with ALL of their partners before 1st sex
- The remaining 20 who did not discuss their HIV status with all or some partners before 1st sex are summarized in the graph below:



Substance Use

In the 12 months prior to interview (N=164):

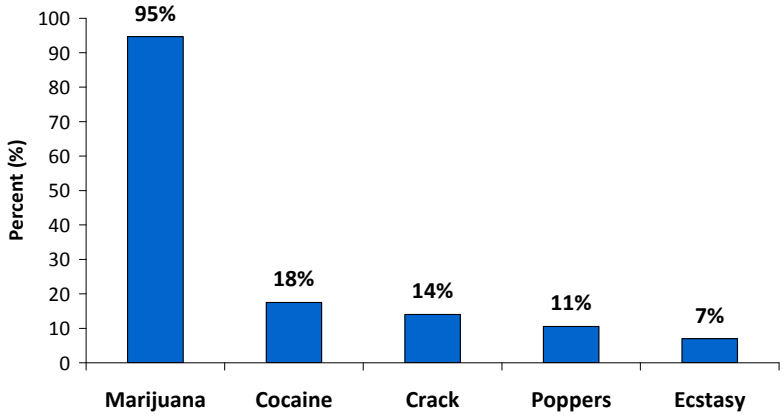
- 1% (n=2) injected drugs
- 43% (n=71) smoke cigarettes daily
- 3% (n=5) were enrolled in an inpatient alcohol or drug treatment facility
- 75% (n=123) used alcohol
    - Of these, 76% (n=93) used alcohol in the past 30 days (72 males and 21 females)
    - The median number of drinks on a typical drinking day during the past month was 2 (range 1-10)
    - 28% of 72 male participants (n=20) report binge drinking at least 1 day in past month
    - 33% of 21 female participants (n=7) report binge drinking at least 1 day in past month

Non-Injection Drug Use in the Past 12 Months*			
	Male† (n=118)	Female (n=44)	Total (n=162)
Yes	44 (37%)	12 (27%)	56 (35%)
No	74 (63%)	32 (73%)	106 (65%)

**Excluding alcohol and excluding transgender participant (n=1)*

†1 missing- don't know

Top 5 Commonly Used Non-Injection Drugs, N=57 (Excluding Alcohol)*



- Of those that used non-injection drugs and had sex in the last 12 months (40 participants), 50% (n=20) used non-injection drugs before or during sex**
    - The most commonly used drugs were marijuana (85%, n=17), poppers (30%, n=6), and cocaine (15%, n=3)

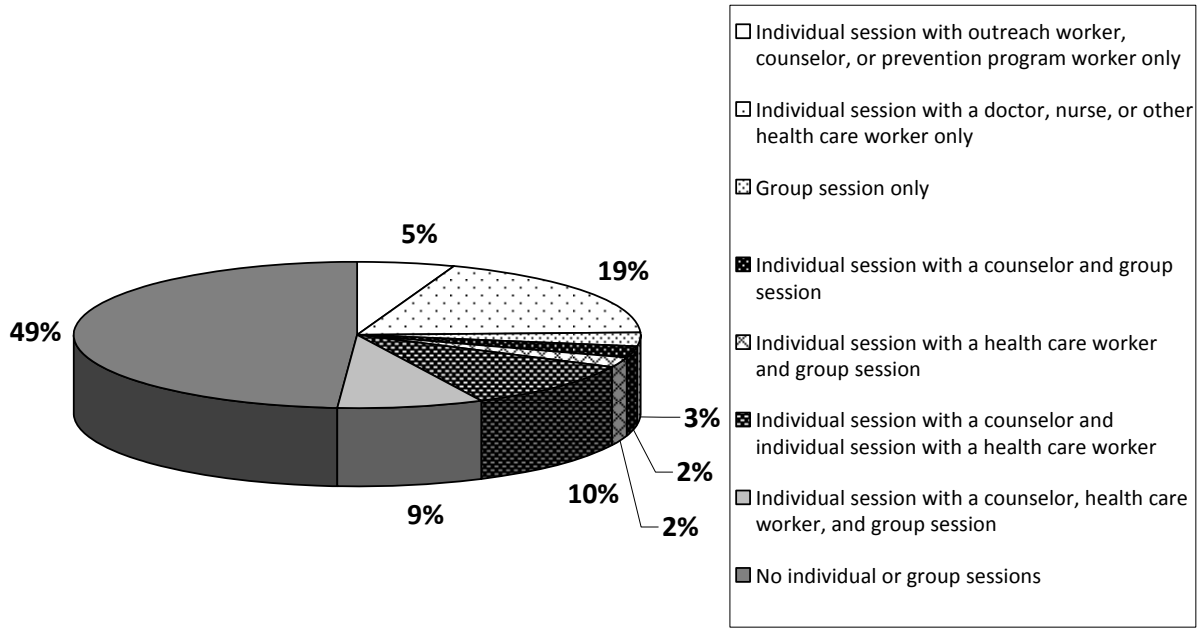
***1 missing- refused to answer*

Prevention Activities

In the 12 months prior to interview (N=164):

- 51% (n=84) participated in at least 1 individual-level or group-level intervention about HIV and STD prevention for themselves or their partners
- 49% (n=80) did NOT participate in any individual or group-level intervention about HIV and STD prevention
- 46% (n=75) had received free condoms (not counting those given by a friend, relative, or sex partner)
    - The most common places to receive free condoms were at a doctor's office or other health clinic (47%, n=35), community-based organizations (39%, n=29) and social venues (20%, n=15)

Individual and Group HIV Prevention Sessions During the 12 Months Prior to Interview (N=164)



Questions about MMP?

- If you are interested in learning more about MMP or have any questions, please contact:

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References/ More information

1. McNaghten AD, Wolfe MI, Onorato I, Nakashima AK, Valdiserri RO, et al. (2007). Improving the Representativeness of Behavioral and Clinical Surveillance for Persons with HIV in the United States: The Rationale for Developing a Population-based Approach. PLoS ONE 2(6):e550.
2. Kroenke K, Strine TW, Spitzer RL, Williams JBW, Berry JT, Mokdad AH (2008). The PHQ-8 as a measure of current depression in the general population. J Affect Disord [Epub ahead of print].
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Michigan Department of Community Health (MDCH) MMP Website
http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_2982_46000_46002-165550--,00.html

CDC MMP Website
http://www.cdc.gov/hiv/topics/treatment/mmp/index.htm

MDCH HIV Statistics Online
www.michigan.gov/hiv-std
Click “HIV/AIDS”
Click “Statistics and Reports”