



HIV & STD's in Michigan - an overview

All data as of July 1, 2019

HIV begins on the next slide
STD begins on slide 23

For a copy of the slide deck, email:
MDHHS-HIV-STD-data-requests@michigan.gov

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Bureau of Disease Control, Prevention and Epidemiology
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www.michigan.gov/hivstd



HIV in Michigan

An overview of the epidemic during 2018

All data as of July 1, 2019

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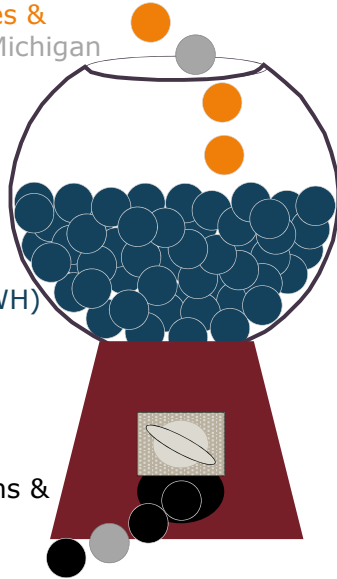


A brief note

Michigan's HIV Surveillance Program collects, interprets, and disseminates population level data regarding persons living with HIV (PLWH) and persons at risk of contracting the virus. Since 2001, the program has produced semi-annual reports for a wide audience. Beginning in 2016, these reports were overhauled and split into two parts. This slide set presents the most relevant information using graphical, user-friendly displays. A full report, the "[Michigan Statewide HIV Surveillance Report, New Diagnoses and Prevalence Tables](#)" contains data most commonly requested by agencies and individuals. Due to differences in the underlying dataset, do not compare any numbers or figures to surveillance reports published before 2016. For more on the difference, see the "Michigan Statewide HIV Surveillance Report".

Key Definitions

New diagnoses &
moving into Michigan



Prevalence or
persons living
with HIV (PLWH)

In Michigan, prevalence continues to increase because the number of new diagnoses is larger than the number of deaths.

All cause deaths &
moving out of
Michigan

For further clarification, check out the notes section of this slide set

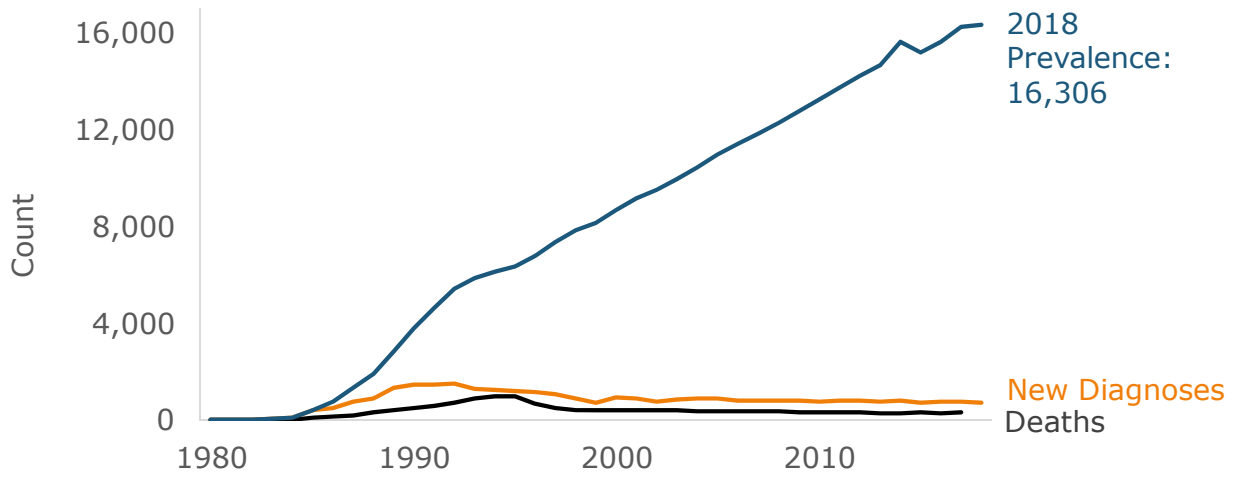


New Diagnoses: The number of cases newly diagnosed over a given period of time, usually a year. In HIV surveillance, new diagnoses do not necessarily represent new infections as newly diagnosed persons may have been infected for many years.

Prevalence: The total number of persons currently living with HIV (PLWH).

HIV over time in Michigan

New diagnoses and deaths have leveled off. In general, prevalence continues to rise.



New HIV Diagnoses

Important definitions for this section

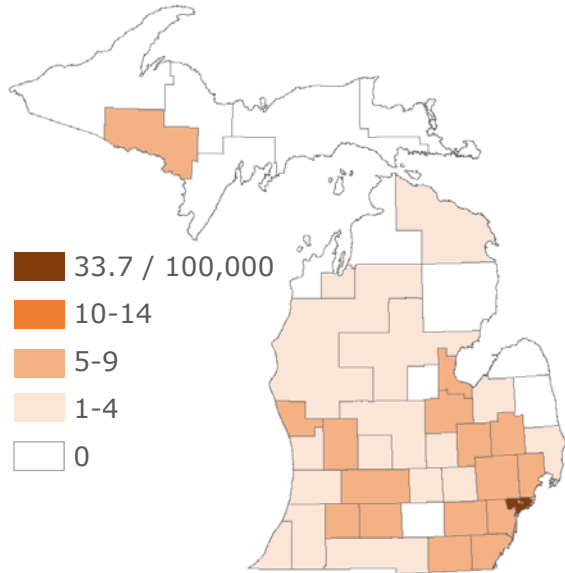
Diagnosis Rate: For every 100,000 people in a population, the number who were newly diagnosed. This is used to compare groups.

Linked to Care: The proportion of newly diagnosed PLWH who have a CD4, viral load, and/or genotype reported.

YBMSM: Young (15-29 years old) African American/Black men who have sex with men

New Diagnoses

Rates per 100,000 residents during 2018



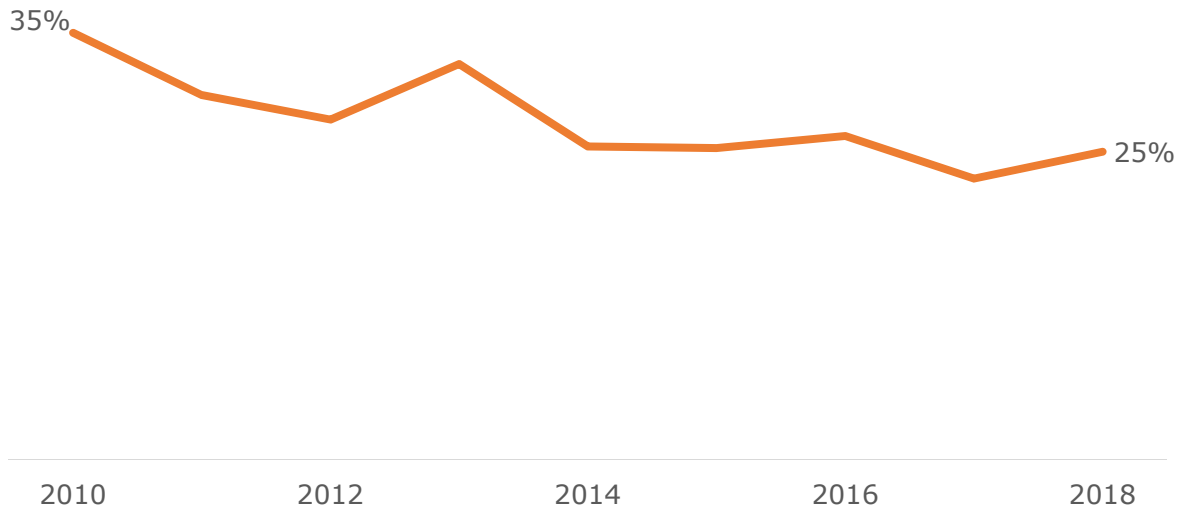
The ten highest diagnosis rates

Detroit	33.7
Lenawee	9.1
Macomb	8.8
Calhoun	8.2
Washtenaw	7.9
Genesee	7.6
Michigan Total	7.1
Out Wayne	7.0
Monroe	6.7
Oakland	6.3

The epidemic continues to disproportionately affect the City of Detroit. The City had a diagnosis rate of 33.7 new cases per 100,000 residents. This rate is over 3.5 times higher than the next highest jurisdiction - Lenawee Co with 9.1 new cases per 100,000 residents.

Late stage diagnoses

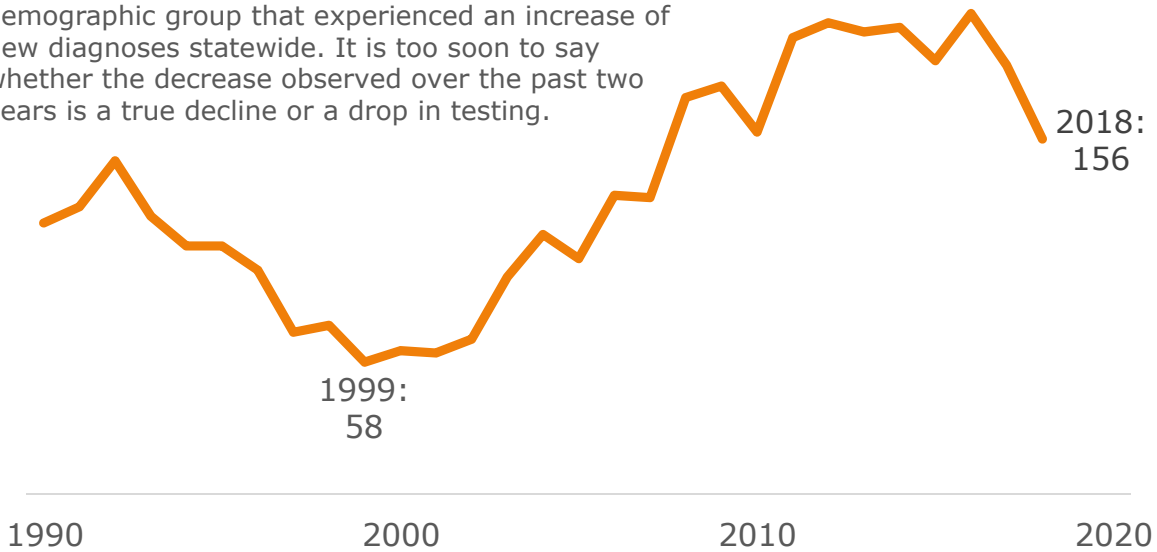
Early in the decade, the proportion of individuals diagnosed long after infection was decreasing. Unfortunately this has leveled off since 2014.



Late stage diagnoses: When someone progresses to Stage 3 (AIDS) within 12 months of diagnosis. It is important for folks to be diagnosed early in their infection for improved prognosis and reduced transmission risk. High proportions of late stage diagnoses are also an indication of a high proportion of undiagnosed individuals.

New diagnoses among YBMSM

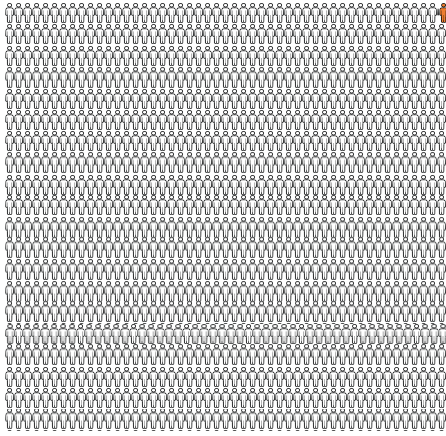
Over the last two decades, YBMSM is the only demographic group that experienced an increase of new diagnoses statewide. It is too soon to say whether the decrease observed over the past two years is a true decline or a drop in testing.



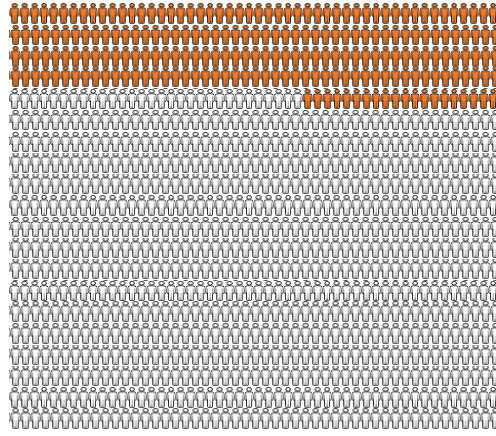
15-19 year old AA/Black men who have sex with men (**YBMSM**).

YBMSM are disproportionately affected

Approximately 0.1% of Michigan's population are YBMSM (1 in 1,000)



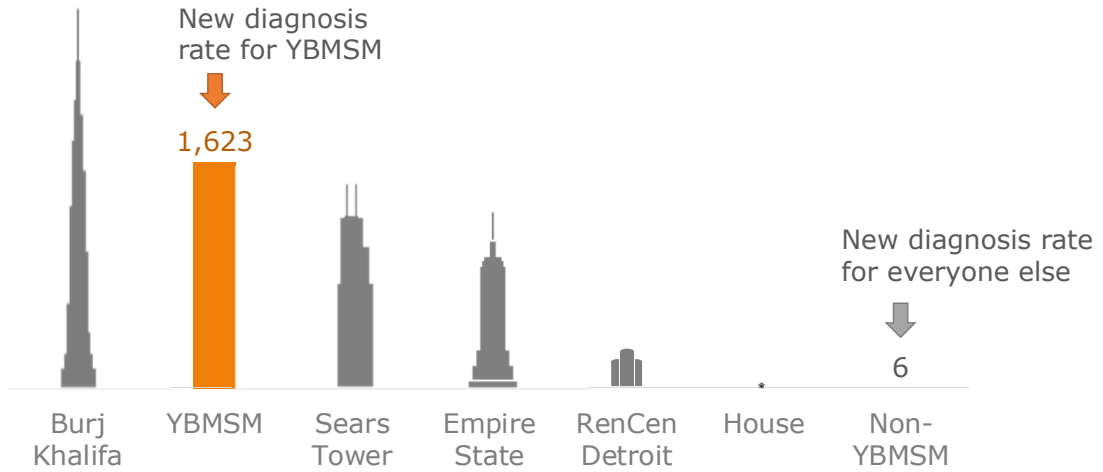
...but in 2018, 22% of new HIV diagnoses were among YBMSM



Even if the new diagnosis count and rate among YBMSM is leveling off or decreasing, they still experience the highest rate by far. This image gives an example of their disproportional experience.

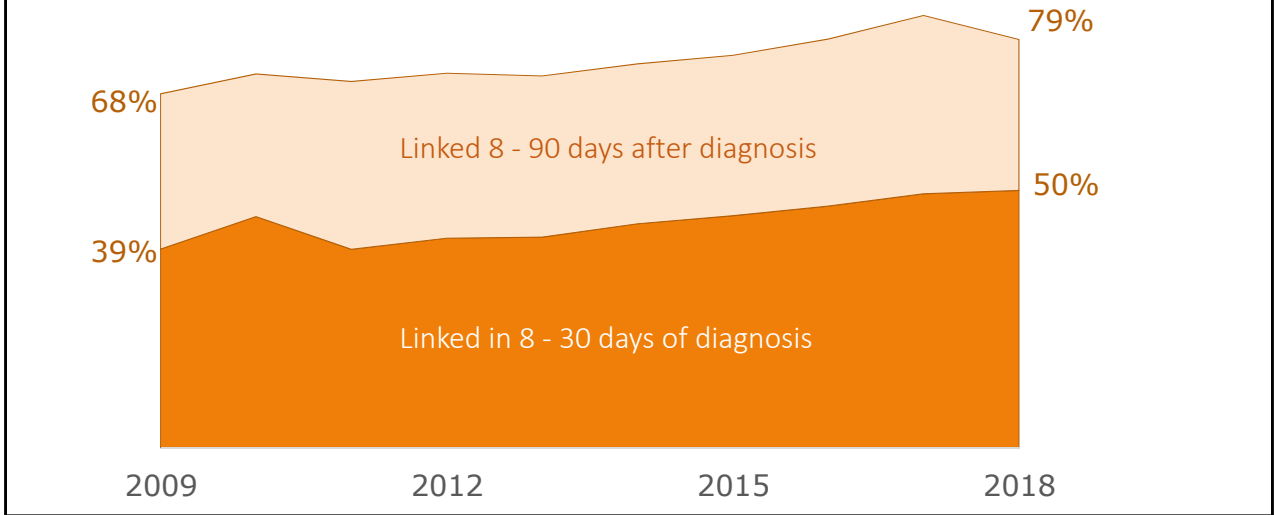
Another way to look at the disparity

Let's pretend that new diagnosis rates are buildings



Essentially if the new diagnosis rate for everyone else is represented by a person who is 6 feet tall, the YBMSM diagnosis rate would be represented by one of the tallest buildings in the world.

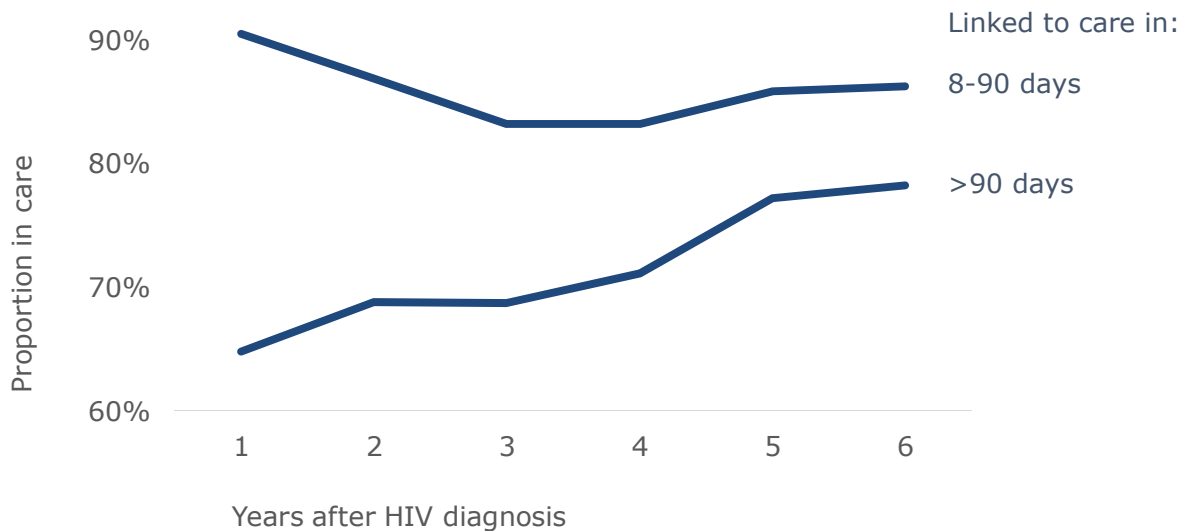
Linkage improvements stagnated in 2018



Linked to Care: The proportion of newly diagnosed PLWH who have visited a doctor at least eight days after diagnosis (assessed by CD4, viral load, or genotype test).

Linkage is important for future care

People linked quickly were more likely to be in care during the years following diagnosis



Linked to Care: The proportion of newly diagnosed PLWH who have visited a doctor at least eight days after diagnosis (assessed by CD4, viral load, or genotype test).

In Care: At least one CD4, viral load, and/or genotype reported during the year.

HIV Prevalence

Important definitions for this section

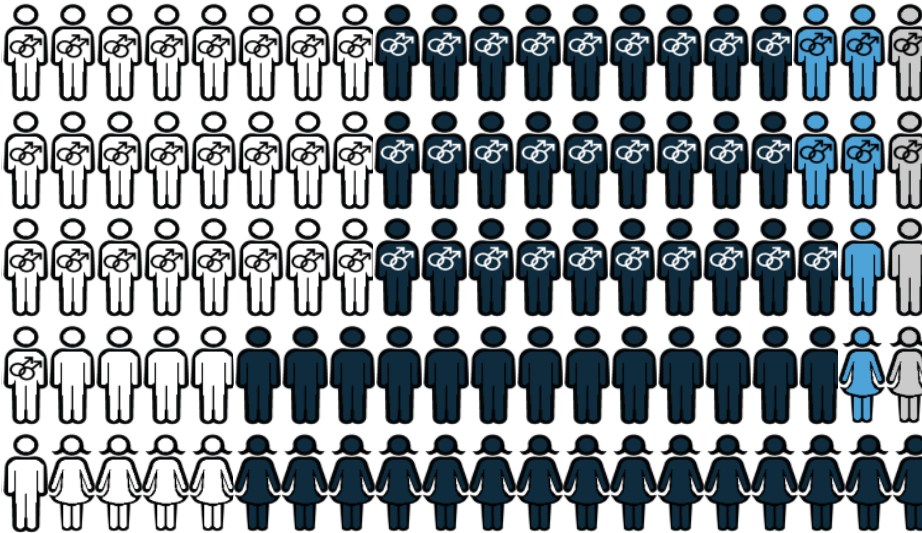
In Care: At least one CD4, viral load, and/or genotype reported during the year.

Community Viral Suppression: The proportion virally suppressed (<200c/mL) out of *all* PLWH. Higher levels of community viral suppression reduce HIV transmission.

Unsuppressed: The proportion without a viral load lab or the last viral load was 200c/ml or more.

Demographics


on January 1, 2019



Icon Key

Men Women

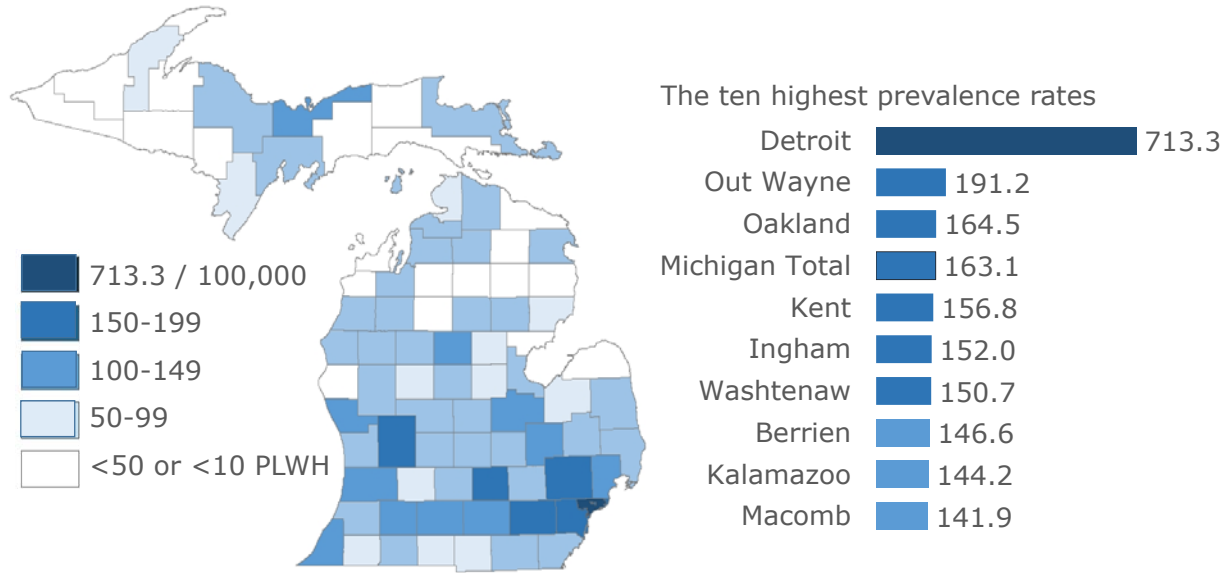


 Men with this symbol acquired HIV via sex with men (MSM)

The HIV epidemic represented as 100 people. The majority of persons living with HIV (PLWH) are AA/black men and/or gay men. Of women living with HIV, the vast majority are AA/black.

Prevalence Rates

Rates per 100,000 residents at the end of 2018

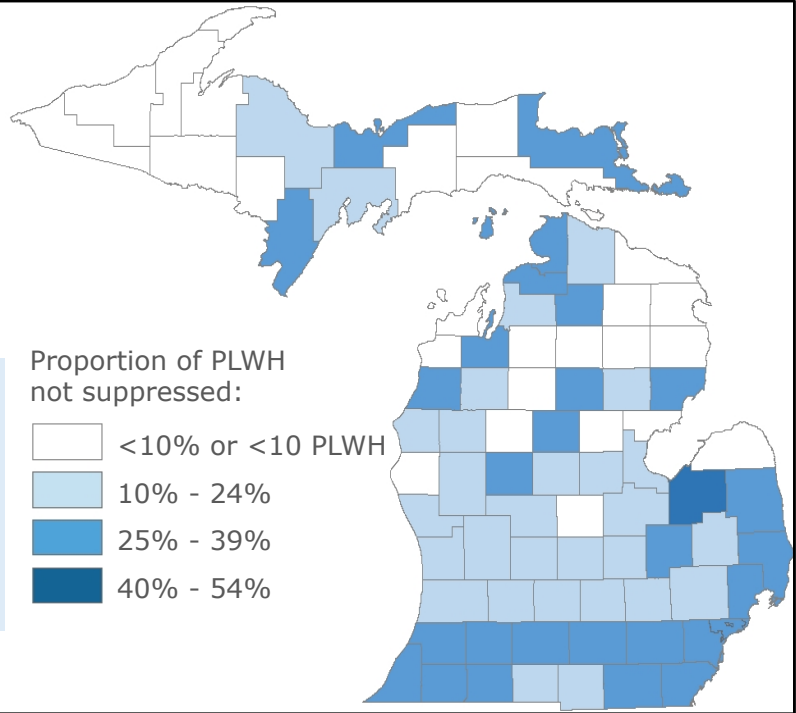


The epidemic continues to disproportionately affect the City of Detroit. The City had a prevalence rate of 713.3 persons living with HIV per 100,000 residents. This rate is over 3.5 times higher than the next highest jurisdiction – the rest of Wayne County (ie “Out Wayne”) with 191.2 persons living with HIV per 100,000 residents.

Unsuppressed

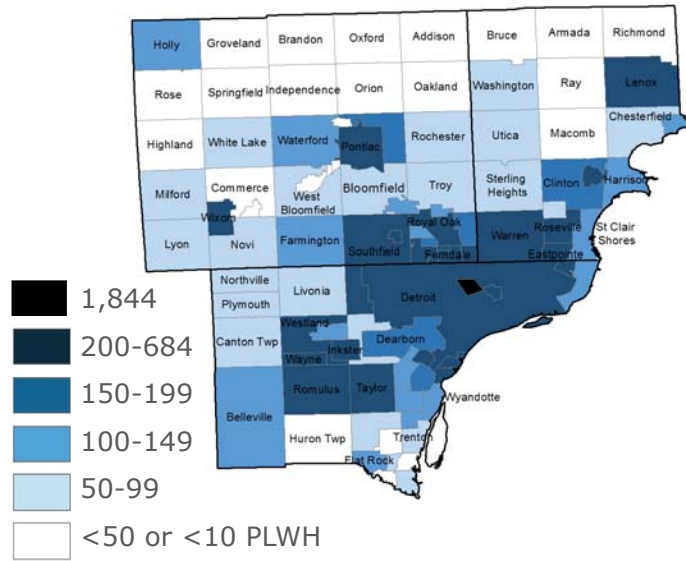
During 2018, 26% of persons living with HIV (PLWH) in the state were not virally suppressed (no viral load or last viral load was 200c/ml or more)

Viral suppression improves the health of the individual living with HIV and reduces the risk of transmission. The national goal is to decrease the proportion of unsuppressed persons to 20% by 2020.



Prevalence Rates

Rates per 100,000 residents of Macomb, Oakland, & Wayne Counties during 2018



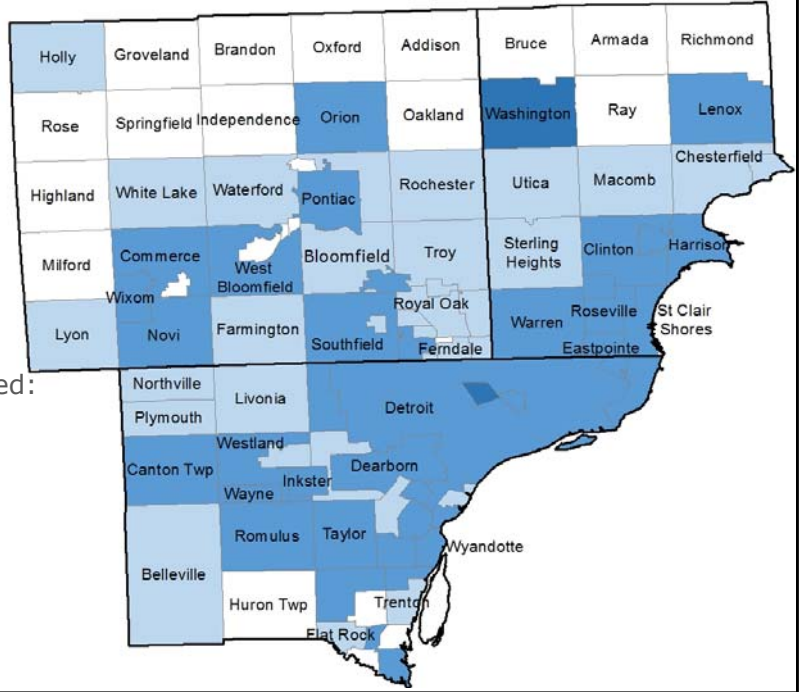
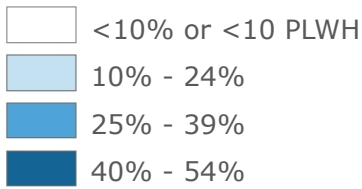
Ten highest prevalence rates of cities with at least 10,000 residents

Highland Park	1844.0
Detroit	683.1
Ferndale	662.7
Inkster	642.0
Pontiac	536.9
Lathrup Village	509.0
Mt Clemens	453.7
Southfield	436.1
Pleasant Ridge	405.4
River Rouge	401.0

Unsuppressed

During 2018, 29% of persons living with HIV (PLWH) in Macomb, Oakland, or Wayne Counties were not virally suppressed (no viral load or last viral load was 200c/ml or more)

Proportion of PLWH not suppressed:



Unsuppressed

During 2018, **26%** of PLWH in the state were not virally suppressed (no viral load or last viral load was 200c/ml or more)

Viral suppression is not equally distributed. These groups are more affected:



36% of persons diagnosed with an STD in 2018 were unsuppressed.



32% of AA/BLACK persons are unsuppressed.

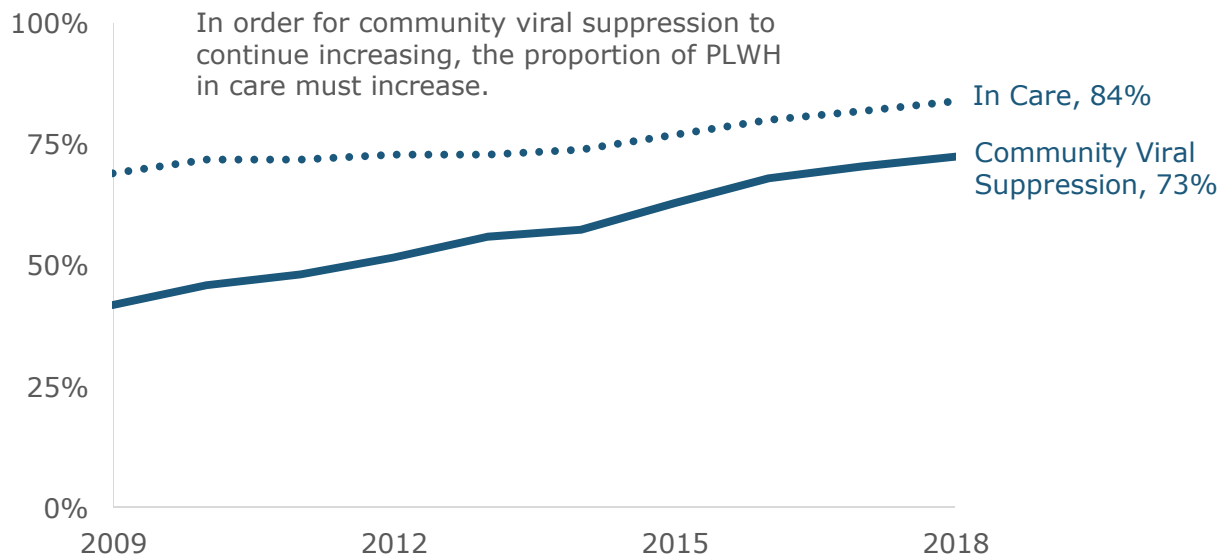


35% of persons WHO INJECT DRUGS & **35%** of HETEROSEXUAL MEN are unsuppressed.

20-39 year olds

38% & **33%** of PLWH in their 20's and 30's are unsuppressed.

Care & Viral Suppression



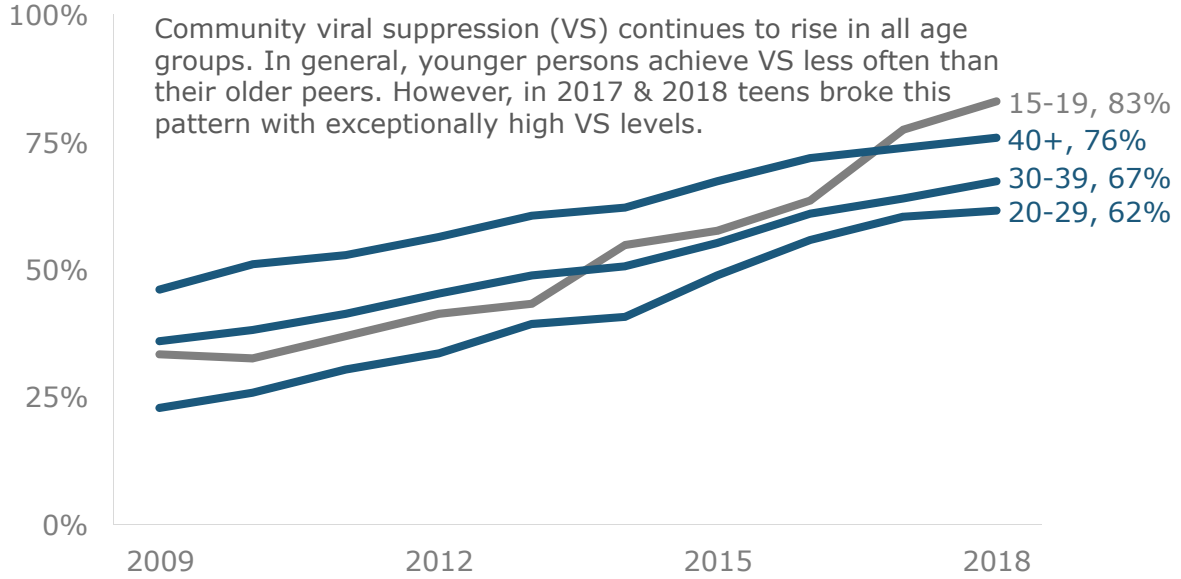
In Care: The proportion of PLWH who visit a doctor at least once a year (assessed by CD4, viral load, or genotype test).

Community Viral Suppression: The proportion virally suppressed (≤ 200 c/mL) out of *all* PLWH. Higher levels of community viral suppression reduce HIV transmission.

Getting into care is the first step towards achieving viral suppression. Viral suppression is important for the individual (improves prognoses) and for the community as a whole (reduces transmission risk). Viral suppression is on the rise, however it is rapidly approaching the care "ceiling". The care rate is community viral suppression's "ceiling" because a person cannot be suppressed without being in care.

Agencies and strategic programs need to focus on increasing the proportion of PLWH in care. Otherwise, community viral suppression will stagnate.

Community Viral Suppression by age





STDs in Michigan

An overview of the epidemics during 2018

All data as of July 1, 2019

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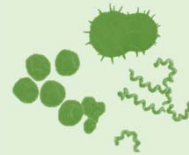
Sexually Transmitted Diseases (STDs)

Important definitions for this section

Diagnosis Rate: For every 100,000 people in a population, the number who were newly diagnosed. This is used to compare groups.

MSM: Men who have sex with men

PWID: People who inject drugs



Reportable Conditions

Chlamydia	Gonorrhea	Syphilis
Caused by bacteria <i>Chlamydia trachomatis</i>	Caused by bacteria <i>Neisseria gonorrhoeae</i>	Caused by bacteria <i>Treponema pallidum</i>
Most people who have chlamydia have no symptoms	Some men and most women who have gonorrhea have no symptoms	Syphilis is divided into stages with different signs and symptoms; primary and secondary syphilis generally present with symptoms
Serovariants of chlamydia can cause lymphogranuloma venereum (LGV)	Antibiotics have successfully treated gonorrhea for several decades; however, the bacteria has developed resistance	Without treatment, syphilis can spread to the brain and nervous system (neurosyphilis) or to the eye (ocular syphilis)
Treatable by azithromycin or doxycycline	Treatable by dual therapy of ceftriaxone and azithromycin	Treatable by benzathine penicillin or doxycycline

Reference and more information at <https://www.cdc.gov/std>

Reportable Conditions (less common)

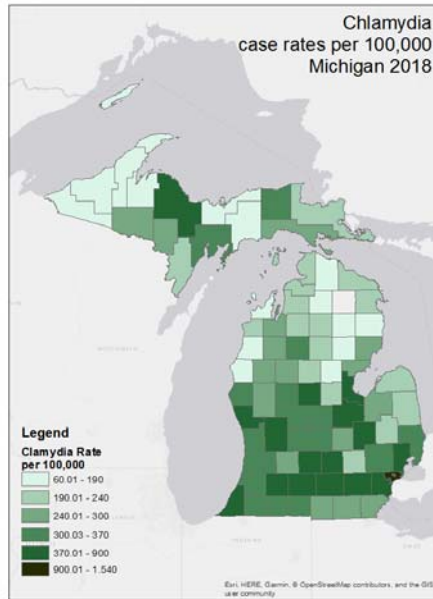
Lymphogranuloma venereum	Chancroid	Granuloma inguinalae
Caused by a serovariant of the bacteria <i>Chlamydia trachomatis</i>	Caused by bacteria <i>Hemophilus ducreyi</i>	Caused by bacteria <i>Klebsiella granulomatis</i>
Symptoms range from none to serious gastrointestinal disease. 19 cases were reported in 2018	Usually presents as one or more genital ulcers that bleed on contact	A disease of the skin and mucous membranes in the genital area, often with granuloma lesions.
Most recent cases in Michigan are among men who have sex with men with multiple partners	Rare in the U.S., more common in tropical countries. No cases reported in Michigan in 2018.	This is rare in the U.S.; no cases were reported in Michigan in 2018.
Treatable by long doses of doxycycline	Treatable by either ceftriaxone or azithromycin	Treatable by doxycycline

Reference and more information at <https://www.cdc.gov/std>

Chlamydia Diagnoses in Michigan, 2018

Chlamydia is the most commonly reported communicable disease nationwide.

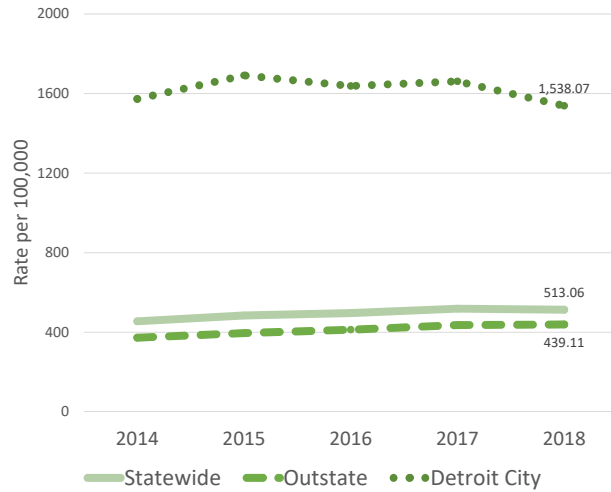
In Michigan, case rates by county vary from **64** to **1,539** cases per 100,000 residents with the highest rates in Metro Detroit. Overall, **20 percent** of chlamydia cases are diagnosed in Detroit, while **46 percent** are diagnosed in the Macomb-Oakland-Wayne Counties metro area.



Chlamydia Rates in Michigan Over Time

Chlamydia case rates are consistently highest in Detroit compared to the rest of the state, but in recent years the city of Detroit has had some decreases in case counts and the diagnosis rate per 100,000.

In 2018 there were **1 percent** fewer Chlamydia cases compared to 2017.



Chlamydia case rates are highest among:

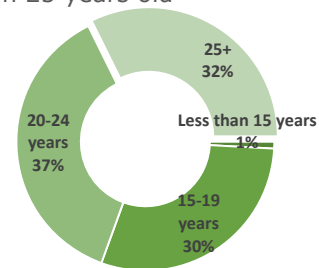
Women and Minorities



Women make up **67 percent** of Chlamydia cases largely due to increased screening during routine visits. Black women have a **5.7 times** higher chlamydia rate than white women.

Adolescents

68 percent of Chlamydia cases were diagnosed among patients less than 25 years old

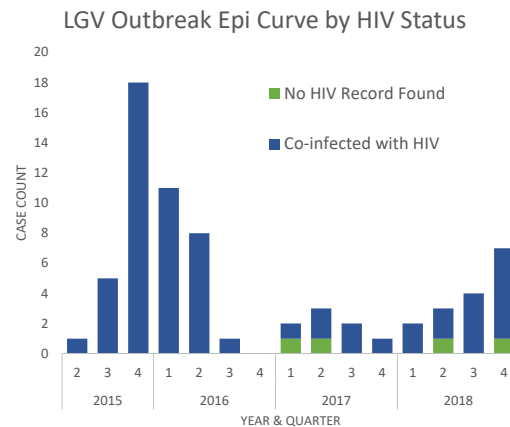


Race is missing in **20 percent** of Chlamydia cases, but among cases with known race, African American or blacks make up **49 percent** of diagnoses. This leads to **3.8 times** higher chlamydia rate among blacks compared to whites.

Unknown race cases are omitted from graphical representation of cases by race

Lymphogranuloma venereum (LGV)

- LGV is a genital ulcer disease caused by an uncommon strain of chlamydia. Symptoms may include a lesion or pimple around the genital area but may resolve over time. In addition, lymphadenopathy or proctitis may occur. LGV can be treated with doxycycline.
- LGV is reportable in Michigan. Prior to 2015, the last reported case of LGV was in 2008. Beginning with 4 case reports of LGV in September 2015, there have been **68** cases reported through the end of 2018.

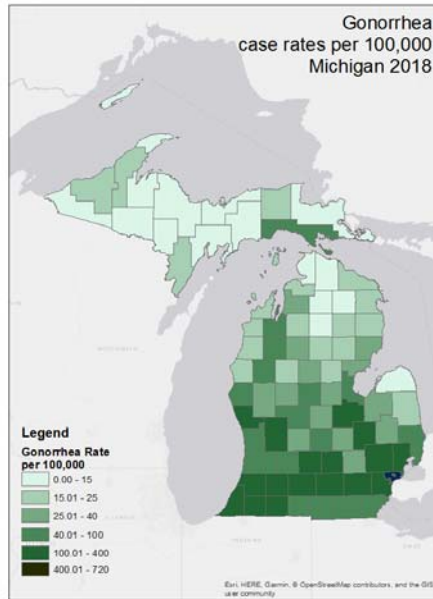


Unlike the majority of chlamydia infections which are heterosexually transmitted, all 68 LGV outbreak cases reported were among men who have sex with men, and 94% were co-infected with HIV.

Gonorrhea Diagnoses in Michigan, 2018

Gonorrhea case counts are consistently highest in Detroit compared to the rest of the state, and the case rate in Detroit is **5.5 times** higher than the rest of Michigan.

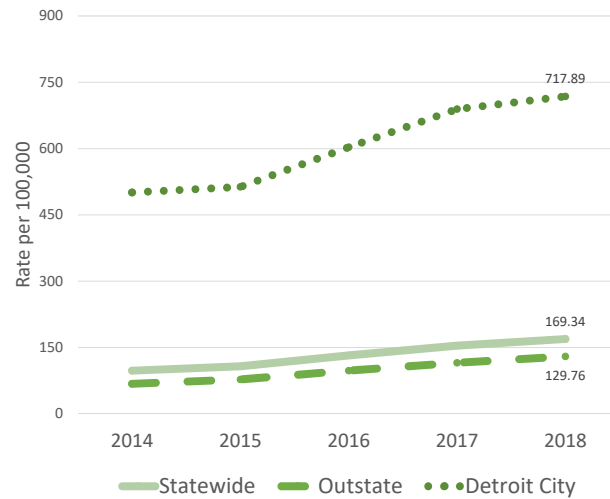
Nearly **1/3** of gonorrhea cases were among Detroit residents in 2018, while **52 percent** are diagnosed in the Macomb-Oakland-Wayne Counties metro area.



Gonorrhea Rates in Michigan Over Time

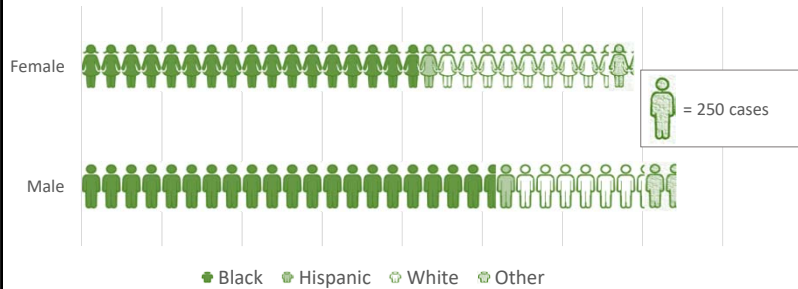
Gonorrhea cases dropped by nearly half between 2008 and 2014, but between 2014 and 2018, Gonorrhea cases counts increased **73 percent** statewide.

The increase in gonorrhea case rates has been fairly steady for each of the last 4 years with a **9.9 percent** increase between 2017 and 2018 for the whole state.



Gonorrhea case rates are highest among:

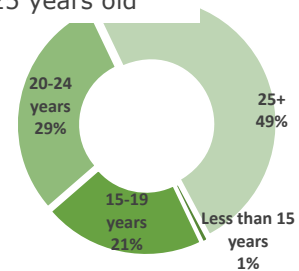
African Americans



Blacks/African Americans have a **13.6 times** higher rate of gonorrhea than whites. Among men, this disparity is even higher with black men **18.2 times** more likely to be diagnosed than white men.

Adolescents

51 percent of Gonorrhea cases were diagnosed among patients less than 25 years old



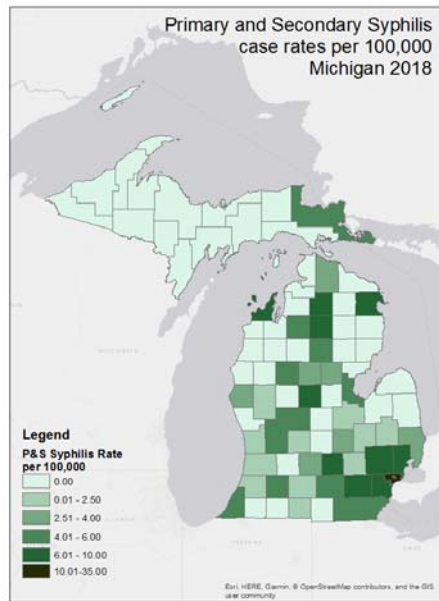
Race is missing in **15 percent** of Gonorrhea cases, but among cases with known race, African American or blacks make up **66 percent** of diagnoses. This leads to **13.6 times** higher gonorrhea rate among blacks compared to whites.

Unknown race cases are omitted from graphical representation of cases by race

Primary and Secondary Syphilis Diagnoses in Michigan, 2018

Primary and Secondary (P&S) Syphilis include all cases with early infection and symptoms. Early, latent, and unknown duration syphilis are not included in these counts.

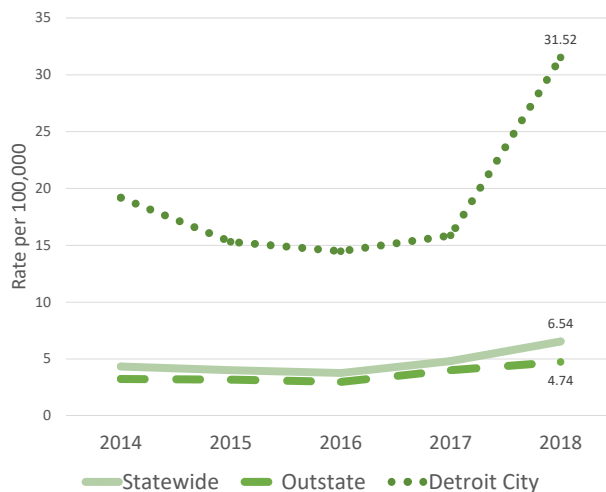
The city of Detroit accounts for **32 percent** of P&S Syphilis cases while **71 percent** are diagnosed in the Macomb-Oakland-Wayne Counties metro area.



P&S Syphilis Cases in Michigan Over Time

Primary and Secondary syphilis case rates had dropped one-quarter from an outbreak year in 2013 to 2016 but rose sharply (**28 percent**) in 2017 and again (**36 percent**) in 2018 on top of the prior year's increase.

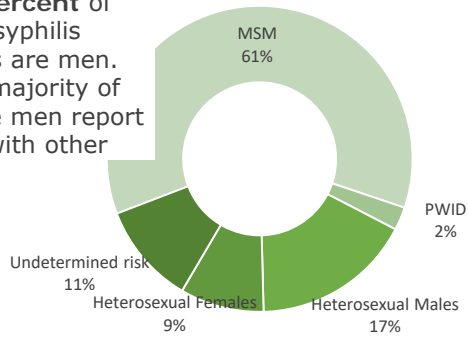
While in 2017, P&S Syphilis increases were primarily outstate, in 2018 they were primarily from the City of Detroit.



Syphilis case rates are highest among:

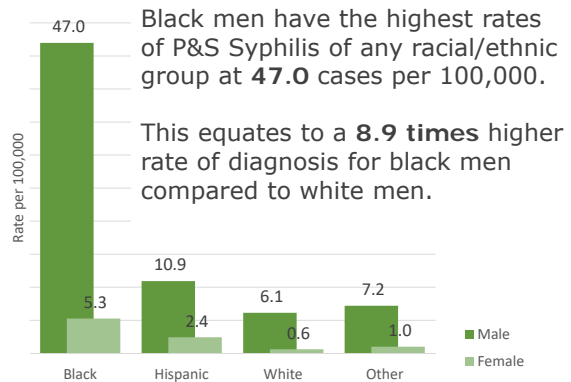
Men who have sex with men (MSM)

89 percent of P&S syphilis cases are men. The majority of those men report sex with other men.



MSM = men who have sex with men
 PSWID = people who inject drugs

Minorities

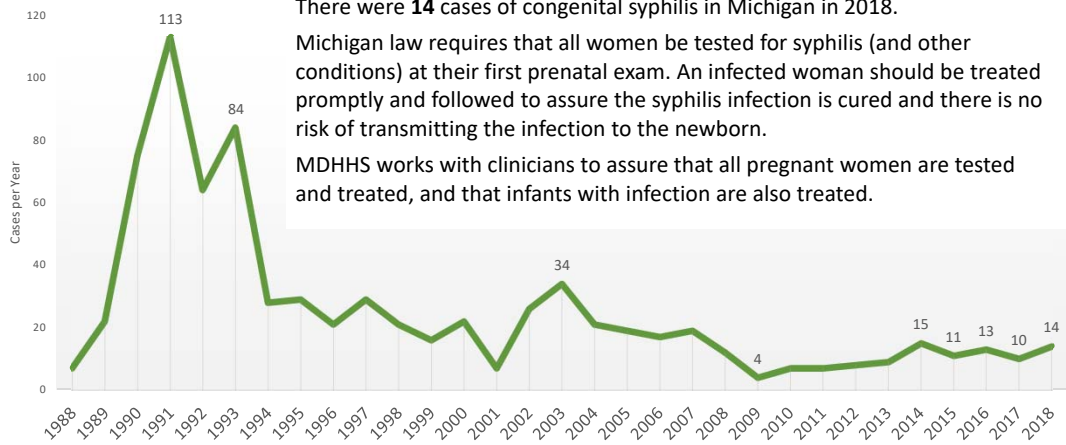


Black men have the highest rates of P&S Syphilis of any racial/ethnic group at **47.0** cases per 100,000.

This equates to a **8.9 times** higher rate of diagnosis for black men compared to white men.

MSM = men who have sex with men
 PSWID = people who inject drugs

Congenital Syphilis



Stages of Syphilis

Without proper treatment, syphilis symptoms will fade but the infection remains in the body and can cause irreparable damage.

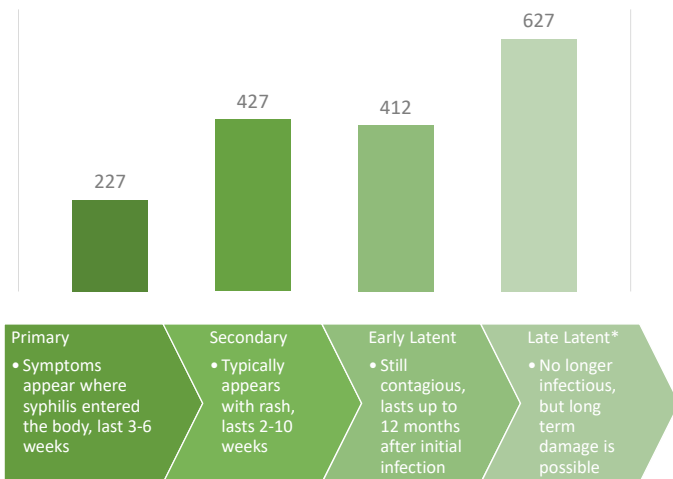
Early syphilis is all cases within one year of infection. This includes primary and secondary cases as well as early latent.

Late syphilis is all cases where infection has lasted more than 1 year.

Unknown* duration may include cases where patients were unable to locate or stage was otherwise unable to be determined.

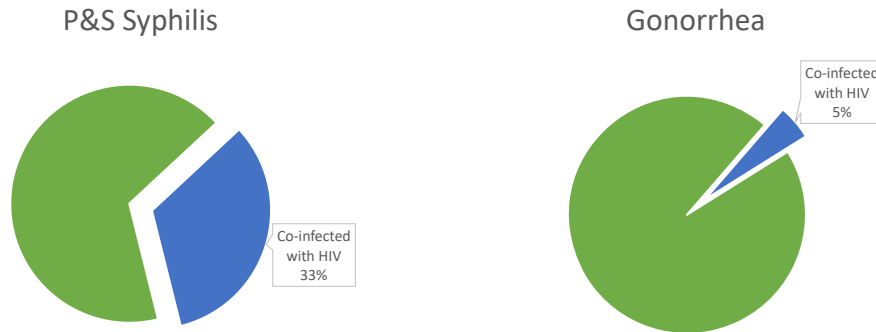
*Stage unknown cases are counted with late latent stage for surveillance purposes.

Number of syphilis cases by stage, 2018



STD/HIV co-infection

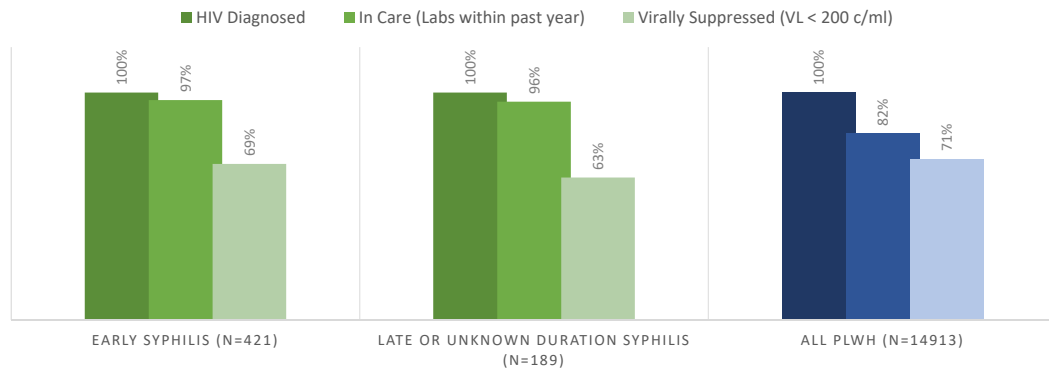
Co-infection with HIV is common among STD patients in Michigan.
In 2018, **33 percent** of P&S Syphilis patients and **4.8 percent** of Gonorrhea patients also had diagnosed HIV.



Co-infection is measured as having an HIV diagnosis on or before the STD diagnosis date. Since a person may have an STD multiple times per calendar year, the denominator for coinfection rate is cases of STDs rather than patients.

Syphilis/HIV co-infection

Compared to all people living with HIV (PLWH) in Michigan, syphilis patients in 2018 were **more likely** to be engaged in HIV care but **less likely** to be virally suppressed as measured at the time of STD diagnosis.



HIV Care Status was measured for STD Cases who were living with HIV for at least 6 months prior to STD Diagnosis (excluding cases who were more recently diagnosed with HIV or co-diagnosed with HIV and STD at the same time).

Early Syphilis includes primary, secondary, and early latent diagnoses (infection is 1 year old or less).

Care status was ascertained on the date of the STD diagnosis. In care is measured by labs reported to surveillance dated within 13 months of the STD diagnosis. Virally suppressed is a subset of in care individuals.

HIV care rates come from the MDHHS Annual HIV Stats found here:

https://www.michigan.gov/mdhhs/0,5885,7-339-71550_2955_2982_46000_46003-35962-.00.html#current