



# Michigan Annual STD Summary Report

Calendar Year 2017

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HIV & STD Surveillance and Epidemiology Section  
Division of Communicable Disease  
Bureau of Disease Control, Prevention, and Epidemiology  
Michigan Department of Health and Human Services

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# BACKGROUND

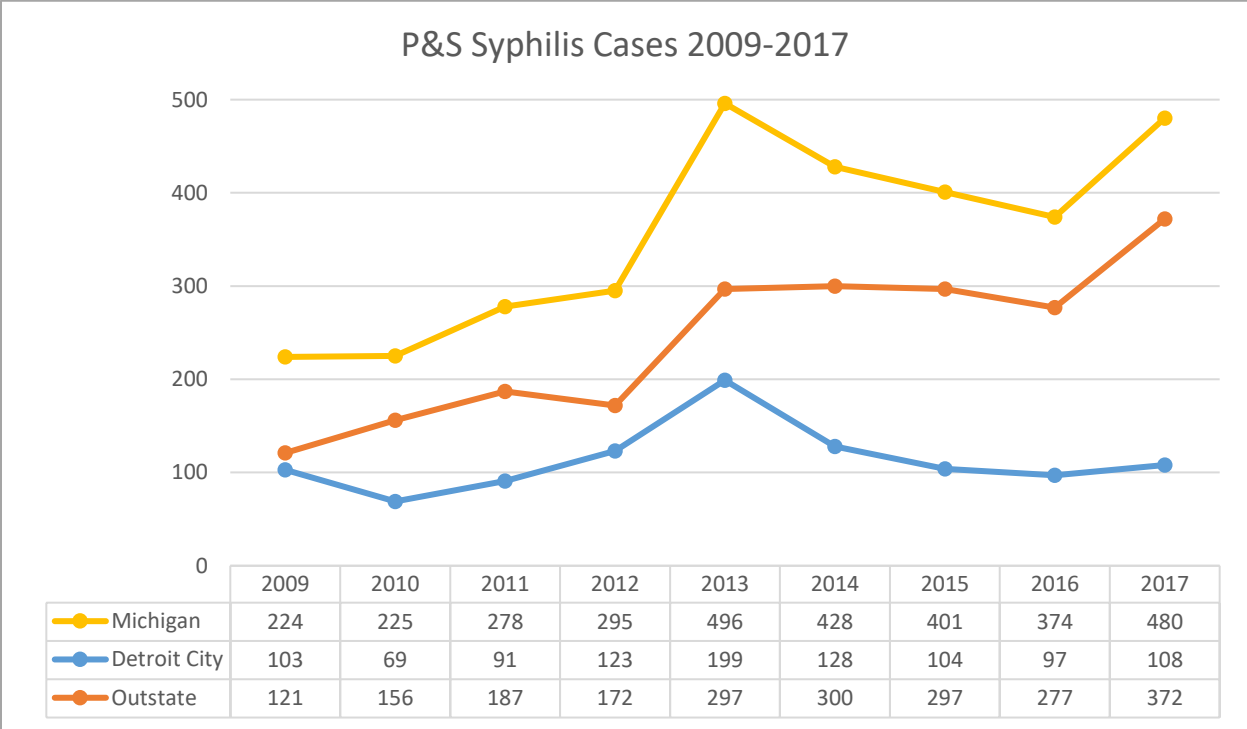
Michigan's STD Surveillance Program collects, interprets, and disseminates population level data regarding sexually transmitted diseases (STDs). This report covers cases reported via Michigan Disease Surveillance System (MDSS) with a patient address in Michigan. Syphilis is divided into stages (primary, secondary, and latent) based on infection duration, and only primary and secondary syphilis (P&S) cases are included in this report. Chlamydia, the most commonly reported STD, and gonorrhea, the second most common sexually transmitted infection, are also included in this summary.

For more information on STD surveillance and prevention programs, see our website: <http://www.michigan.gov/hivstd>

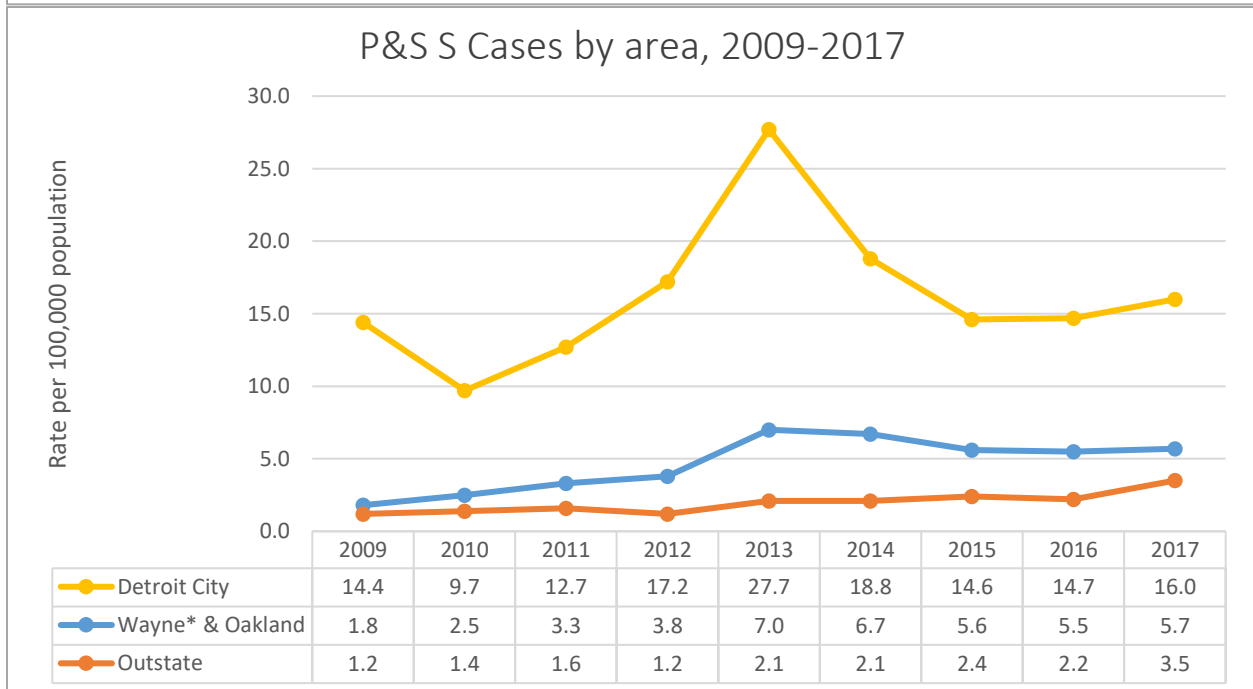
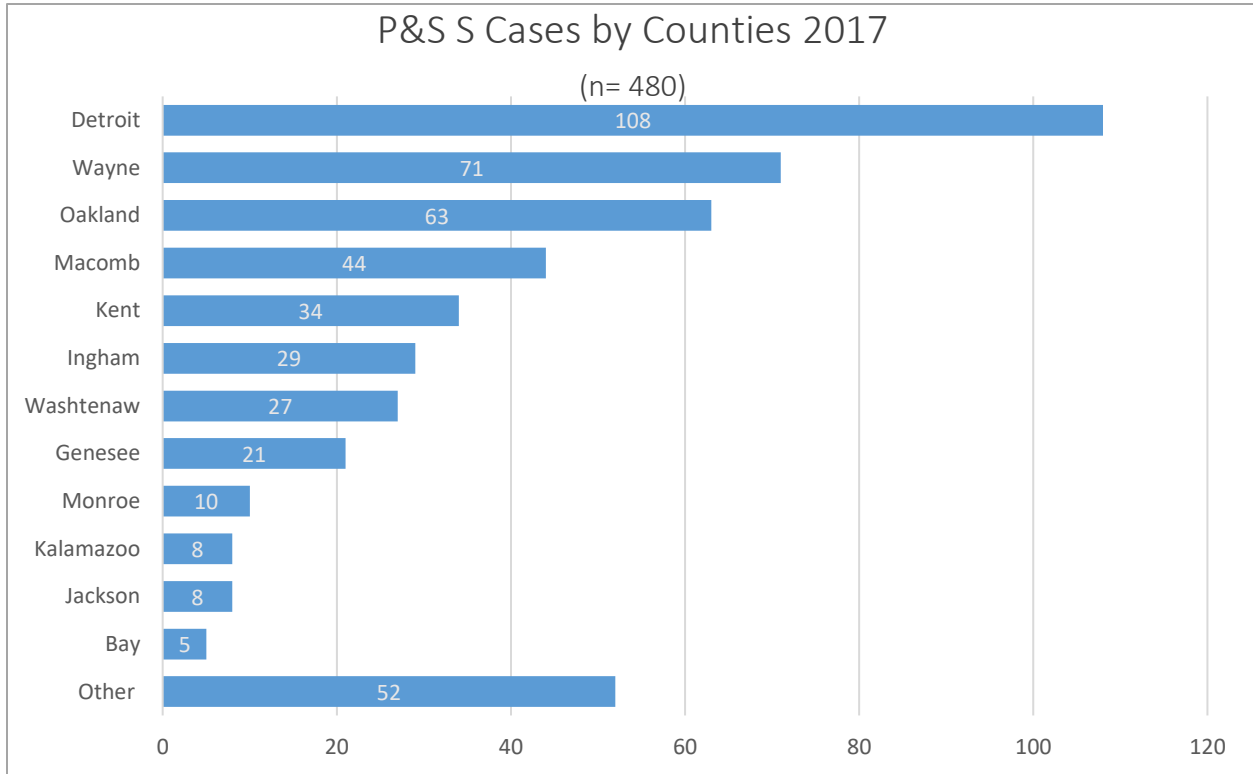
# SYPHILIS

Syphilis diagnosed with specific symptoms or recent documented infection is called primary or secondary syphilis, and can be transmitted to others during this period. Syphilis diagnosed with no symptoms and no evidence of recent transmission is called early latent or late latent syphilis.

Primary and Secondary syphilis case counts have dropped one-quarter from the outbreak year of 2013 but rose sharply (**28 percent**) this year. Nearly all the increase is outside Detroit, particularly among smaller health departments with small increases.

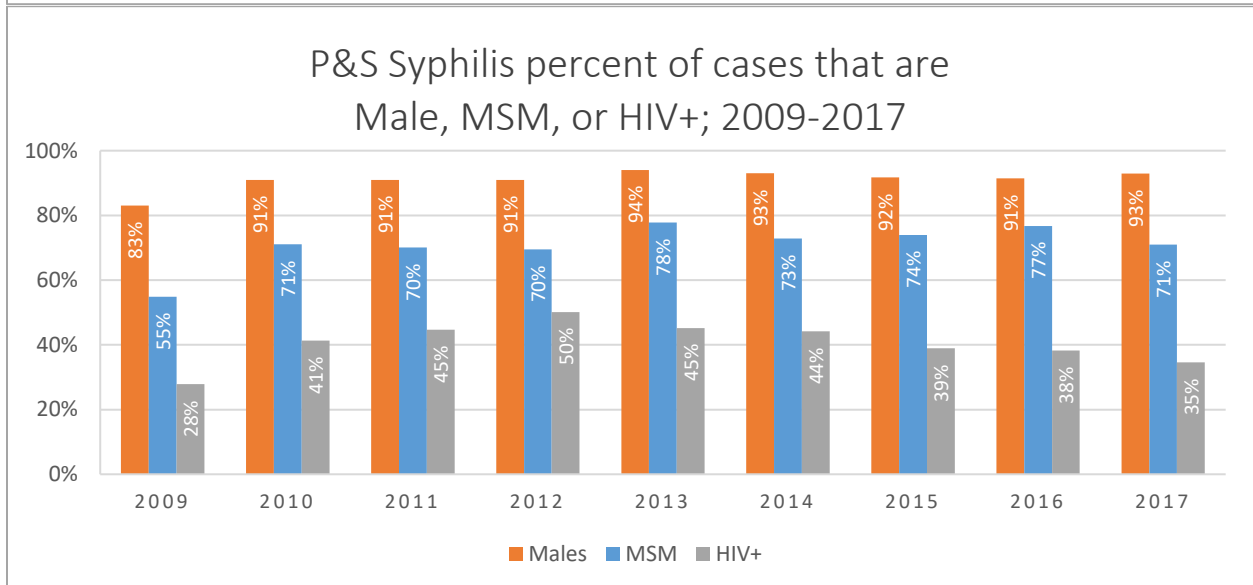
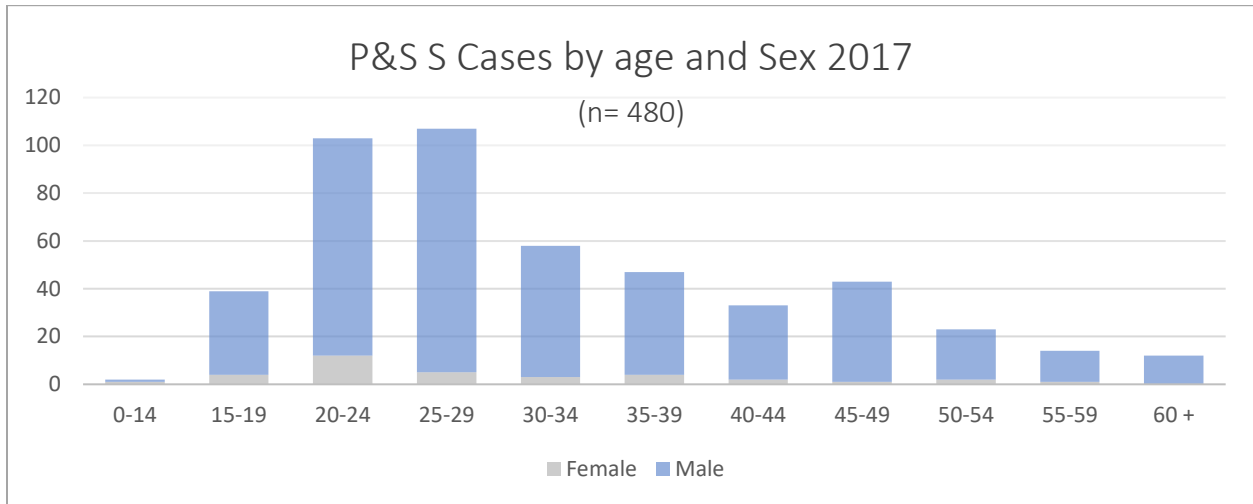


The highest rates of syphilis continue to be in southeast Michigan, and around the cities of Flint, Lansing, and Grand Rapids. The rate in Detroit (16.6 per 100,000 population) is three times that the average of Wayne and Oakland Counties (5.7), and five times the rest of the state (3.4). However between 2016 and 2017 the increase in Detroit was 13 percent, compared with 13 percent for southeast Michigan (Wayne, Oakland, Macomb), and 59 percent for the remainder of Michigan.

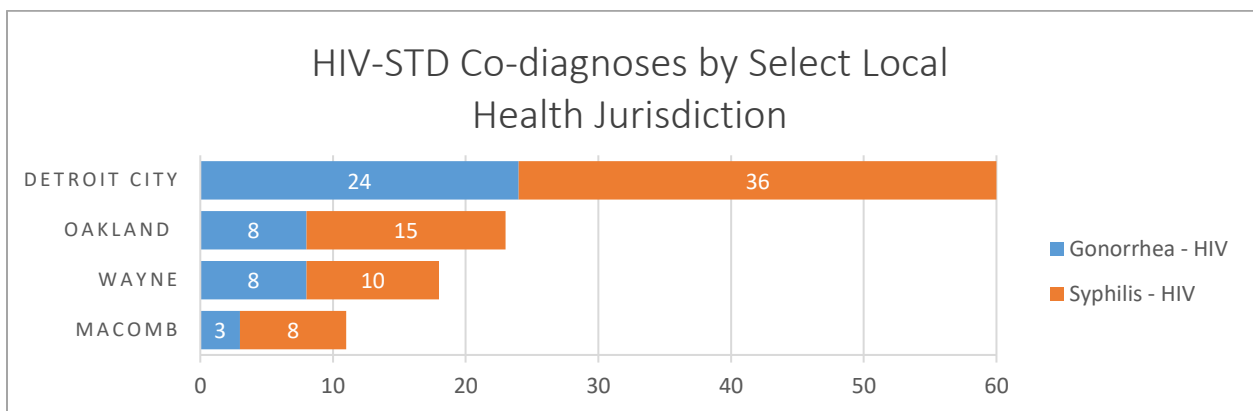


\*Includes Wayne County cases outside of Detroit

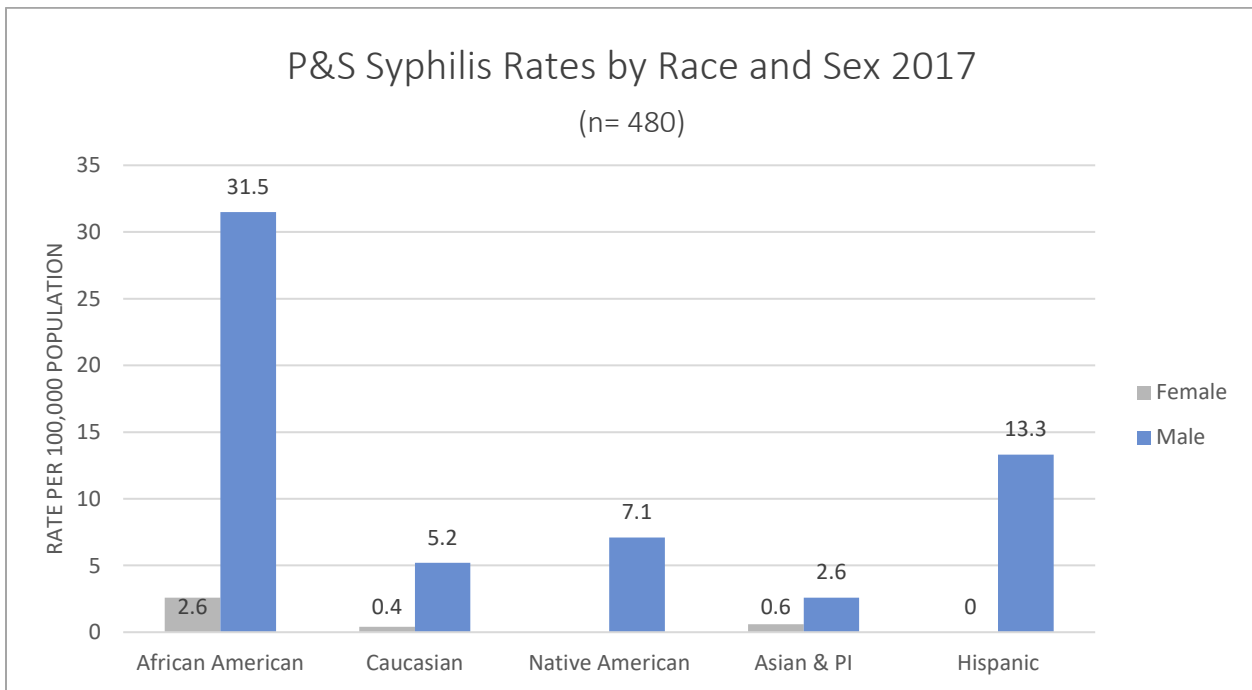
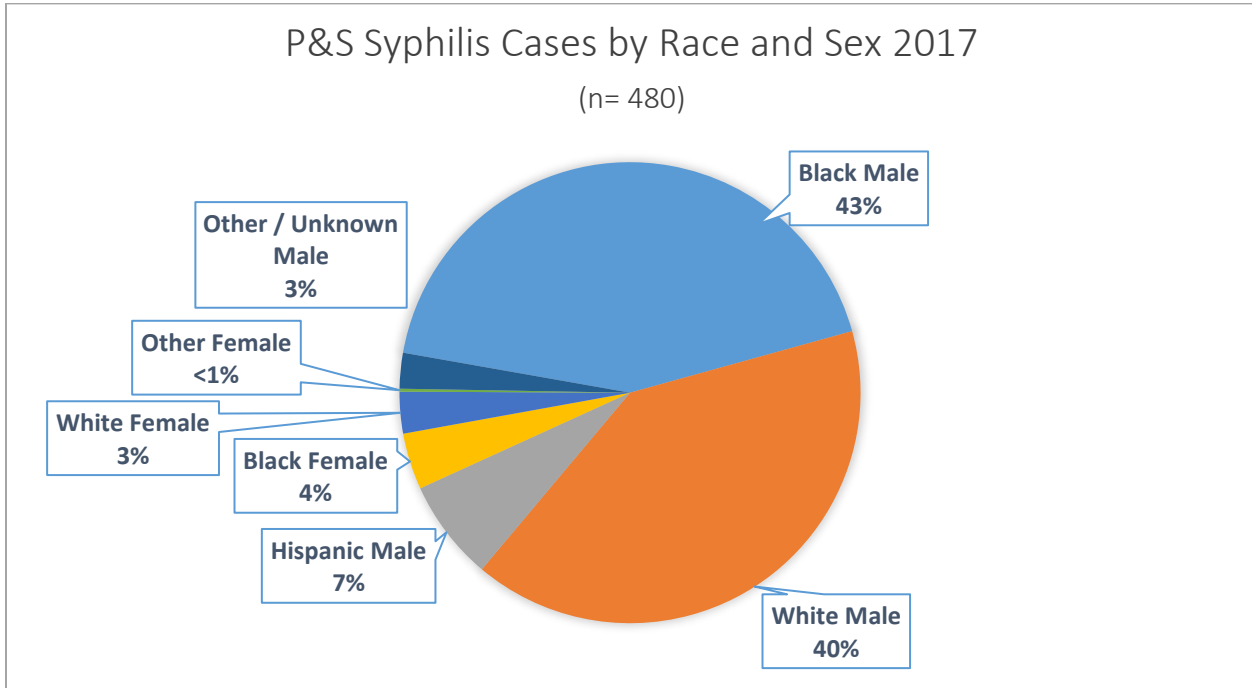
The vast majority (93 percent) of syphilis cases are among males. Two-thirds are men who have sex with men, and one-third of the total (35 percent of all cases or 42 percent of MSM) are diagnosed with HIV.



Co-diagnosed cases have both STD and HIV diagnoses within 30 days of each other. There were 94 syphilis-HIV and 59 gonorrhea-HIV co-diagnoses in 2017.

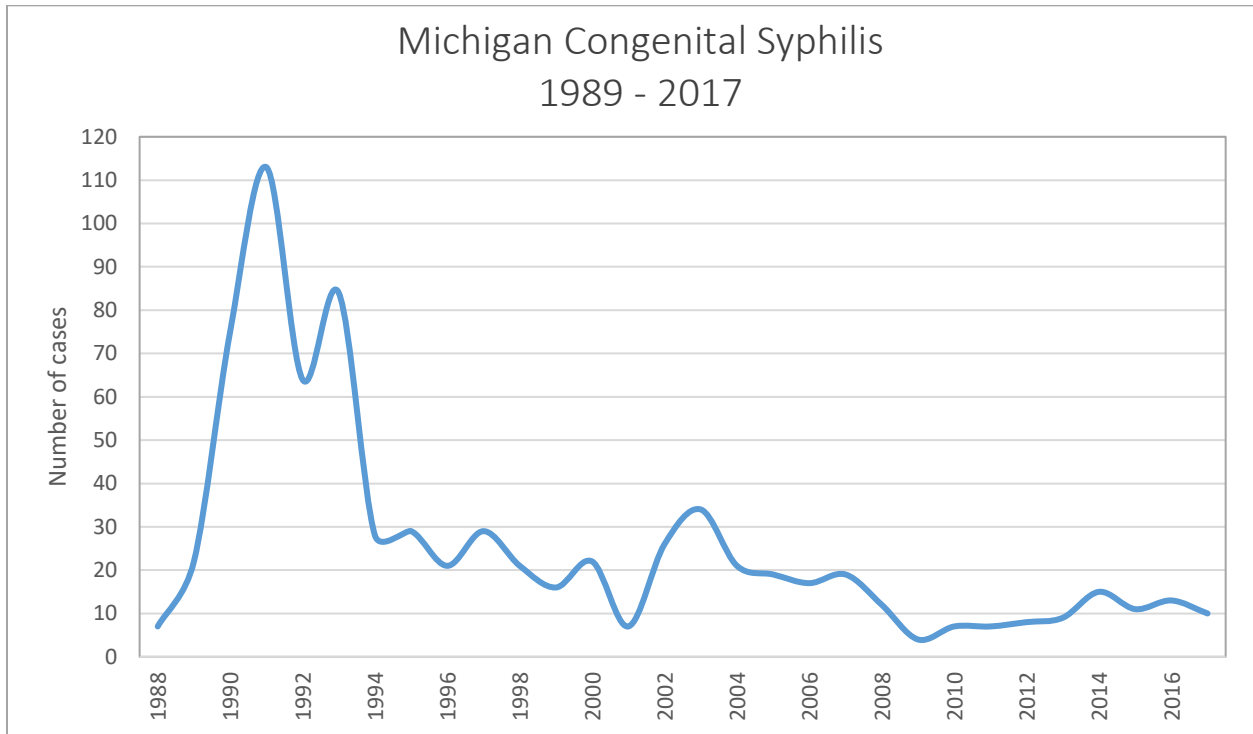


The majority of syphilis cases are males, evenly split between Black males and White males. Because the population among Blacks is so much lower, the rate among Black males is **12 times higher** than among White males.



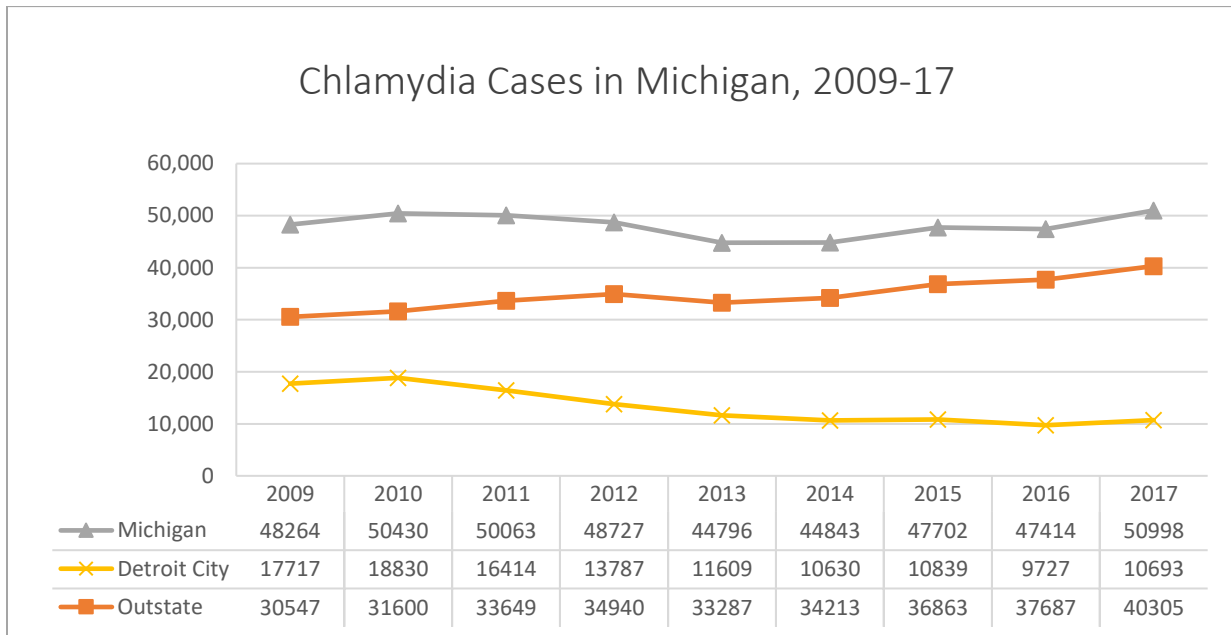
## CONGENITAL SYPHILIS

There were 10 cases of congenital syphilis in Michigan in 2017. Although this is a small number, each case represents a failure of public health. Michigan law requires that all women be tested for syphilis (and other conditions) at their first prenatal exam. Ideally an infected woman will be treated promptly and followed to assure the syphilis infection is cured, and there is no risk of transmitting the infection to the newborn. However some cases are not diagnosed and treated in time. Of the ten cases, two received no prenatal care, and seven were unable to complete treatment 30 days before delivery (i.e. were diagnosed late in the pregnancy).

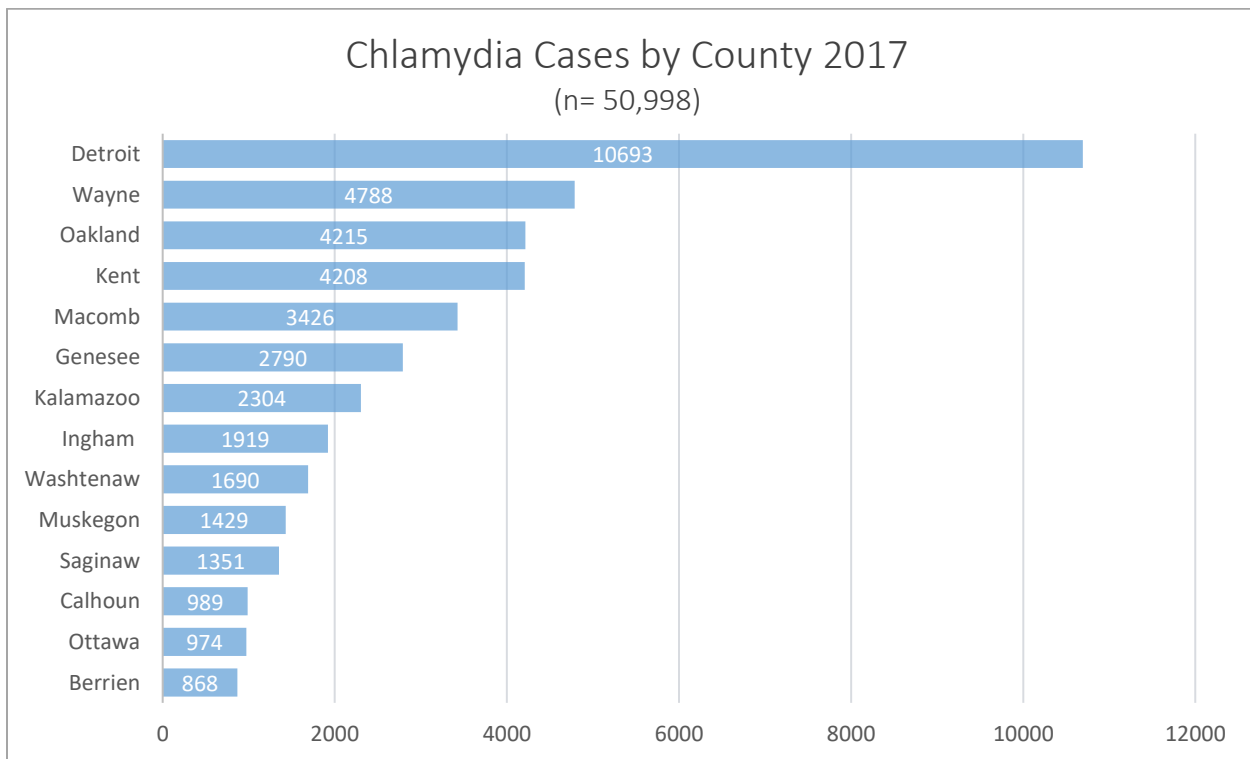


## CHLAMYDIA

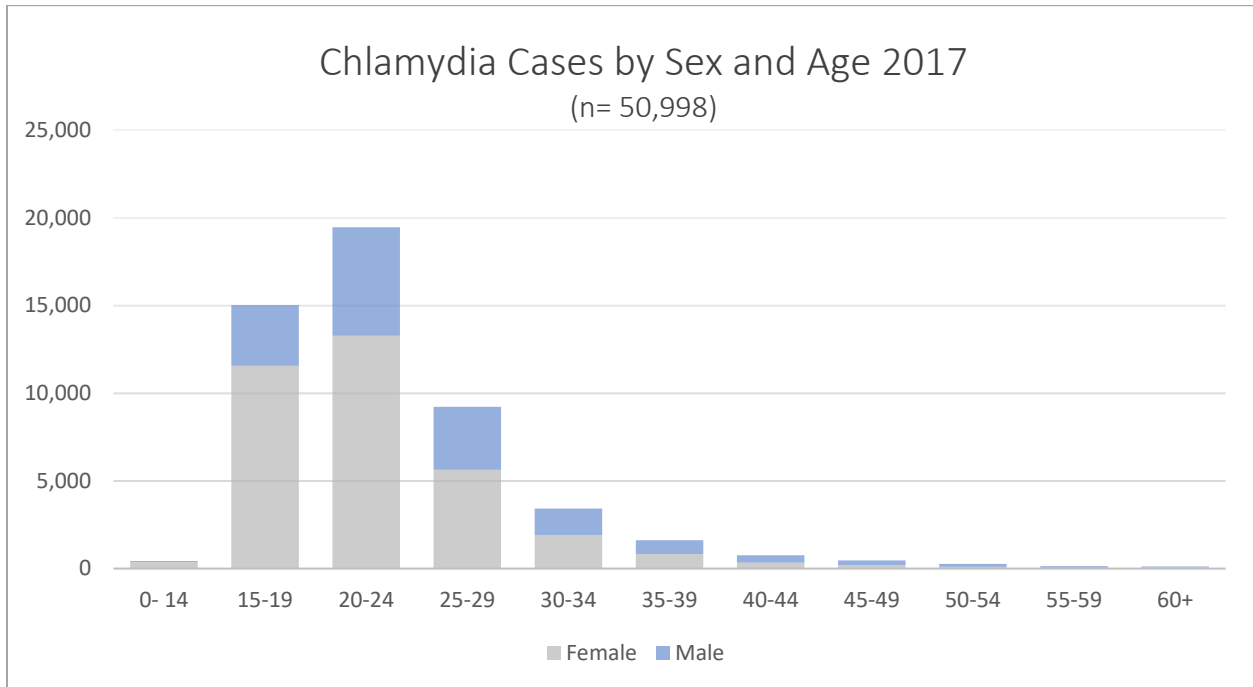
Chlamydia case reporting has been roughly level at 45,000 – 50,000 cases per year since 2008 but rose **8 percent** to a record 51,000 cases in 2017. Nearly all this increase was outside Detroit.



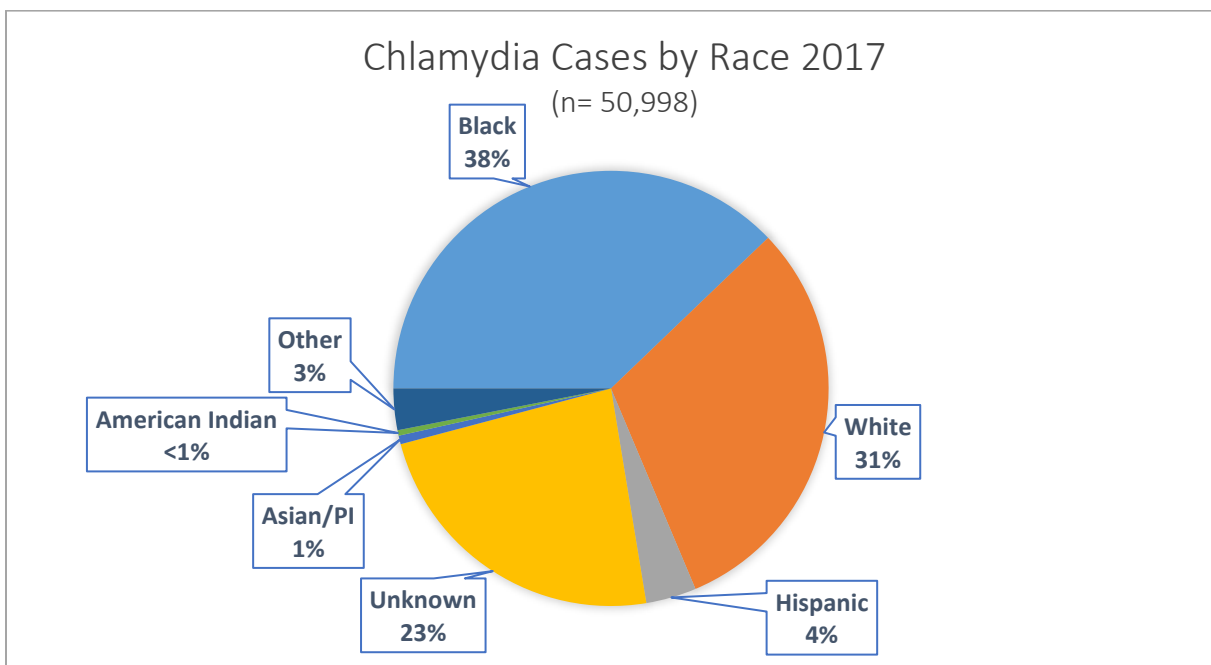
Detroit has both the highest number, and highest rate of cases. Urban areas in Lower Michigan also have high rates, while the rural areas of northern Michigan and the Upper Peninsula tend to have the lowest rates.



Because chlamydia can be asymptomatic, it is most often diagnosed through routine testing among young women. Approximately three-fourths of all chlamydia diagnoses are among women.



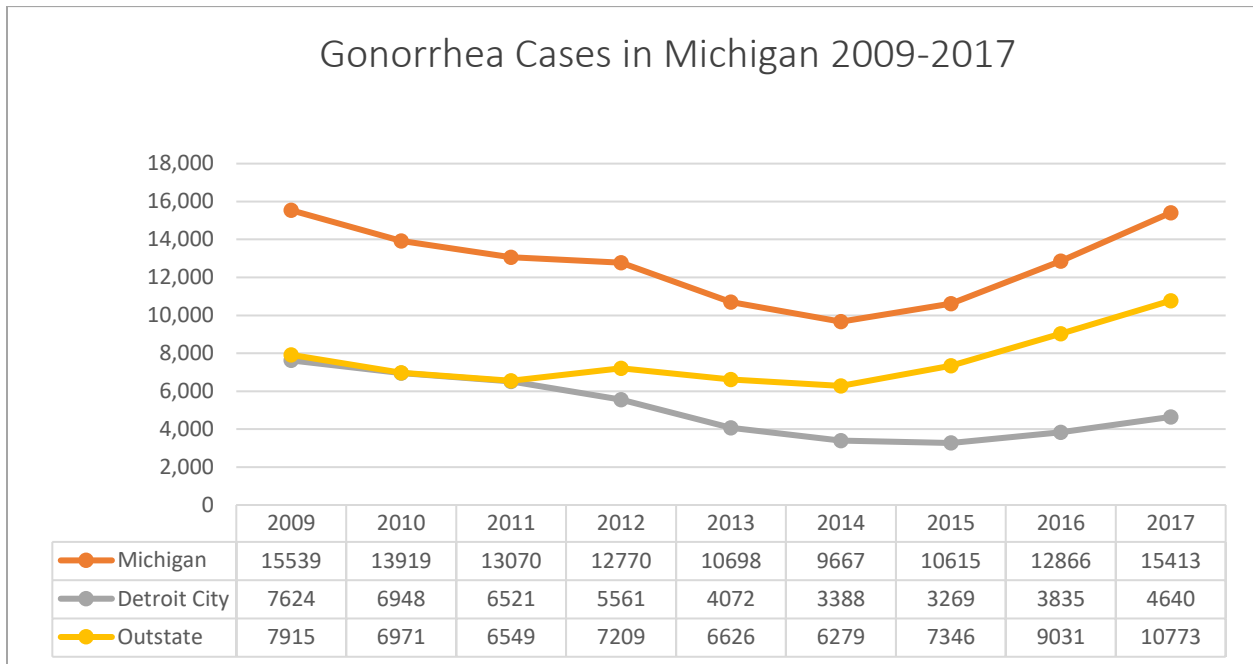
Like all STDs, chlamydia disproportionately impacts Blacks. Over one-third of cases are among Blacks, who make up 12 percent of Michigan population, while whites make up 80 percent of the population but only one-third of chlamydia cases. The rate among blacks is **6.7 times higher** than among whites. Since nearly one-quarter of all cases are missing race information these comparisons are subject to some error.



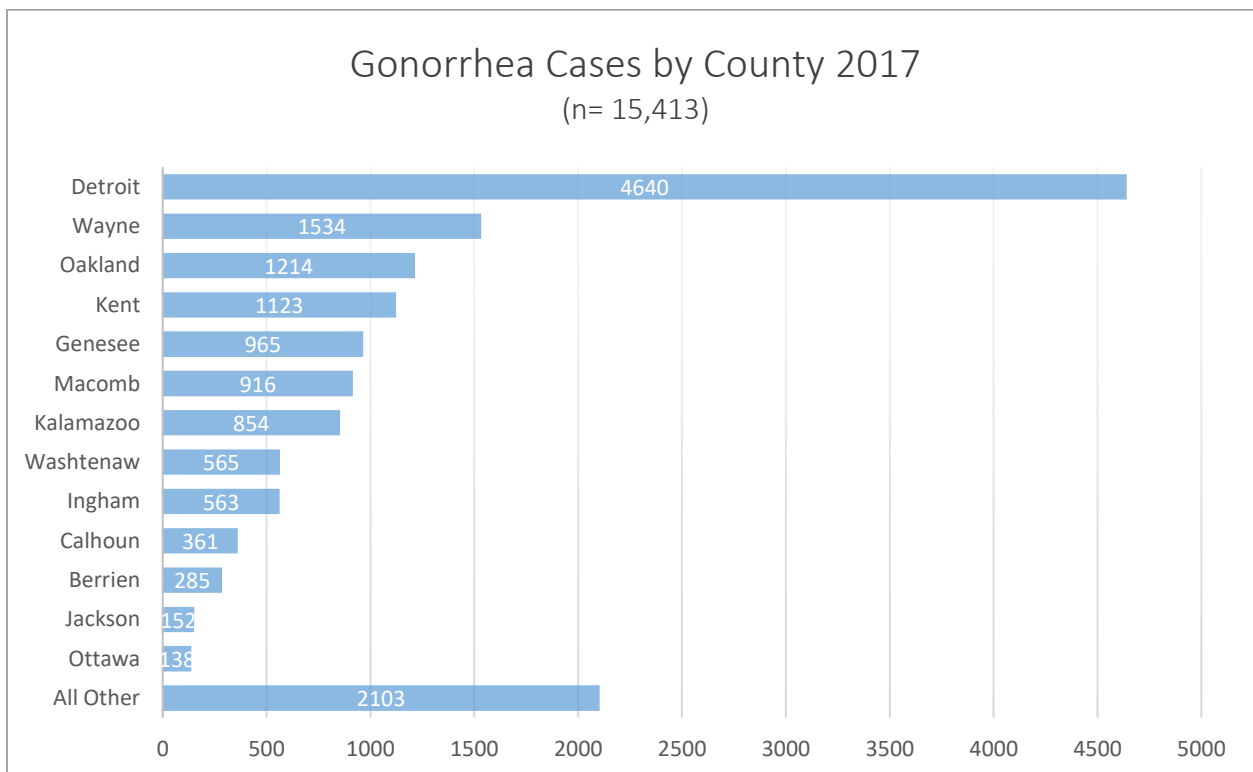


## GONORRHEA

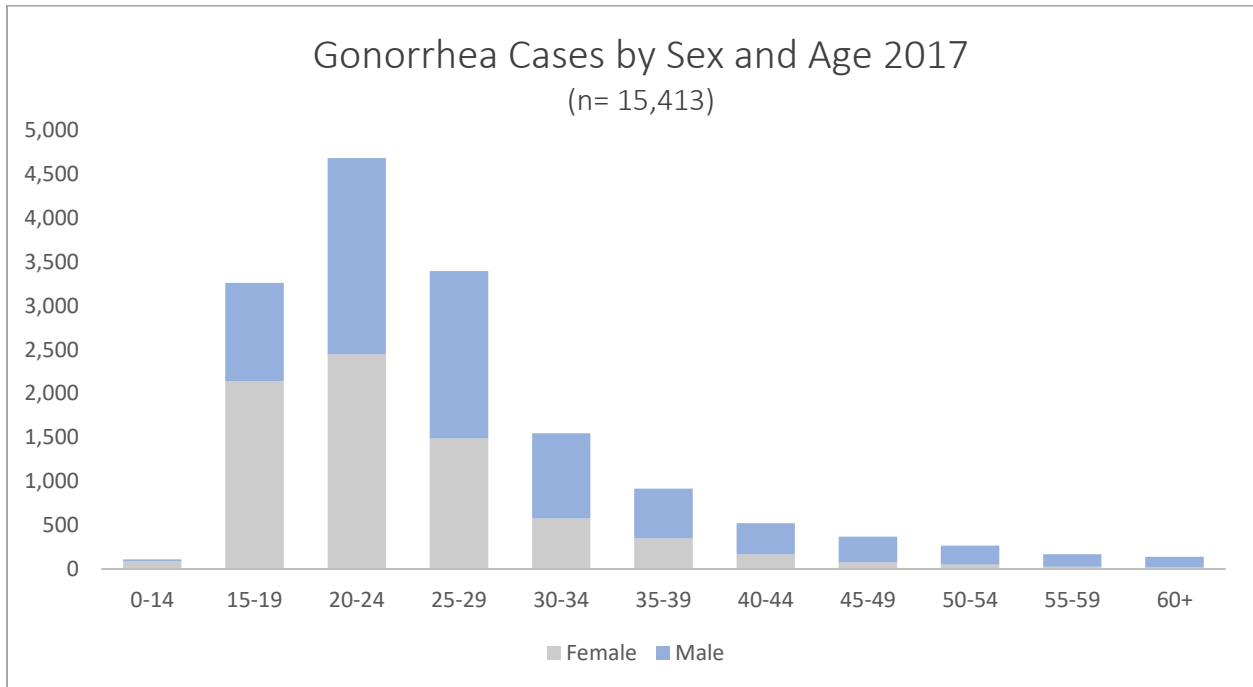
Gonorrhea cases dropped nearly by half from 2008 to 2014 but have climbed **nearly 60 percent** (including **20 percent** in 2017) in the three years since.



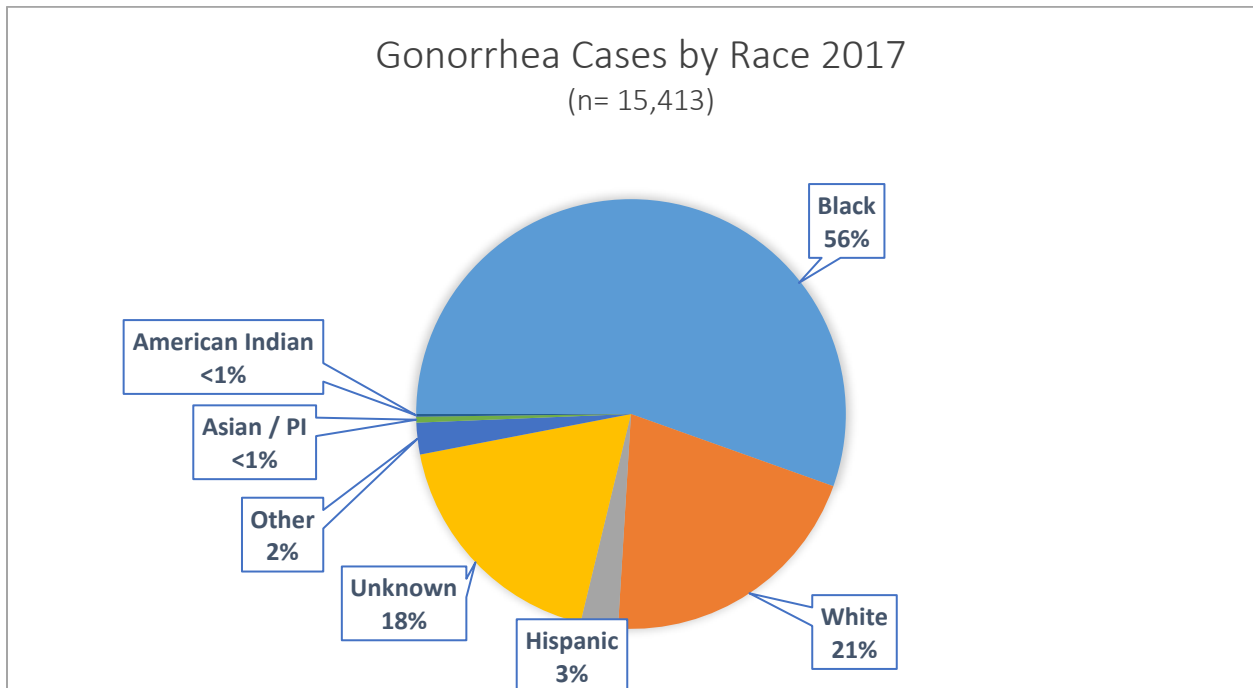
The highest gonorrhea rates are in Detroit, and near the larger cities in Lower Michigan. Two-thirds of all cases occur in the six largest local health jurisdictions.



About half of gonorrhea cases are among men, and nearly three-quarters of cases are age 15- 29 years.



Gonorrhea disproportionately affects Blacks. The rate among Blacks is **14.7 times higher** than among whites in Michigan.



## COMMON THEMES AMONG STDs

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Increases in syphilis, gonorrhea, and chlamydia are consistent with national trends but reflect a reversal of previous downward trends. Chlamydia rose **8 percent** to a record 51,000 cases this year, gonorrhea climbed **20 percent** in 2017, and syphilis cases rose sharply (**28 percent**) this year from 2016 estimates.

The bulk of all STDs occur in southeast Michigan. Detroit City along with the counties of Wayne, Oakland, and Macomb account for **28 percent** of the population but **60 percent** of syphilis, **54 percent** of gonorrhea, and **45 percent** of chlamydia cases. Between 2016 and 2017, gonorrhea and chlamydia in these areas grew at the same rate as statewide. Syphilis cases increased only half of the statewide rate (**14 percent** compared to **28 percent**).

The largest relative increases for chlamydia, gonorrhea, and syphilis occurred outside southeast Michigan, but with different counties for each disease and no consistent geographic pattern.

As in previous years, characteristics of the population varies according to the infection. Two-thirds of chlamydia cases, half of gonorrhea cases, and seven percent of P&S syphilis cases are among females.

Over one-quarter of chlamydia cases are among the 15-19 age group, with more than two-thirds age 15-24. Among gonorrhea cases nearly three-quarters are age 15-29. For P&S syphilis, just half are age 15-29. The predominant transmission is heterosexual for both chlamydia (**0.6 percent** MSM) and gonorrhea cases (**2 percent** MSM), but **71 percent** of P&S syphilis cases are among men who have sex with men (MSM).

The highest disparities among STDs are by race and sexual orientation. Among cases with known race, two-thirds of gonorrhea, half of chlamydia, and nearly half of syphilis cases are among Blacks. Fewer than **5 percent** of chlamydia or gonorrhea cases, and **7 percent** of syphilis are of Hispanic ethnicity. Native Americans and Asian Pacific Islanders each make up **1 percent** or fewer.

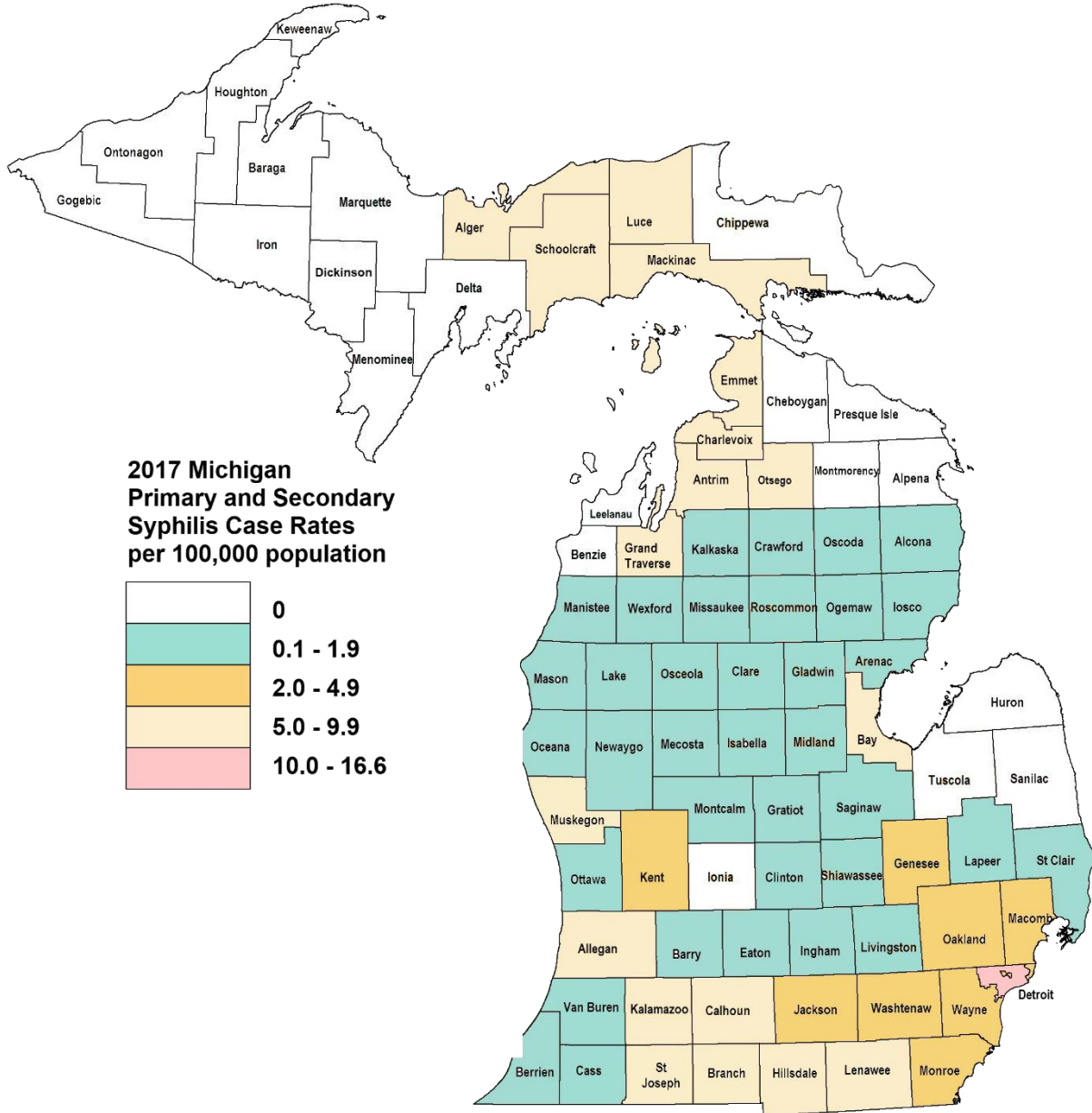
The rate among Blacks is **6 times higher** than whites for chlamydia and syphilis, and **14 times higher** for gonorrhea. The highest rates are among African American females with chlamydia, then for African American males. Based on American Community Survey estimates of the Michigan population by sexual orientation data (Grey 2016), men who have sex with men are 100 times more likely to be diagnosed with P&S syphilis than men who do not have sex with men.

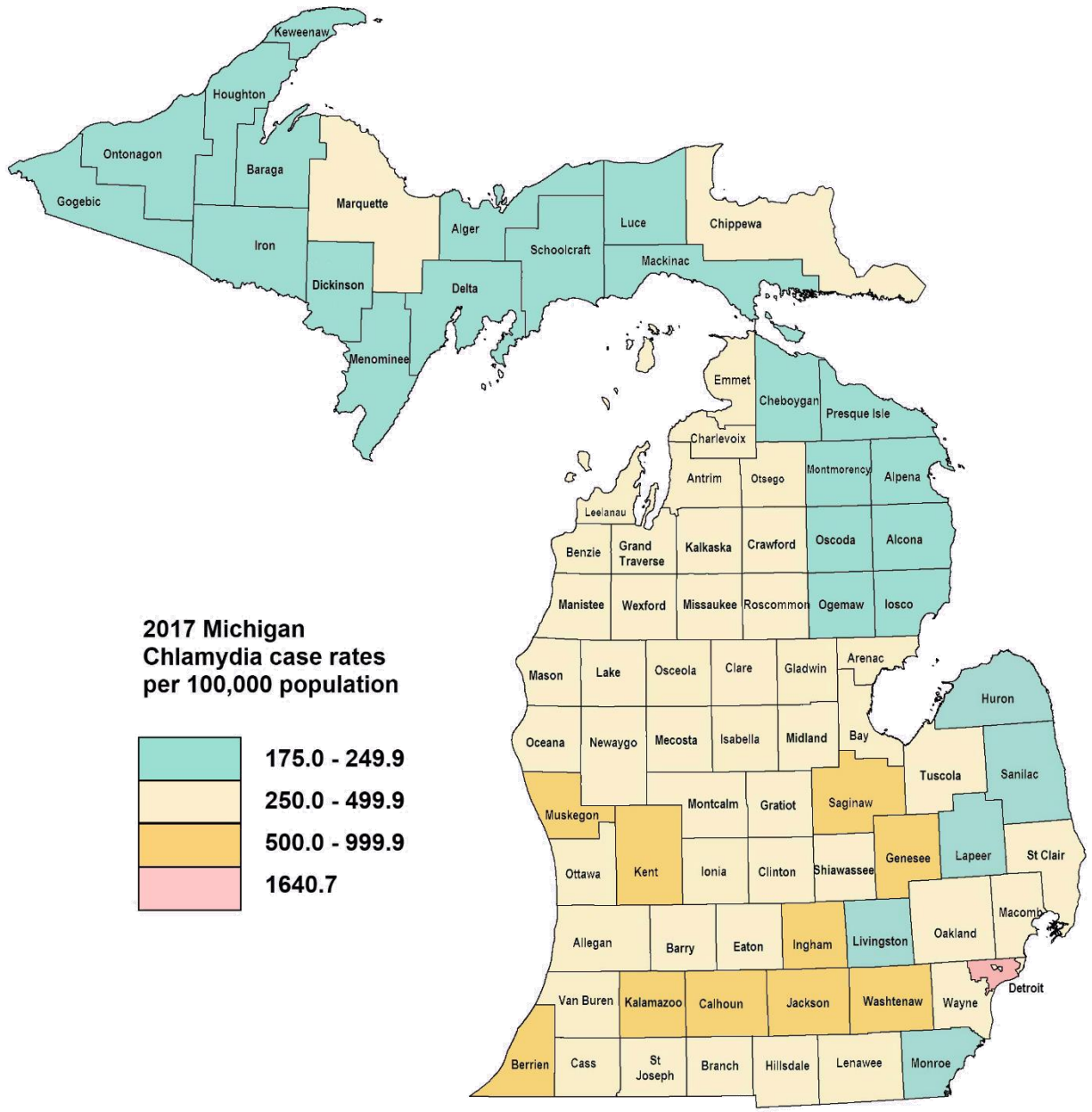
In addition to chlamydia, gonorrhea, and syphilis, Michigan is also experiencing one of the largest LGV (lymphogranuloma venereum) outbreaks in the country. Between August and December 2015 24 cases were reported, with 20 additional cases reported in 2016, and 9 in 2017. All cases were among HIV+ MSM, nearly all residing in southeast Michigan.

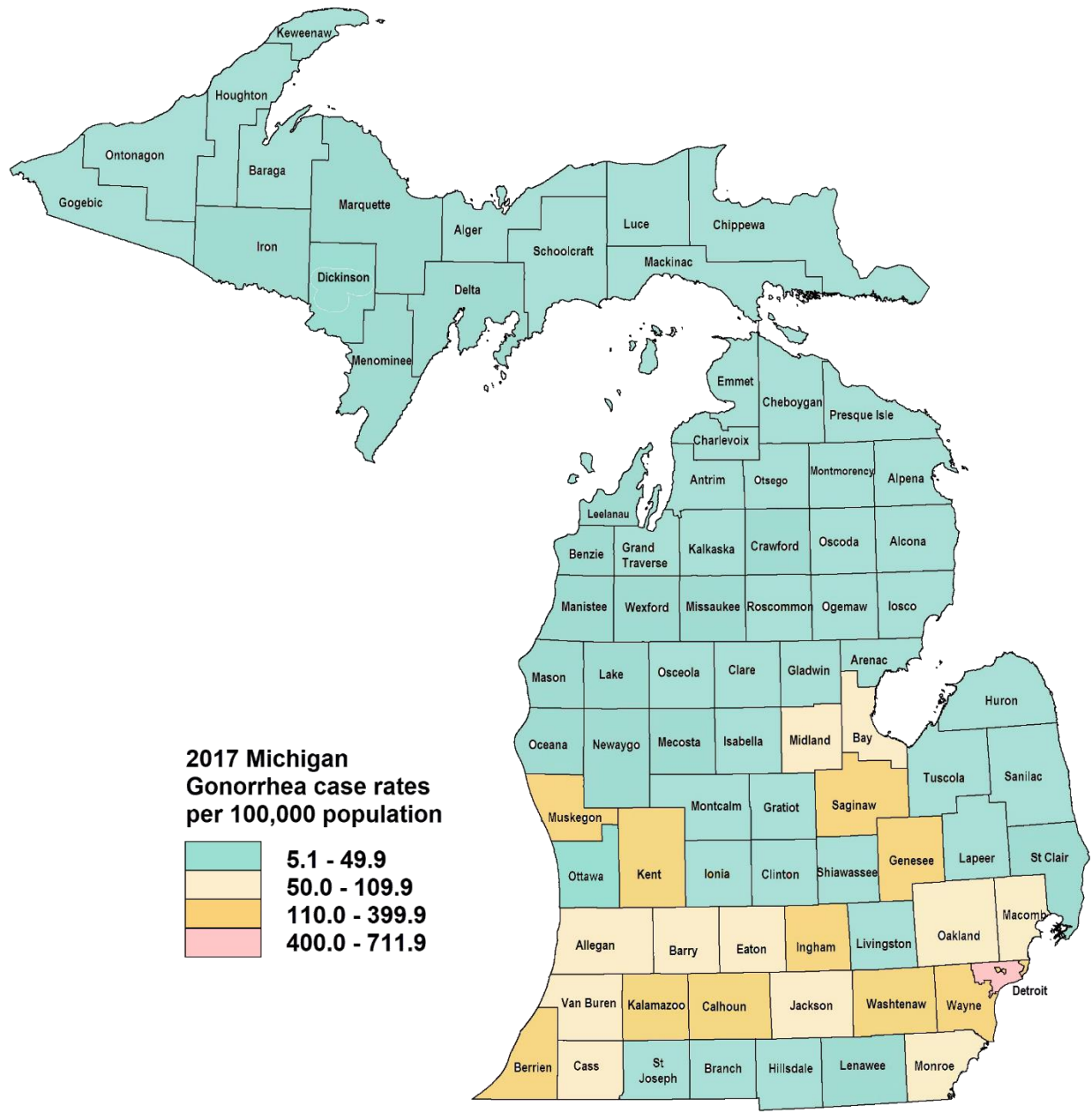
Through 2017 and into 2018 Michigan continues to have the largest Hepatitis A outbreak in the U.S. During 2017, 629 cases were reported, with 95 percent from a few counties in southeast Michigan. MSM exposure is associated with increased risk for Hepatitis A in this outbreak, and 60 MSM cases have been identified to date.

# Appendices

## Appendix 1: Maps







Appendix 2: Data tables

<b>MI STD by Sex, Race and Age Group, 2017</b>										
	<b>Gonorrhea</b>			<b>P&amp;S Syphilis<sup>1</sup></b>			<b>Chlamydia</b>			<b>2017 Population<sup>2</sup></b>
	2017	%	rate	2017	%	rate	2017	%	rate	
<b>RACE/ ETHNICITY</b>										
White non-Hispanic	3,162	21%	42.2	208	43%	2.8	15,717	31%	209.9	7,488,326
Black non-Hispanic	8,547	55%	620.9	225	47%	16.3	19,296	38%	1,401.9	1,376,455
Hispanic	434	3%	86.0	34	7%	6.7	1,910	4%	378.3	504,857
Asian or Pacific Islander	68	0%	21.3	5	1%	1.6	325	1%	102.0	318,516
Native American / AK Native	31	0%	54.5	2	0%	3.5	207	0%	364.0	56,869
Other or Multiple Race	367	2%	NA	5	1%	NA	1,572	3%	NA	217,288
Unknown Race	2,804	18%	NA	1	0%	NA	11,971	23%	NA	N/A
<b>SEX &amp; RACE</b>										
Males	7,952	52%	162.2	446	93%	9.1	16,600	33%	338.5	4,903,752
<i>White Males</i>	1,442	9%	39.0	194	40%	5.2	4,508	9%	121.8	3,702,064
<i>Black Males</i>	4,620	30%	706.9	206	43%	31.5	7,063	14%	1,080.7	653,538
<i>Hispanic Males</i>	208	1%	81.1	34	7%	13.3	540	1%	210.5	256,593
<i>Asian / PI Males</i>	46	0%	29.5	4	1%	2.6	102	0%	65.4	156,047
<i>Native American Males</i>	12	0%	42.5	2	0%	7.1	65	0%	230.0	28,257
<i>Males of other race</i>	168	1%	NA	5	1%	NA	453	1%	NA	107,253
<i>Males of unknown race</i>	1,456	9%	NA	1	0%	NA	3,869	8%	NA	NA
Females	7,444	48%	147.2	34	7%	0.7	34,342	67%	678.9	5,058,559
<i>White Females</i>	1,719	11%	45.4	14	3%	0.4	11,199	22%	295.8	3,786,262
<i>Black Females</i>	3,923	25%	542.7	19	4%	2.6	12,223	24%	1,690.8	722,917
<i>Hispanic Females</i>	226	1%	91.0	0	0%	-	1,370	3%	551.8	248,264
<i>Asian / PI Females</i>	22	0%	13.5	1	0%	0.6	223	0%	137.3	162,469
<i>Native American Females</i>	19	0%	66.4	0	0%	-	142	0%	496.3	28,612
<i>Females of other race</i>	198	1%	NA	0	0%	NA	1,119	2%	NA	110,035
<i>Females unknown race</i>	1,337	9%	NA	-	-	NA	8,066	16%	NA	NA
Unknown Sex - All Races	17						56	0%		
<b>Age</b>										
0-4 years	8	0%	1.4	-	-	-	14	0%	2.4	573,282
5-9 years	3	0%	0.5	-	-	-	1	0%	0.2	587,969
10-14 years	100	1%	16.1	2	0%	0.3	416	1%	66.9	622,193
15-19 years	3,264	21%	493.5	39	8%	5.9	15,034	29%	2,273.3	661,340
20-24 years	4,695	30%	668.2	103	21%	14.7	19,477	38%	2,771.8	702,672
25-29 years	3,400	22%	502.9	107	22%	15.8	9,236	18%	1,366.1	676,087
30-34 years	1,548	10%	261.0	58	12%	9.8	3,421	7%	576.9	593,016
35-39 years	920	6%	155.4	47	10%	7.9	1,616	3%	272.9	592,177
40-44 years	522	3%	92.6	33	7%	5.9	764	1%	135.5	563,657
45-49 years	368	2%	57.3	43	9%	6.7	464	1%	72.3	642,154
50-54 years	266	2%	39.1	22	5%	3.2	258	1%	37.9	680,338
55-59 years	170	1%	23.4	14	3%	1.9	139	0%	19.2	725,134
60-64 years	83	1%	12.3	8	2%	1.2	71	0%	10.5	675,096
65 and over	55	0%	3.3	4	1%	0.2	47	0%	2.8	1,667,196
Unknown Age	11	0%	NA	-	-	NA	40	0%	NA	N/A
<b>Total</b>	<b>15413</b>	<b>100%</b>	<b>154.7</b>	<b>480</b>	<b>100%</b>	<b>4.8</b>	<b>50998</b>	<b>100%</b>	<b>511.9</b>	<b>9,962,311</b>

<b>MI STD by Local Health Jurisdiction, 2017</b>							
<b>Local Health Jurisdiction</b>	<b>Gonorrhea</b>		<b>P&amp;S Syphilis<sup>1</sup></b>		<b>Chlamydia</b>		<b>2017</b>
	<b>Cases</b>	<b>Rate</b>	<b>Cases</b>	<b>Rate</b>	<b>Cases</b>	<b>Rate</b>	<b>Population<sup>3</sup></b>
Allegan County	63	54.1	3	2.6	425	365.0	116,447
Barry-Eaton	110	64.9	3	1.8	569	335.5	169,613
Bay County	108	103.6	5	4.8	420	402.9	104,239
Benzie-Leelanau	2	5.1	0	0.0	103	262.6	39,230
Berrien County	285	184.8	3	1.9	868	562.7	154,259
Branch-Hillsdale-St. Joseph	54	35.9	4	2.7	425	282.9	150,236
Calhoun County	361	269.1	3	2.2	989	737.4	134,128
Central Michigan District	66	34.9	3	1.6	595	314.6	189,153
Chippewa County	3	8.0	0	0.0	103	273.1	37,711
Delta-Menominee	9	15.3	0	0.0	132	223.7	59,011
Dickinson-Iron	7	19.2	0	0.0	76	208.0	36,539
District 2	14	21.6	1	1.5	154	237.7	64,781
District 4	7	9.2	0	0.0	149	196.4	75,872
District 10	67	25.4	3	1.1	726	275.6	263,403
Genesee County	965	236.9	21	5.2	2,790	684.9	407,385
Grand Traverse County	21	22.9	2	2.2	290	315.9	91,807
Huron County	8	25.6	0	0.0	57	182.2	31,280
Ingham County	563	194.0	29	10.0	1,919	661.3	290,186
Ionia County	23	35.8	0	0.0	216	336.0	64,291
Jackson County	152	95.8	8	5.0	825	520.0	158,640
Kalamazoo County	854	324.7	8	3.0	2,304	876.1	262,985
Kent County	1,123	173.1	34	5.2	4,208	648.8	648,594
Lapeer County	26	29.5	1	1.1	160	181.5	88,174
Lenawee County	48	48.7	4	4.1	310	314.3	98,623
Livingston County	43	22.7	2	1.1	379	199.8	189,651
Luce-Mack-Alger-School	10	29.2	1	2.9	79	230.7	34,240
Macomb County	916	105.1	44	5.0	3,426	393.2	871,375
Marquette County	8	12.0	0	0.0	269	404.5	66,502
Midland County	46	55.1	1	1.2	223	267.4	83,411
Mid-Michigan District	68	37.2	3	1.6	531	290.1	183,011
Monroe County	80	53.5	10	6.7	360	240.6	149,649
Muskegon County	563	324.1	4	2.3	1,429	822.7	173,693
Northwest MI Comm Hlth Agency	11	10.3	4	3.7	283	264.1	107,162
Oakland County	1,214	97.1	63	5.0	4,215	337.0	1,250,836
Ottawa County	138	48.2	1	0.3	974	340.1	286,383
Saginaw County	393	204.8	2	1.0	1,351	703.9	191,934
Sanilac County	9	21.8	0	0.0	96	232.6	41,269
Shiawassee County	26	38.0	1	1.5	211	308.3	68,446
St Clair County	55	34.5	2	1.3	479	300.6	159,350
Tuscola County	22	41.7	0	0.0	146	276.7	52,764
Van Buren-Cass	122	96.3	1	0.8	441	348.0	126,731
Washtenaw County	565	153.7	27	7.3	1,690	459.7	367,627
Wayne County (excl. Detroit)	1,534	142.0	71	6.6	4,788	443.1	1,080,512
Detroit City	4,640	689.3	108	16.0	10,693	1588.6	673,104
Western UP District	11	16.2	0	-	122	179.2	68,074
<b>Total</b>	<b>15,413</b>	<b>154.7</b>	<b>480</b>	<b>4.8</b>	<b>50,998</b>	<b>511.9</b>	<b>9,962,311</b>



**MI STD by County of Residence, 2017**

County	Gonorrhea		P&S Syphilis <sup>1</sup>		Chlamydia		2017 Population <sup>2</sup>
	Cases	Rate	Cases	Rate	Cases	Rate	
Alcona	-	-	-	-	14	135.3	10,351
Alger	2	21.9	-	-	16	175.4	9,121
Allegan	63	54.1	3	2.6	425	365.0	116,447
Alpena	2	7.0	-	-	66	231.9	28,462
Antrim	2	8.6	-	-	56	240.4	23,292
Arenac	2	13.3	-	-	35	232.6	15,045
Baraga	1	11.8	-	-	13	154.0	8,441
Barry	20	33.0	1	1.7	143	236.0	60,586
Bay	108	103.6	5	4.8	420	402.9	104,239
Benzie	1	5.7	-	-	69	392.6	17,573
Berrien	285	184.8	3	1.9	868	562.7	154,259
Branch	16	36.9	-	-	131	301.8	43,410
Calhoun	361	269.1	3	2.2	989	737.4	134,128
Cass	47	91.5	-	-	148	288.0	51,381
Charlevoix	4	15.3	1	3.8	51	195.1	26,139
Cheboygan	3	11.8	-	-	40	157.7	25,369
Chippewa	3	8.0	-	-	103	273.1	37,711
City of Detroit	4,640	689.3	108	16.0	10,693	1588.6	673,104
Clare	11	35.9	-	-	70	228.4	30,653
Clinton	36	45.9	1	1.3	214	272.8	78,443
Crawford	2	14.4	-	-	38	273.2	13,907
Delta	6	16.7	-	-	81	225.2	35,965
Dickinson	6	23.6	-	-	48	188.9	25,415
Eaton	90	82.5	2	1.8	426	390.7	109,027
Emmet	4	12.1	-	-	91	274.2	33,193
Genesee	965	236.9	21	5.2	2,790	684.9	407,385
Gladwin	4	15.9	1	4.0	55	218.0	25,234
Gogebic	4	26.1	-	-	40	260.7	15,342
Grand Traverse	21	22.9	2	2.2	290	315.9	91,807
Gratiot	10	24.4	2	4.9	124	302.3	41,018
Hillsdale	4	8.7	2	4.4	104	226.7	45,879
Houghton	5	13.8	-	-	51	140.5	36,305
Huron	8	25.6	-	-	57	182.2	31,280
Ingham	563	194.0	29	10.0	1,919	661.3	290,186
Ionia	23	35.8	-	-	216	336.0	64,291
Iosco	7	27.8	-	-	58	230.5	25,162
Iron	1	9.0	-	-	28	251.7	11,124
Isabella	45	63.3	1	1.4	304	427.8	71,063
Jackson	152	95.8	8	5.0	825	520.0	158,640
Kalamazoo	854	324.7	8	3.0	2,304	876.1	262,985
Kalkaska	1	5.7	-	-	42	238.2	17,634
Kent	1,123	173.1	34	5.2	4,208	648.8	648,594
Keweenaw	-	-	-	-	8	380.0	2,105
Lake	4	33.3	-	-	35	291.4	12,013
Lapeer	26	29.5	1	1.1	160	181.5	88,174
Leelanau	1	4.6	-	-	34	157.0	21,657
Lenawee	48	48.7	4	4.1	310	314.3	98,623
Livingston	43	22.7	2	1.1	379	199.8	189,651
Luce	3	47.2	-	-	18	283.1	6,358
Mackinac	5	46.7	1	9.3	18	168.0	10,712
Macomb	916	105.1	44	5.0	3,426	393.2	871,375
Manistee	6	24.6	1	4.1	51	208.8	24,427
Marquette	8	12.0	-	-	269	404.5	66,502
Mason	13	44.7	-	-	60	206.4	29,073
Mecosta	19	43.8	-	-	159	366.4	43,391
Menominee	3	13.0	-	-	51	221.3	23,046
Midland	46	55.1	1	1.2	223	267.4	83,411

County	Gonorrhea		P&S Syphilis <sup>1</sup>		Chlamydia		2017 Population <sup>2</sup>
	Cases	Rate	Cases	Rate	Cases	Rate	
Missaukee	1	6.7	-	-	38	253.4	14,998
Monroe	80	53.5	10	6.7	360	240.6	149,649
Montcalm	22	34.6	-	-	193	303.7	63,550
Montmorency	-	-	-	-	16	173.0	9,250
Muskegon	563	324.1	4	2.3	1,429	822.7	173,693
Newaygo	10	20.7	1	2.1	138	286.1	48,242
Oakland	1,214	97.1	63	5.0	4,215	337.0	1,250,836
Oceana	2	7.6	1	3.8	68	257.2	26,442
Ogemaw	7	33.4	-	-	53	252.6	20,981
Ontonagon	1	17.0	-	-	10	170.0	5,881
Osceola	1	4.3	1	4.3	74	318.1	23,260
Oscoda	0	0.0	1	12.1	29	349.9	8,287
Otsego	1	4.1	3	12.2	85	346.4	24,538
Ottawa	138	48.2	1	0.3	974	340.1	286,383
Presque Isle	2	15.6	-	-	27	211.1	12,791
Roscommon	3	12.6	-	-	57	238.5	23,895
Saginaw	393	204.8	2	1.0	1,351	703.9	191,934
Sanilac	9	21.8	-	-	96	232.6	41,269
Schoolcraft	-	-	-	-	27	335.4	8,049
Shiawassee	26	38.0	1	1.5	211	308.3	68,446
St Clair	55	34.5	2	1.3	479	300.6	159,350
St Joseph	34	55.8	2	3.3	190	311.7	60,947
Tuscola	22	41.7	-	-	146	276.7	52,764
Van Buren	75	99.5	1	1.3	293	388.8	75,353
Washtenaw	565	153.7	27	7.3	1,690	459.7	367,627
Wayne excl Detroit	1,534	142.0	71	6.6	4,788	443.1	1,080,512
Wexford	9	27.0	-	-	97	291.5	33,276
Unknown residence	-	-	-	-	-	-	-
<b>Total</b>	<b>15,413</b>	<b>154.7</b>	<b>480</b>	<b>4.8</b>	<b>50,998</b>	<b>511.9</b>	<b>9,962,311</b>

1. P&S: Primary and Secondary Syphilis

2 Rate per 100,000 based on 2017 Census estimated populations

## REFERENCE

Grey JA, Bernstein KT, Sullivan PS, et al. Estimating the Population Sizes of Men Who Have Sex With Men in US States and Counties Using Data From the American Community Survey. Eysenbach G, ed. *JMIR Public Health and Surveillance*. 2016;2(1):e14. doi:10.2196/publichealth.5365.