



STD Trends in Michigan, 2019

All data as of July 1, 2020



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Overview

Michigan's STD Surveillance Program collects, interprets, and disseminates population level data regarding persons with sexually transmitted diseases. Data is collected in the Michigan Disease Surveillance System (MDSS) where reports from laboratories, private providers, and local public health give information about diagnosis, demographics, and patient behaviors. The most commonly reported sexually transmitted diseases are Chlamydia, gonorrhea, and syphilis. For the purposes of this report, counts of early stage and symptomatic syphilis (primary and secondary syphilis) are included.

Key Definitions

The Basics

New Diagnoses: The number of cases newly diagnosed over a given period of time, usually a year. The date assigned to an STD report is the onset date, or if that is missing the specimen collection date is used. If both dates are missing, the referral date, or the date the report was referred to MDHHS, is used.

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

P&S Syphilis: Primary and secondary, or the earliest stages of syphilis infection. During primary syphilis, symptoms appear where syphilis entered the body and last 3-6 weeks. In the following phase, secondary syphilis, symptoms typically manifest with body rash and last 2-10 weeks. Following these symptomatic stages, syphilis is considered latent but still can be infectious and can have long term health consequences, but for the purposes of surveillance reports, symptomatic syphilis (P&S) is used for annual statistics and year-to-year comparisons.

The following measures are displayed in this report:

Count: The number of persons newly diagnosed during the given year.

Pop: The total population (census) during the given year.

Rate: The new diagnosis rate per 100,000 persons in the specified population during the given year ($\text{count/pop} \times 100,000$ or $\text{count/est pop} \times 100,000$).

% change (95CI): Average annual percent change and 95% confidence interval. This measure is only displayed when statistically significant changes are observed ($p < 0.05$). Average annual percent change is calculated by assessing the count offset by the underlying population. *This represents an average change over a one-year period.*

Risk Categories and Hierarchy

MSM: Men who have sex with men.

PWID: Persons who inject drugs.

Heterosexual: Males: men who are not MSM or PWID and reported sex with an HIV positive female or a female at risk (includes CDC and HRSA definitions).

Females: females who are not a PWID and reported sex with a male.

Methods

Case counts of sexually transmitted diseases (STDs) were aggregated by diagnosis year from the Michigan Diseases Surveillance System (MDSS). Population estimates come from the American Community Survey (ACS). Test of trend was calculated using negative binomial regression and trends with $p < 0.05$ were considered statistically significant. Percent annual change and 95% confidence intervals were calculated from this model offset by population.

Overview

Since 2010, **P&S Syphilis** rates have increased annually statewide by **10 percent (95% CI 7% - 14%)**. This, and all percent changes presented in this report, is an *average annual* change. In 2013, Michigan experienced a localized outbreak of Primary and Secondary syphilis in the Detroit area, but in the following years saw a decrease in cases. Since 2016, there has been a stronger trend of increasing reports.

Over that same time period, **Chlamydia** rates have, on average, increased by **1 percent (95% CI 0.1%-1.6%)**. Year to year fluctuations in the number and rate of chlamydia cases follow a very small upward trend from 2010-2019.

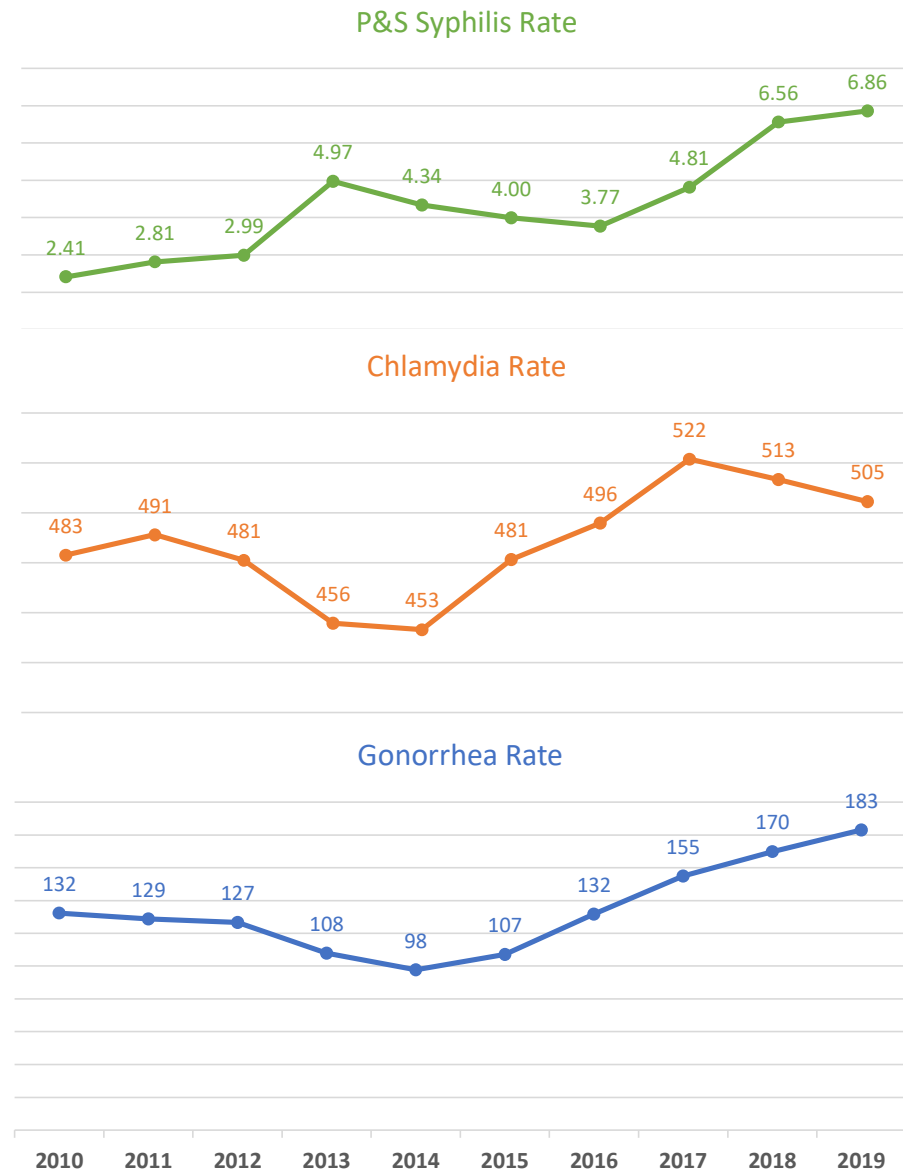
Since 2010, **gonorrhea** rates have increased **4 percent (95% CI 0.8% - 7%)** annually, with most of the increases occurring in the last 5 years. This average annual increase matches a national trend of increasing gonorrhea diagnoses in the United States.

More information:

Additional trend tables follow which stratify by reported demographic and geographic variables.

For more interactive data, visit MDHHS Data & Statistics at michigan.gov/hivstd

Overall trends in rates (per 100,000 population)



Annual Review of STD Trends in Michigan, 2010 - 2019 - Chlamydia

By Age

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% annual change
Less than 15 years	count	749	736	707	614	506	487	476	470	434	421	-6.4%
	rate	19.69	19.58	19.01	16.66	13.85	13.47	13.26	13.15	12.22	11.47	(-7.5%--5.3%)
15-19 years	count	19056	18803	16872	14879	13682	13993	14883	15430	15229	14393	-1.6%
	rate	1297.03	1312.04	1202.34	1079.31	1007.41	1039.42	1111.85	1165.91	1167.09	1055.77	(-3.1%--0.1%)
20-24 years	count	17226	18356	18797	18468	18520	19056	19101	19837	19044	18626	No significant change
	rate	1277.69	1312.71	1299.80	1252.28	1246.02	1300.03	1331.58	1406.75	1373.35	1283.51	No significant change
25-29 years	count	5893	5837	6186	6287	6864	8139	8516	9393	9433	9286	3.9%
	rate	500.56	497.37	527.70	531.00	565.87	648.25	649.85	691.58	680.57	624.18	(2.7%-5.1%)
30-39 years	count	3626	3622	3731	3643	4009	4507	4728	5110	5283	5659	5.3%
	rate	153.50	155.98	161.57	157.44	172.65	193.13	200.49	214.90	220.12	233.24	(4.5%-6.0%)
40-49 years	count	839	858	945	910	1006	1174	1177	1245	1235	1391	8.1%
	rate	29.87	31.08	34.97	34.55	39.28	46.99	48.07	51.60	51.77	58.97	(7.1%-9.0%)
50-59 years	count	225	232	269	239	326	335	361	400	476	462	10.4%
	rate	7.75	7.93	9.15	8.12	11.10	11.52	12.60	14.23	17.29	17.11	(8.9%-12.0%)
60+ years	count	101	104.0	96	144	91	115	103	126	116	139.0	No significant change
	rate	3	2.6	2	3	2	3	2	3	2	3	No significant change

By Race/Sex

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% annual change
Am Indian/AN Female	count	97	155	163	169	165	149	156	160	189	134	1.7%
	rate	351.13	558.76	584.54	603.89	586.88	528.61	550.56	561.13	660.45	464.75	(0.0%-0.0%)
Am Indian/AN Male	count	44	42	57	51	52	45	62	67	60	58	3.4%
	rate	160.86	152.63	206.03	183.91	186.78	161.43	221.34	238.33	212.56	204.00	(0.0%-0.0%)
Asian/NH/PI Female	count	127	122	151	137	176	184	237	214	202	232	4.1%
	rate	101.09	93.16	110.60	96.02	118.63	120.06	149.15	130.47	120.83	136.68	(0.0%-0.0%)
Asian/NH/PI Male	count	48	43	58	58	52	78	84	95	103	116	7.6%
	rate	40.69	34.98	45.16	43.17	37.02	53.48	54.98	59.81	63.35	70.13	(0.0%-0.0%)
Black Female	count	14274	14197	13917	12647	12348	11773	12028	13191	12739	12355	-1.4%
	rate	1959.80	1948.42	1911.46	1741.50	1702.58	1626.99	1663.59	1823.78	1761.92	1709.27	(0.0%-0.0%)
Black Male	count	5973	6005	6242	5841	5777	5907	6503	7516	7546	7654	3.3%
	rate	907.17	912.96	949.06	890.29	881.25	902.54	993.67	1149.52	1155.86	1173.81	(0.0%-0.0%)
Hispanic Female	count	933	916	934	930	1062	1194	1258	1438	1362	1434	4.0%
	rate	433.37	416.53	414.08	403.91	452.57	500.01	514.72	576.32	534.07	551.80	(0.0%-0.0%)
Hispanic Male	count	336	310	380	374	430	424	511	570	598	632	6.2%
	rate	150.95	136.69	163.32	157.58	177.65	172.09	202.36	220.98	226.98	235.53	(0.0%-0.0%)
Multi/Other Female*	count	497	461	408	427	453	553	938	1112	1580	1629	14.8%
	rate	528.88	480.18	415.68	425.65	441.35	528.47	876.49	1016.00	1409.67	1420.18	(0.0%-0.0%)
Multi/other Male*	count	165	137	140	182	173	188	308	459	726	789	19.4%
	rate	184.15	149.14	148.71	188.27	174.70	185.32	296.19	430.73	665.05	704.45	(0.0%-0.0%)
White Female	count	7971	8831	9756	9259	10147	10362	10948	11561	11559	10539	3.8%
	rate	207.50	230.52	255.25	242.59	266.27	272.77	288.69	305.17	305.64	279.37	(0.0%-0.0%)
White Male	count	2231	2580	2922	2960	3437	3700	4195	4605	4496	4239	8.4%
	rate	59.82	69.33	78.59	79.64	92.51	99.77	113.23	124.30	121.52	114.81	(0.0%-0.0%)

*multi/other racial categories include patients who report multiple racial identities or mark "Other"

Note: cases with missing data for characteristics were omitted from the respective analyses

Annual Review of STD Trends in Michigan, 2010 - 2019 - Chlamydia

By residence at diagnosis (local health jurisdiction)

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% annual change
<i>*rates displayed per 100,000 population</i>												
Allegan County	count	239	267	261	319	290	322	356	435	388	407	5.7%
	rate	214.31	240.19	234.08	284.80	255.85	282.18	309.62	373.81	331.13	344.68	(4.1%-7.3%)
Barry-Eaton	count	396	403	430	464	565	574	647	571	605	594	5.2%
	rate	237.35	241.54	257.46	277.26	336.44	341.49	382.86	335.61	353.92	345.71	(3.3%-7.1%)
Bay County	count	287	336	305	304	316	322	345	423	415	388	4.4%
	rate	266.53	312.80	285.13	284.66	297.98	305.98	330.42	406.55	400.19	376.24	(2.8%-6.1%)
Benzie-Leelanau	count	52	84	78	59	76	79	83	104	81	66	No significant change
	rate	132.57	216.40	201.51	151.96	194.53	202.44	212.60	264.84	205.19	166.97	No significant change
Berrien County	count	843	1048	948	800	795	846	831	875	972	863	No significant change
	rate	537.84	668.01	605.28	512.40	509.69	545.73	538.47	567.71	632.03	562.58	No significant change
Branch-Hillsdale-St. Joseph	count	265	295	374	311	382	446	395	427	463	409	5.4%
	rate	173.08	194.60	247.60	206.36	253.52	296.69	263.28	284.85	308.30	272.51	(3.2%-7.7%)
Calhoun County	count	827	887	778	757	906	912	925	989	1064	947	2.8%
	rate	608.31	656.53	577.42	561.78	672.09	678.94	688.53	737.07	793.74	705.88	(1.4%-4.2%)
Central Michigan District	count	355	466	437	446	445	408	468	594	560	589	4.7%
	rate	186.03	244.08	229.98	235.80	235.59	215.87	247.76	314.46	296.73	312.25	(2.8%-6.7%)
Chippewa County	count	54	88	106	133	94	105	115	104	84	59	No significant change
	rate	139.84	226.28	271.84	344.84	245.73	276.51	305.18	276.02	224.23	157.97	No significant change
Delta-Menominee	count	111	99	123	98	131	130	161	132	170	169	6.4%
	rate	181.92	162.80	203.08	161.92	217.97	217.06	271.03	224.22	289.26	288.57	(4.3%-8.7%)
Detroit City	count	16424	15488	14097	12325	10804	11557	11594	11596	10973	11147	-3.5%
	rate	2309.56	2196.51	2013.33	1781.41	1582.75	1701.03	1712.19	1718.87	1630.52	1663.65	(-4.9%--2.1%)
Dickinson-Iron	count	54	69	83	54	66	90	87	77	93	97	5.8%
	rate	142.23	182.39	219.94	143.94	177.22	243.37	237.28	210.79	254.97	267.18	(3.0%-8.8%)
District 2	count	44	69	72	80	102	123	113	156	123	92	10.5%
	rate	65.75	103.85	109.16	122.12	156.56	189.74	174.51	241.65	190.49	142.04	(5.2%-16.1%)
District 4	count	46	92	101	123	124	104	134	149	123	131	8.0%
	rate	58.48	117.95	130.31	159.91	161.45	136.47	176.19	196.42	162.14	173.28	(3.5%-12.8%)
District 10	count	485	535	640	529	679	806	729	730	703	757	4.6%
	rate	185.61	204.31	245.15	202.93	260.34	308.84	278.80	277.46	265.82	285.37	(2.3%-6.9%)
Genesee County	count	2934	3200	3193	2546	2921	2771	2680	2824	2769	2938	No significant change
	rate	690.43	758.25	763.52	612.55	707.51	675.09	655.38	693.03	680.87	723.98	No significant change
Grand Traverse County	count	229	244	248	248	283	278	278	292	272	271	1.4%
	rate	263.31	276.20	278.02	275.25	311.51	303.69	302.32	318.11	293.96	291.12	(0.0%-2.7%)
Huron County	count	48	47	35	47	56	65	58	57	69	48	4.3%
	rate	145.09	143.44	107.85	145.71	174.79	204.64	184.21	182.07	221.08	154.93	(1.0%-7.8%)

Annual Review of STD Trends in Michigan, 2010 - 2019 - Chlamydia

By residence at diagnosis (local health jurisdiction)

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% annual change
<i>*rates displayed per 100,000 population</i>												
Ingham County	count	1928	1968	1818	1838	1723	1768	2006	1942	1921	1807	No significant change
	rate	685.84	695.93	641.24	646.93	603.23	615.82	692.19	665.03	658.75	617.98	
Ionia County	count	94	124.0	134	130	140	181	170	220	230	174.0	8.4%
	rate	147.24	194.17	209.74	203.15	217.96	282.57	264.85	342.23	357.83	268.95	(5.4%-11.6%)
Jackson County	count	652	678	749	634	810	897	979	865	950	921	4.3%
	rate	407.22	424.66	468.24	397.17	508.09	563.22	618.54	545.52	599.12	581.04	(2.5%-6.1%)
Kalamazoo County	count	1744	1751.0	1832	1856	2048	2134	2181	2315	2356	2320.0	3.3%
	rate	695.51	693.19	717.44	721.31	790.88	821.79	834.66	880.23	890.13	875.25	(2.7%-3.8%)
Kent County	count	3246	3479	3500	3762	3665	3827	3534	4232	3968	3623	No significant change
	rate	538.33	571.73	568.37	602.59	580.52	600.63	548.88	651.80	607.33	551.48	
Lapeer County	count	91	122	137	156	140	165	144	164	190	174	5.5%
	rate	103.16	138.49	155.34	176.69	158.74	186.72	163.32	186.11	216.10	198.61	(3.5%-7.6%)
Lenawee County	count	224	205	218	207	213	285	282	309	287	266	4.4%
	rate	224.81	206.33	220.16	209.47	215.72	289.66	286.31	313.94	292.44	270.19	(2.3%-6.5%)
Livingston County	count	269	250	281	266	274	366	387	382	370	349	4.3%
	rate	148.56	137.33	153.73	144.40	147.69	195.54	205.25	201.19	193.52	181.78	(2.2%-6.4%)
Luce-Mack-Alger-School	count	21	37	38	51	40	39	73	80	64	56	11.5%
	rate	58.72	104.13	107.49	144.84	114.58	112.63	213.73	233.27	186.75	163.60	(5.8%-17.5%)
Macomb County	count	2105	1941	2376	2597	2423	2712	3208	3578	3584	3568	6.9%
	rate	250.19	229.94	279.62	302.99	280.81	313.54	369.36	410.62	410.63	408.25	(5.5%-8.4%)
Marquette County	count	114	143	170	220	218	212	280	270	317	240	9.8%
	rate	169.95	211.99	250.64	324.61	321.67	314.89	420.85	406.06	477.55	359.83	(6.4%-13.3%)
Midland County	count	180	191	143	165	174	160	213	223	196	195	2.4%
	rate	215.18	227.91	170.81	197.25	208.40	191.25	255.33	267.66	235.51	234.50	(0.0%-4.8%)
Mid-Michigan District	count	303	331	423	433	434	493	548	536	596	579	7.1%
	rate	167.26	182.59	233.40	238.52	239.48	272.22	301.89	292.88	324.34	314.34	(5.6%-8.6%)
Monroe County	count	320	348	335	360	347	409	398	369	380	411	2.4%
	rate	210.61	229.71	222.14	239.78	231.57	273.85	266.83	246.91	253.04	273.09	(1.3%-3.6%)

Annual Review of STD Trends in Michigan, 2010 - 2019 - Chlamydia

By residence at diagnosis (local health jurisdiction)

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% annual change
<i>*rates displayed per 100,000 population</i>												
Muskegon County	count	1242	1205	1346	1197	1237	1346	1309	1430	1314	1325	No significant change
	rate	722.46	708.72	791.02	694.83	718.13	780.53	755.66	823.52	756.92	763.40	
Northwest MI Com Hlth Agency	count	163	211	247	184	195	190	237	286	211	218	No significant change
	rate	153.44	198.53	232.40	172.93	183.20	178.62	222.43	267.06	196.51	202.70	
Oakland County	count	3643	3648	3458	3556	3613	3940	4185	4280	4465	4436	2.5% (1.5%-3.4%)
	rate	302.80	300.83	282.61	287.83	290.70	316.57	334.53	340.76	355.30	352.74	
Ottawa County	count	483	572	758	732	708	855	862	981	918	802	4.9% (2.3%-7.5%)
	rate	182.86	214.29	279.84	266.78	254.80	304.42	303.83	342.31	316.76	274.82	
Saginaw County	count	1377	1498	1235	1199	1213	1263	1135	1351	1481	1292	No significant change
	rate	688.98	753.15	622.60	609.27	621.26	653.37	589.59	703.77	776.24	678.08	
Sanilac County	count	38	47	74	64	82	95	85	96	81	73	7.5% (2.9%-12.4%)
	rate	88.19	110.06	174.92	152.74	196.83	229.11	205.29	232.77	196.64	177.31	
Shiawassee County	count	143	163	156	148	207	199	205	217	200	243	5.8% (4.0%-7.6%)
	rate	202.45	232.86	225.01	214.79	300.84	290.49	299.09	317.25	293.54	356.71	
St Clair County	count	444	421	444	441	414	401	445	481	496	463	1.4% (0.3%-2.6%)
	rate	272.91	260.55	276.42	275.13	258.64	251.10	279.23	302.51	311.89	290.96	
Tuscola County	count	85	103	99	120	114	127	146	147	136	121	5.4% (3.1%-7.8%)
	rate	152.61	185.92	180.96	221.34	211.41	236.38	274.04	278.33	258.39	231.60	
Van Buren-Cass	count	312	323.0	291	337	366	377	383	445	465	489.0	5.9% (4.7%-7.1%)
	rate	243.00	252.07	228.95	265.56	288.67	298.25	302.65	350.99	365.55	383.64	
Washtenaw County	count	1366	1394	1422	1370	1439	1649	1776	1695	1725	1804	2.7% (1.8%-3.6%)
	rate	395.12	398.57	403.63	384.79	399.70	454.30	485.07	459.59	466.87	490.75	
Wayne County	count	3347	3587.0	3519	3432	3634	3670	4058	4461	4313	4323	3.7% (2.8%-4.6%)
	rate	303.18	326.66	321.15	315.34	333.68	338.10	374.54	412.07	398.81	400.53	
Western UP District	count	88	91	91	85	97	107	117	121	109	133	5.5% (3.3%-7.8%)
	rate	124.06	129.01	129.83	121.84	140.09	156.18	171.40	178.06	162.02	202.42	

Annual Review of STD Trends in Michigan, 2010 - 2019 - P&S Syphilis

By Age

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% annual change
Less than 15 years	count	0	0	2	0	0	0	0	2	2	1	No significant change
	rate	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.06	0.06	0.03	
15-19 years	count	9	16	18	39	23	27	31	39	29	33	11.4%
	rate	0.61	1.12	1.28	2.83	1.69	2.01	2.32	2.95	2.22	2.42	(4.5%-18.7%)
20-24 years	count	47	63	91	157	125	79	95	103	129	102	No significant change
	rate	3.49	4.51	6.29	10.65	8.41	5.39	6.62	7.30	9.30	7.03	
25-29 years	count	48	48	62	97	95	111	94	107	158	165	10.9%
	rate	4.08	4.09	5.29	8.19	7.83	8.84	7.17	7.88	11.40	11.09	(7.3%-14.7%)
30-39 years	count	67	72	64	109	97	97	72	105	170	190	10.6%
	rate	2.84	3.10	2.77	4.71	4.18	4.16	3.05	4.42	7.08	7.83	(5.9%-15.5%)
40-49 years	count	45	50	37	52	60	46	41	77	94	106	12.3%
	rate	1.60	1.81	1.37	1.97	2.34	1.84	1.67	3.19	3.94	4.49	(7.5%-17.2%)
50-59 years	count	18	26	16	33	25	33	30	36	53	64	15.0%
	rate	0.62	0.89	0.54	1.12	0.85	1.13	1.05	1.28	1.93	2.37	(10.2%-20.0%)
60+ years	count	4	3	6	6	6	4	12	11	20	24	23.1%
	rate	0	0.1	0	0	0	0	0	0	0	0	(13.7%-33.2%)

By Race/Sex

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% annual change
Am Indian/AN Female	count	0	0	0	0	0	0	0	0	1	1	No significant change
	rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.49	3.47	
Am Indian/AN Male	count	1	0	0	2	0	1	1	2	3	3	26.6%
	rate	3.66	0.00	0.00	7.21	0.00	3.59	3.57	7.11	10.63	10.55	(1.9%-57.1%)
Asian/NH/PI Female	count	1	0	0	0	0	0	0	1	0	0	No significant change
	rate	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00	
Asian/NH/PI Male	count	2	0	2	4	0	4	4	4	11	4	18.1%
	rate	1.70	0.00	1.56	2.98	0.00	2.74	2.62	2.52	6.77	2.42	(2.0%-36.7%)
Black Female	count	14	22	20	25	22	26	19	18	38	49	10.0%
	rate	1.92	3.02	2.75	3.44	3.03	3.59	2.63	2.49	5.26	6.78	(4.2%-16.2%)
Black Male	count	125	154	181	312	239	206	168	209	308	322	7.5%
	rate	18.98	23.41	27.52	47.56	36.46	31.48	25.67	31.97	47.18	49.38	(2.2%-13.0%)
Hispanic Female	count	2	0	1	1	0	0	2	0	6	7	No significant change
	rate	0.93	0.00	0.44	0.43	0.00	0.00	0.82	0.00	2.35	2.69	
Hispanic Male	count	8	6	7	15	16	15	26	34	28	39	19.6%
	rate	3.59	2.65	3.01	6.32	6.61	6.09	10.30	13.18	10.63	14.53	(13.3%-26.2%)
Multi/Other Female	count	0	0	0	0	0	0	0	0	2	0	No significant change
	rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.78	0.00	
Multi/other Male	count	0	2	1	3	2	6	2	5	8	10	27.1%
	rate	0.00	2.18	1.06	3.10	2.02	5.91	1.92	4.69	7.33	8.93	(11.8%-44.5%)
White Female	count	8	5	6	5	8	8	11	14	23	38	26.5%
	rate	0.21	0.13	0.16	0.13	0.21	0.21	0.29	0.37	0.61	1.01	(16.3%-37.6%)
White Male	count	77	87.0	76	126	144	131	138	192	226	208	13.2%
	rate	2.06	2.34	2.04	3.39	3.88	3.53	3.72	5.18	6.11	5.63	(10.3%-16.2%)

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By Transmission Risk (*population denominators not available*)

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% annual change
Het Male	<i>count</i>	33	38	33	63	64	49	42	63	111	167	16.6%
	<i>(Men who have sex with women only)</i>											(10.0%-23.7%)
Het Female	<i>count</i>	21	25	20	26	24	30	31	26	58	82	14.8%
	<i>(Women who have sex with men)</i>											(8.5%-21.4%)
MSM	<i>count</i>	155	193	200	354	284	271	269	338	401	346	8.6%
	<i>(Men who have sex with men)</i>											(4.7%-12.7%)
PWID	<i>count</i>	1	3	6	4	7	4	5	7	16	25	30.6%
	<i>(People who inject drugs)</i>											(17.6%-45.1%)

*multi/other racial categories include patients who report multiple racial identities or mark "Other"

Note: cases with missing data for characteristics were omitted from the respective analyses

By residence at diagnosis (local health jurisdiction)

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% annual change
<i>*rates displayed per 100,000 population</i>												
Allegan County	<i>count</i>	0	1	0	2	4	1	1	4	1	2	No significant change
	<i>rate</i>	0.00	0.90	0.00	1.79	3.53	0.88	0.87	3.44	0.85	1.69	
Barry-Eaton	<i>count</i>	2	1	1	2	1	0	1	3	3	9	25.8%
	<i>rate</i>	1.20	0.60	0.60	1.20	0.60	0.00	0.59	1.76	1.75	5.24	(4.5%-51.6%)
Bay County	<i>count</i>	2	0	0	2	1	4	0	5	6	1	No significant change
	<i>rate</i>	1.86	0.00	0.00	1.87	0.94	3.80	0.00	4.81	5.79	0.97	
Benzie-Leelanau	<i>count</i>	1	0	1	0	0	0	0	0	2	0	No significant change
	<i>rate</i>	2.55	0.00	2.58	0.00	0.00	0.00	0.00	0.00	5.07	0.00	
Berrien County	<i>count</i>	1	0	0	3	5	3	0	3	8	2	No significant change
	<i>rate</i>	0.64	0.00	0.00	1.92	3.21	1.94	0.00	1.95	5.20	1.30	
Branch-Hillsdale-St. Joseph	<i>count</i>	1	0	0	2	4	1	2	4	1	2	No significant change
	<i>rate</i>	0.65	0.00	0.00	1.33	2.65	0.67	1.33	2.67	0.67	1.33	
Calhoun County	<i>count</i>	1	2	1	4	4	0	1	3	1	5	No significant change
	<i>rate</i>	0.74	1.48	0.74	2.97	2.97	0.00	0.74	2.24	0.75	3.73	
Central Michigan District	<i>count</i>	2	4	1	2	2	1	1	3	11	6	17.5%
	<i>rate</i>	1.05	2.10	0.53	1.06	1.06	0.53	0.53	1.59	5.83	3.18	(1.2%-36.4%)
Chippewa County	<i>count</i>	0	0	0	0	0	0	0	0	2	4	301.5%
	<i>rate</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.34	10.71	(20.9%-1233.0%)
Delta-Menominee	<i>count</i>	0	3	0	0	0	0	0	0	0	0	No significant change
	<i>rate</i>	0.00	4.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Detroit City	<i>count</i>	78	100	136	214	148	114	105	118	218	251	8.8%
	<i>rate</i>	10.97	14.18	19.42	30.93	21.68	16.78	15.51	17.49	32.39	37.46	(2.3%-15.9%)
Dickinson-Iron	<i>count</i>	0	0	0	0	0	0	0	0	0	0	No significant change
	<i>rate</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
District 2	<i>count</i>	0	0	0	0	0	0	0	1	0	0	No significant change
	<i>rate</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.55	0.00	0.00	
District 4	<i>count</i>	1	1	0	0	0	0	1	0	3	2	No significant change
	<i>rate</i>	1.27	1.28	0.00	0.00	0.00	0.00	1.31	0.00	3.95	2.65	
District 10	<i>count</i>	3	2	0	0	3	5	2	3	4	2	No significant change
	<i>rate</i>	1.15	0.76	0.00	0.00	1.15	1.92	0.76	1.14	1.51	0.75	

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By residence at diagnosis (local health jurisdiction)

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% annual change
<i>*rates displayed per 100,000 population</i>												
Genesee County	count	5	6	3	14	9	12	16	21	9	24	17.6%
	rate	1.18	1.42	0.72	3.37	2.18	2.92	3.91	5.15	2.21	5.91	(8.4%-27.6%)
Grand Traverse County	count	1	1	0	2	2	0	1	2	0	6	No significant change
	rate	1.15	1.13	0.00	2.22	2.20	0.00	1.09	2.18	0.00	6.45	
Huron County	count	0	0	0	0	0	1	1	0	0	0	No significant change
	rate	0.00	0.00	0.00	0.00	0.00	3.15	3.18	0.00	0.00	0.00	
Ingham County	count	12	7	6	10	10	11	14	29	28	26	17.5%
	rate	4.27	2.48	2.12	3.52	3.50	3.83	4.83	9.93	9.60	8.89	(10.5%-24.9%)
Ionia County	count	0	0	1	0	0	2	1	0	1	5	47.1%
	rate	0.00	0.00	1.57	0.00	0.00	3.12	1.56	0.00	1.56	7.73	(9.5%-97.6%)
Jackson County	count	0	2	5	3	5	6	3	8	9	5	19.4%
	rate	0.00	1.25	3.13	1.88	3.14	3.77	1.90	5.05	5.68	3.15	(6.8%-33.6%)
Kalamazoo County	count	7	17.0	17	6	8	7	5	8	12	20	No significant change
	rate	2.79	6.73	6.66	2.33	3.09	2.70	1.91	3.04	4.53	7.55	
Kent County	count	19	9	7	10	9	17	26	34	31	25	12.5%
	rate	3.15	1.48	1.14	1.60	1.43	2.67	4.04	5.24	4.74	3.81	(4.2%-21.5%)
Lapeer County	count	0	1	0	1	1	2	0	1	2	1	No significant change
	rate	0.00	1.14	0.00	1.13	1.13	2.26	0.00	1.13	2.27	1.14	
Lenawee County	count	0	2	0	1	1	2	0	4	5	1	No significant change
	rate	0.00	2.01	0.00	1.01	1.01	2.03	0.00	4.06	5.09	1.02	
Livingston County	count	1	1	0	2	4	3	4	2	2	2	No significant change
	rate	0.55	0.55	0.00	1.09	2.16	1.60	2.12	1.05	1.05	1.04	
Luce-Mack-Alger-School	count	0	0	0	0	0	0	2	1	0	0	No significant change
	rate	0.00	0.00	0.00	0.00	0.00	0.00	5.86	2.92	0.00	0.00	
Macomb County	count	11	26	20	34	29	38	27	44	73	54	15.2%
	rate	1.31	3.08	2.35	3.97	3.36	4.39	3.11	5.05	8.36	6.18	(9.3%-21.5%)
Marquette County	count	0	0	0	0	0	2	0	0	0	1	No significant change
	rate	0.00	0.00	0.00	0.00	0.00	2.97	0.00	0.00	0.00	1.50	
Midland County	count	1	1	0	1	1	0	1	1	0	3	No significant change
	rate	1.20	1.19	0.00	1.20	1.20	0.00	1.20	1.20	0.00	3.61	
Mid-Michigan District	count	4	2	2	1	0	1	2	3	3	3	No significant change
	rate	2.21	1.10	1.10	0.55	0.00	0.55	1.10	1.64	1.63	1.63	

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By residence at diagnosis (local health jurisdiction)

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% annual change
<i>*rates displayed per 100,000 population</i>												
Monroe County	count	2	1	3	2	1	5	6	10	6	4	18.3%
	rate	1.32	0.66	1.99	1.33	0.67	3.35	4.02	6.69	4.00	2.66	(4.6%-33.8%)
Muskegon County	count	8	4	0	1	5	1	2	4	0	1	No significant change
	rate	4.65	2.35	0.00	0.58	2.90	0.58	1.15	2.30	0.00	0.58	No significant change
Northwest MI Com Hlth Agency	count	2	0	0	0	0	2	1	4	2	3	25.0%
	rate	1.88	0.00	0.00	0.00	0.00	1.88	0.94	3.74	1.86	2.79	(1.8%-53.5%)
Oakland County	count	36	32	41	71	74	65	64	62	87	88	9.4%
	rate	2.99	2.64	3.35	5.75	5.95	5.22	5.12	4.94	6.92	7.00	(5.3%-13.6%)
Ottawa County	count	4	3	0	0	5	4	5	1	5	3	No significant change
	rate	1.51	1.12	0.00	0.00	1.80	1.42	1.76	0.35	1.73	1.03	No significant change
Saginaw County	count	2	1	1	4	4	3	2	2	2	4	No significant change
	rate	1.00	0.50	0.50	2.03	2.05	1.55	1.04	1.04	1.05	2.10	No significant change
Sanilac County	count	0	0	0	0	0	0	1	0	0	1	No significant change
	rate	0.00	0.00	0.00	0.00	0.00	0.00	2.42	0.00	0.00	2.43	No significant change
Shiawassee County	count	0	1	0	1	0	1	0	1	2	0	No significant change
	rate	0.00	1.43	0.00	1.45	0.00	1.46	0.00	1.46	2.94	0.00	No significant change
St Clair County	count	1	2	4	2	3	2	3	2	5	4	No significant change
	rate	0.61	1.24	2.49	1.25	1.87	1.25	1.88	1.26	3.14	2.51	No significant change
Tuscola County	count	0	0	0	0	0	0	0	0	0	0	No significant change
	rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	No significant change
Van Buren-Cass	count	0	0.0	1	0	0	0	1	1	1	2	No significant change
	rate	0.00	0.00	0.79	0.00	0.00	0.00	0.79	0.79	0.79	1.57	No significant change
Washtenaw County	count	13	10	9	22	25	27	17	27	25	24	8.4%
	rate	3.76	2.86	2.55	6.18	6.94	7.44	4.64	7.32	6.77	6.53	(2.7%-14.4%)
Wayne County	count	17	35.0	36	74	63	53	56	61	85	89	13.6%
	rate	1.54	3.19	3.29	6.80	5.78	4.88	5.17	5.63	7.86	8.25	(7.4%-20.1%)
Western UP District	count	0	0	0	0	0	1	0	0	0	0	No significant change
	rate	0.00	0.00	0.00	0.00	0.00	1.46	0.00	0.00	0.00	0.00	No significant change

Annual Review of STD Trends in Michigan, 2010 - 2019 - Gonorrhea

By Age

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% annual change
Less than 15 years	count	172	181	181	120	131	95	125	122	110	100	-5.7%
	rate	4.52	4.82	4.87	3.26	3.59	2.63	3.48	3.41	3.10	2.73	(-8.2%--3.2%)
15-19 years	count	4329	4120	3468	2727	2261	2275	2798	3274	3500	3475	No significant change
	rate	294.65	287.49	247.14	197.81	166.48	168.99	209.03	247.39	268.23	254.90	
20-24 years	count	4431	4338	4559	3987	3612	3757	4173	4707	4967	5393	No significant change
	rate	328.66	310.23	315.25	270.35	243.01	256.31	290.91	333.80	358.19	371.63	
25-29 years	count	1863	1769	1937	1772	1698	2141	2856	3407	3659	4117	7.7%
	rate	158.25	150.74	165.24	149.66	139.98	170.52	217.94	250.85	263.99	276.74	
30-39 years	count	1485	1446	1458	1323	1275	1493	2045	2474	2996	3320	10.0%
	rate	62.86	62.27	63.14	57.18	54.91	63.98	86.72	104.04	124.83	136.84	
40-49 years	count	566	546	620	495	472	527	695	891	1085	1137	11.1%
	rate	20.15	19.78	22.94	18.79	18.43	21.09	28.39	36.93	45.48	48.20	
50-59 years	count	165	232	239	179	201	277	319	436	484	516	14.1%
	rate	5.68	7.93	8.13	6.08	6.85	9.52	11.13	15.51	17.58	19.11	
60+ years	count	56	86.0	61	83	60	84	89	138	153	206.0	10.5%
	rate	1	2.2	1	2	1	2	2	3	3	4	

By Race/Sex

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% annual change
Am Indian/AN Female	count	22	19	21	19	15	9	21	22	32	27	No significant change
	rate	79.64	68.49	75.31	67.89	53.35	31.93	74.11	77.16	111.82	93.64	
Am Indian/AN Male	count	9	6	5	6	7	10	20	17	23	26	20.1%
	rate	32.90	21.80	18.07	21.64	25.14	35.87	71.40	60.47	81.48	91.45	
Asian/NH/PI Female	count	20	12	23	18	11	15	22	19	19	26	No significant change
	rate	15.92	9.16	16.85	12.62	7.41	9.79	13.85	11.58	11.36	15.32	
Asian/NH/PI Male	count	8	4	15	16	13	17	28	43	55	47	22.6%
	rate	6.78	3.25	11.68	11.91	9.26	11.66	18.33	27.07	33.83	28.42	
Black Female	count	3952	3868	4010	3344	3015	2949	3518	4092	4279	4614	No significant change
	rate	542.60	530.85	550.76	460.47	415.72	407.54	486.57	565.76	591.83	638.33	
Black Male	count	3495	3281	3515	2826	2843	3101	3789	4765	5280	5781	6.5%
	rate	530.81	498.82	534.43	430.74	433.68	473.81	578.97	728.78	808.77	886.57	
Hispanic Female	count	131	123	149	123	119	161	200	235	240	302	8.3%
	rate	60.85	55.93	66.06	53.42	50.71	67.42	81.83	94.18	94.11	116.21	
Hispanic Male	count	61	52	84	79	104	113	161	216	246	265	18.6%
	rate	27.41	22.93	36.10	33.29	42.97	45.86	63.76	83.74	93.37	98.76	
Multi/Other Female	count	91	89	100	81	73	63	96	196	271	330	13.1%
	rate	96.84	92.70	101.88	80.74	71.12	60.21	89.70	179.08	241.79	287.70	
Multi/other Male	count	46	47	42	52	53	63	86	170	326	412	26.7%
	rate	51.34	51.16	44.61	53.79	53.52	62.10	82.70	159.53	298.63	367.85	
White Female	count	1120	1049	1102	916	919	1017	1372	1756	2144	2101	9.2%
	rate	14.79	13.89	14.61	12.16	12.21	13.55	18.30	23.44	28.66	28.15	
White Male	count	390	469.0	533	718	708	874	1201	1494	1615	1576.0	18.8%
	rate	10.46	12.60	14.33	19.32	19.06	23.57	32.42	40.33	43.65	42.68	

*multi/other racial categories include patients who report multiple racial identities or mark "Other"

Note: cases with missing data for characteristics were omitted from the respective analyses

Annual Review of STD Trends in Michigan, 2010 - 2019 - Gonorrhea

By residence at diagnosis (local health jurisdiction)

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% annual change
<i>*rates displayed per 100,000 population</i>												
Allegan County	count	36	32	18	40	30	33	43	63	77	109	14.2%
	rate	32.28	28.79	16.14	35.71	26.47	28.92	37.40	54.14	65.71	92.31	(8.0%-20.7%)
Barry-Eaton	count	65	57	59	60	79	98	143	110	155	141	12.5%
	rate	38.96	34.16	35.33	35.85	47.04	58.30	84.62	64.65	90.67	82.06	(8.8%-16.4%)
Bay County	count	37	28	24	30	24	48	52	108	91	106	18.9%
	rate	34.36	26.07	22.44	28.09	22.63	45.61	49.80	103.80	87.75	102.79	(11.9%-26.4%)
Benzie-Leelanau	count	2	2	2	1	3	4	3	2	7	7	17.9%
	rate	5.10	5.15	5.17	2.58	7.68	10.25	7.68	5.09	17.73	17.71	(3.9%-33.9%)
Berrien County	count	272	222	238	184	109	205	276	285	383	303	No significant change
	rate	173.54	141.50	151.96	117.85	69.88	132.24	178.84	184.91	249.04	197.52	No significant change
Branch-Hillsdale-St. Joseph	count	11	24	21	21	13	24	45	54	119	165	31.4%
	rate	7.18	15.83	13.90	13.93	8.63	15.97	29.99	36.02	79.24	109.94	(21.7%-41.9%)
Calhoun County	count	253	122	212	226	189	173	225	362	432	471	10.4%
	rate	186.10	90.30	157.34	167.72	140.20	128.79	167.48	269.79	322.27	351.08	(4.7%-16.5%)
Central Michigan District	count	33	53	31	37	20	30	41	66	67	96	10.2%
	rate	17.29	27.76	16.31	19.56	10.59	15.87	21.71	34.94	35.50	50.89	(3.2%-17.8%)
Chippewa County	count	2	0	1	4	1	1	2	3	5	4	17.5%
	rate	5.18	0.00	2.56	10.37	2.61	2.63	5.31	7.96	13.35	10.71	(1.0%-36.7%)
Delta-Menominee	count	17	4	7	4	6	8	11	9	7	9	No significant change
	rate	27.86	6.58	11.56	6.61	9.98	13.36	18.52	15.29	11.91	15.37	No significant change
Detroit City	count	6154	6213	5740	4331	3433	3508	4263	4807	5140	5835	No significant change
	rate	865.38	881.13	819.79	625.99	502.92	516.33	629.56	712.54	763.77	870.86	No significant change
Dickinson-Iron	count	1	2	5	4	0	1	11	7	3	6	No significant change
	rate	2.63	5.29	13.25	10.66	0.00	2.70	30.00	19.16	8.22	16.53	No significant change
District 2	count	0	3	4	2	2	5	7	14	16	9	31.4%
	rate	0.00	4.52	6.06	3.05	3.07	7.71	10.81	21.69	24.78	13.90	(16.5%-48.2%)
District 4	count	4	11	10	9	3	0	3	7	11	17	No significant change
	rate	5.08	14.10	12.90	11.70	3.91	0.00	3.94	9.23	14.50	22.49	No significant change
District 10	count	33	27	32	19	33	48	64	67	83	88	16.2%
	rate	12.63	10.31	12.26	7.29	12.65	18.39	24.48	25.47	31.38	33.17	(11.7%-20.9%)
Genesee County	count	674	904	1282	916	758	886	990	964	894	1098	No significant change
	rate	158.61	214.20	306.56	220.38	183.60	215.85	242.10	236.57	219.82	270.57	No significant change
Grand Traverse County	count	6	5	8	9	7	10	13	21	40	39	29.6%
	rate	6.90	5.66	8.97	9.99	7.71	10.92	14.14	22.88	43.23	41.90	(21.1%-38.7%)
Huron County	count	1	0	1	1	1	5	3	8	3	4	27.5%
	rate	3.02	0.00	3.08	3.10	3.12	15.74	9.53	25.55	9.61	12.91	(7.5%-51.2%)

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By residence at diagnosis (local health jurisdiction)

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% annual change
<i>*rates displayed per 100,000 population</i>												
Ingham County	count	412	349	390	433	411	476	676	564	589	530	5.3%
	rate	146.56	123.41	137.56	152.40	143.89	165.80	233.26	193.14	201.98	181.25	(2.6%-8.1%)
Ionia County	count	10	6.0	7	13	9	16	15	23	18	32.0	17.4%
	rate	15.66	9.40	10.96	20.32	14.01	24.98	23.37	35.78	28.00	49.46	(10.6%-24.6%)
Jackson County	count	74	80	48	56	53	82	66	153	226	250	16.1%
	rate	46.22	50.11	30.01	35.08	33.25	51.49	41.70	96.49	142.53	157.72	(8.2%-24.6%)
Kalamazoo County	count	493	344.0	263	286	659	654	655	858	1030	1083.0	13.2%
	rate	196.61	136.18	102.99	111.15	254.49	251.85	250.67	326.24	389.15	408.58	(7.3%-19.4%)
Kent County	count	763	718	614	653	863	757	772	1122	1363	1286	6.8%
	rate	126.54	117.99	99.71	104.60	136.69	118.81	119.90	172.81	208.62	195.75	(3.5%-10.3%)
Lapeer County	count	11	15	17	9	9	12	13	27	27	33	12.5%
	rate	12.47	17.03	19.28	10.19	10.20	13.58	14.74	30.64	30.71	37.67	(5.3%-20.2%)
Lenawee County	count	37	35	33	21	11	18	52	48	43	83	9.0%
	rate	37.13	35.23	33.33	21.25	11.14	18.29	52.79	48.77	43.81	84.31	(0.1%-18.7%)
Livingston County	count	17	13	16	22	25	35	26	44	48	46	14.6%
	rate	9.39	7.14	8.75	11.94	13.48	18.70	13.79	23.17	25.11	23.96	(9.9%-19.6%)
Luce-Mack-Alger-School	count	2	5	2	7	1	0	3	10	8	10	16.0%
	rate	5.59	14.07	5.66	19.88	2.86	0.00	8.78	29.16	23.34	29.21	(0.6%-33.6%)
Macomb County	count	502	496	528	587	483	517	805	926	1102	1170	10.4%
	rate	59.67	58.76	62.14	68.49	55.98	59.77	92.68	106.27	126.26	133.87	(7.0%-13.9%)
Marquette County	count	3	10	2	7	18	8	8	8	6	7	No significant change
	rate	4.47	14.82	2.95	10.33	26.56	11.88	12.02	12.03	9.04	10.49	
Midland County	count	21	14	20	10	11	11	26	46	26	40	11.3%
	rate	25.10	16.71	23.89	11.95	13.17	13.15	31.17	55.21	31.24	48.10	(2.7%-20.8%)
Mid-Michigan District	count	31	41	49	31	36	38	67	68	87	101	13.1%
	rate	17.11	22.62	27.04	17.08	19.86	20.98	36.91	37.16	47.35	54.83	(8.4%-18.1%)
Monroe County	count	54	64	71	79	50	54	72	80	100	114	6.8%
	rate	35.54	42.25	47.08	52.62	33.37	36.16	48.27	53.53	66.59	75.75	(3.0%-10.8%)

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By residence at diagnosis (local health jurisdiction)

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	% annual change
<i>*rates displayed per 100,000 population</i>												
Muskegon County	count	256	215	349	205	265	410	495	563	609	572	12.4%
	rate	148.91	126.45	205.10	119.00	153.84	237.75	285.75	324.22	350.81	329.56	(7.9%-17.0%)
Northwest MI Com Hlth Agency	count	13	20	8	17	6	10	4	11	19	12	No significant change
	rate	12.24	18.82	7.53	15.98	5.64	9.40	3.75	10.27	17.69	11.16	
Oakland County	count	1046	993	826	879	621	732	1027	1217	1340	1282	No significant change
	rate	86.94	81.89	67.51	71.15	49.97	58.81	82.09	96.89	106.63	101.94	
Ottawa County	count	78	67	75	94	83	82	112	136	181	161	10.0%
	rate	29.53	25.10	27.69	34.26	29.87	29.20	39.48	47.46	62.46	55.17	(6.7%-13.4%)
Saginaw County	count	215	201	249	269	336	364	410	393	550	721	14.9%
	rate	107.57	101.06	125.53	136.69	172.09	188.30	212.98	204.72	288.27	378.40	(12.6%-17.3%)
Sanilac County	count	3	3	4	0	4	4	4	9	9	4	13.8%
	rate	6.96	7.02	9.45	0.00	9.60	9.65	9.66	21.82	21.85	9.72	(2.2%-26.6%)
Shiawassee County	count	10	17	13	7	16	20	20	26	24	21	9.8%
	rate	14.16	24.29	18.75	10.16	23.25	29.19	29.18	38.01	35.23	30.83	(4.2%-15.8%)
St Clair County	count	78	56	64	55	29	35	74	56	72	90	No significant change
	rate	47.94	34.66	39.84	34.31	18.12	21.92	46.43	35.22	45.27	56.56	
Tuscola County	count	3	8	7	15	8	8	13	21	19	17	15.9%
	rate	5.39	14.44	12.80	27.67	14.84	14.89	24.40	39.76	36.10	32.54	(8.5%-23.7%)
Van Buren-Cass	count	50	46.0	46	46	41	53	47	122	144	127.0	14.8%
	rate	38.94	35.90	36.19	36.25	32.34	41.93	37.14	96.23	113.20	99.64	(8.3%-21.6%)
Washtenaw County	count	422	234	299	232	262	344	417	569	524	574	6.9%
	rate	122.07	66.90	84.87	65.16	72.77	94.77	113.89	154.28	141.82	156.15	(1.9%-12.2%)
Wayne County	count	860	955.0	826	750	683	811	1017	1381	1247	1383	6.5%
	rate	77.90	86.97	75.38	68.91	62.71	74.71	93.87	127.56	115.31	128.14	(3.0%-10.2%)
Western UP District	count	2	4	2	5	6	11	9	11	10	8	17.0%
	rate	2.82	5.67	2.85	7.17	8.67	16.06	13.18	16.19	14.86	12.18	(7.1%-27.8%)

Appendix: LHD Population Estimates (from the Census Bureau's annual American Community Survey)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<i>Michigan</i>	9,877,510	9,882,412	9,897,145	9,913,065	9,929,848	9,931,715	9,950,571	9,973,114	9,984,072	9,986,857
Allegan County	111,523	111,163	111,499	112,009	113,349	114,112	114,979	116,368	117,173	118,081
Barry-Eaton	166,841	166,844	167,019	167,354	167,934	168,087	168,993	170,138	170,941	171,818
Bay County	107,679	107,417	106,967	106,794	106,046	105,237	104,411	104,045	103,702	103,126
Benzie-Leelanau	39,224	38,817	38,707	38,826	39,069	39,023	39,041	39,269	39,475	39,527
Berrien County	156,737	156,885	156,621	156,129	155,977	155,022	154,325	154,128	153,790	153,401
Branch-Hillsdale-St. Joseph	153,110	151,590	151,051	150,707	150,678	150,326	150,029	149,905	150,180	150,086
Calhoun County	135,951	135,105	134,737	134,751	134,804	134,327	134,344	134,180	134,049	134,159
Central Michigan District	190,831	190,922	190,018	189,147	188,885	189,006	188,891	188,895	188,721	188,633
Chippewa County	38,616	38,890	38,993	38,569	38,254	37,973	37,683	37,679	37,461	37,349
Delta-Menominee	61,015	60,811	60,567	60,524	60,100	59,891	59,404	58,871	58,770	58,564
Detroit City	711,131	705,118	700,183	691,868	682,609	679,410	677,143	674,631	672,977	670,031
Dickinson-Iron	37,968	37,832	37,737	37,515	37,242	36,981	36,666	36,529	36,475	36,305
District 2	66,924	66,444	65,958	65,510	65,150	64,827	64,753	64,557	64,569	64,770
District 4	78,666	78,002	77,506	76,918	76,803	76,209	76,056	75,857	75,861	75,601
District 10	261,305	261,859	261,060	260,676	260,815	260,974	261,480	263,101	264,467	265,271
Genesee County	424,953	422,026	418,193	415,639	412,859	410,461	408,926	407,488	406,688	405,813
Grand Traverse County	86,971	88,341	89,203	90,099	90,849	91,541	91,957	91,791	92,530	93,088
Huron County	33,083	32,766	32,453	32,256	32,038	31,763	31,486	31,306	31,211	30,981
Ingham County	281,116	282,787	283,514	284,113	285,627	287,096	289,804	292,018	291,612	292,406
Ionia County	63,842	63,860	63,888	63,991	64,232	64,056	64,187	64,284	64,276	64,697
Jackson County	160,109	159,658	159,962	159,628	159,421	159,264	158,277	158,563	158,566	158,510
Kalamazoo County	250,751	252,600	255,353	257,311	258,951	259,676	261,304	262,998	264,680	265,066
Kent County	602,975	608,501	615,798	624,303	631,334	637,164	643,858	649,278	653,350	656,955
Lapeer County	88,210	88,094	88,195	88,291	88,194	88,368	88,171	88,122	87,921	87,607
Lenawee County	99,640	99,355	99,021	98,822	98,740	98,391	98,496	98,427	98,141	98,451
Livingston County	181,069	182,043	182,783	184,205	185,527	187,171	188,547	189,869	191,190	191,995
Luce-Mack-Alger-School	35,761	35,532	35,351	35,211	34,910	34,627	34,155	34,295	34,270	34,230
Macomb County	841,352	844,146	849,734	857,110	862,876	864,960	868,534	871,364	872,795	873,972
Marquette County	67,078	67,455	67,826	67,773	67,771	67,326	66,532	66,493	66,381	66,699
Midland County	83,651	83,805	83,721	83,651	83,492	83,662	83,422	83,314	83,223	83,156
Mid-Michigan District	181,150	181,284	181,235	181,534	181,225	181,103	181,525	183,012	183,757	184,194
Monroe County	151,936	151,496	150,804	150,139	149,847	149,353	149,159	149,449	150,174	150,500
Muskegon County	171,913	170,026	170,159	172,273	172,254	172,447	173,227	173,645	173,599	173,566
Northwest MI Com Hlth Agency	106,227	106,282	106,283	106,399	106,443	106,372	106,552	107,091	107,376	107,550
Oakland County	1,203,106	1,212,643	1,223,598	1,235,468	1,242,853	1,244,602	1,251,027	1,256,016	1,256,694	1,257,584
Ottawa County	264,130	266,929	270,873	274,385	277,864	280,859	283,712	286,581	289,808	291,830
Saginaw County	199,862	198,899	198,363	196,794	195,248	193,305	192,507	191,965	190,791	190,539
Sanilac County	43,087	42,705	42,306	41,901	41,661	41,464	41,405	41,242	41,192	41,170
Shiawassee County	70,634	69,998	69,329	68,903	68,808	68,505	68,542	68,400	68,133	68,122
St Clair County	162,690	161,581	160,625	160,288	160,065	159,700	159,369	159,005	159,031	159,128
Tuscola County	55,698	55,400	54,708	54,216	53,923	53,726	53,276	52,815	52,633	52,245
Van Buren-Cass	128,396	128,140	127,102	126,903	126,788	126,402	126,549	126,784	127,206	127,464
Washtenaw County	345,717	349,753	352,303	356,040	360,021	362,975	366,135	368,807	369,483	367,601
Wayne County	1,103,950	1,098,071	1,095,746	1,088,357	1,089,070	1,085,462	1,083,469	1,082,586	1,081,476	1,079,312
Western UP District	70,932	70,537	70,093	69,765	69,242	68,509	68,263	67,953	67,274	65,704