

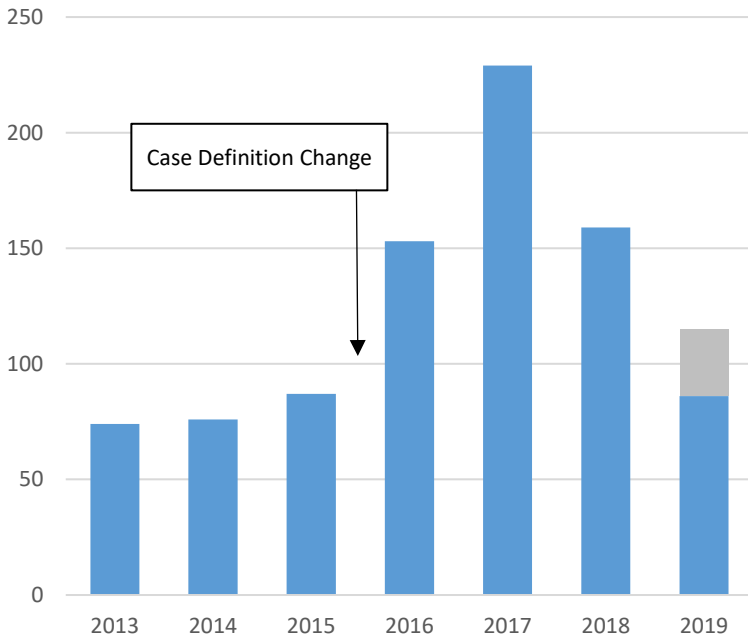
Hepatitis C Virus Quarterly Surveillance Report (Quarter 3, 2019)

(Data referred 7/1/2019 through 9/30/2019—extracted 11/14/2019—Report released 11/14/2019)

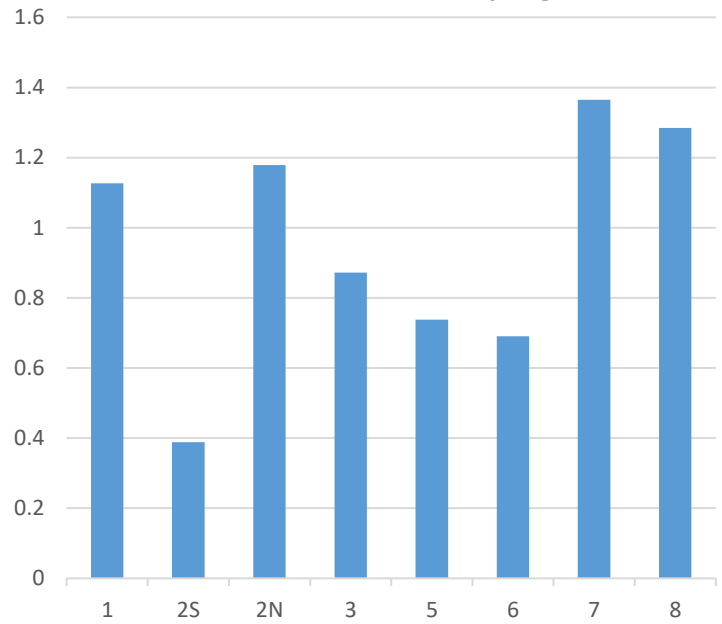
This monthly report is designed to inform local health departments of Hepatitis C Virus (HCV) cases reported to the Michigan Disease Surveillance System (MDSS) that may be related to injection drug use. These cases include all acute HCV cases and chronic HCV cases among persons aged 18 to 39. The purpose of the report is to highlight areas where transmission of HCV may be occurring among people who inject drugs. The goal is that, when warranted, this information will lead to more timely and effective public health intervention. Below are State-wide data trends. LHD-specific numbers can be found in the table that follows.

Please see our separate document on **Technical Notes** for how these data are obtained and defined and limitations to the data.

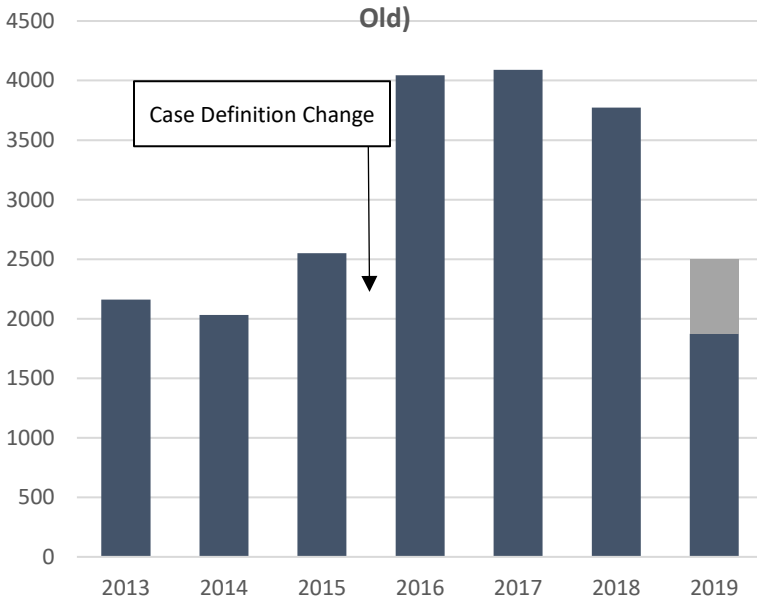
Annual Acute HCV Case Counts



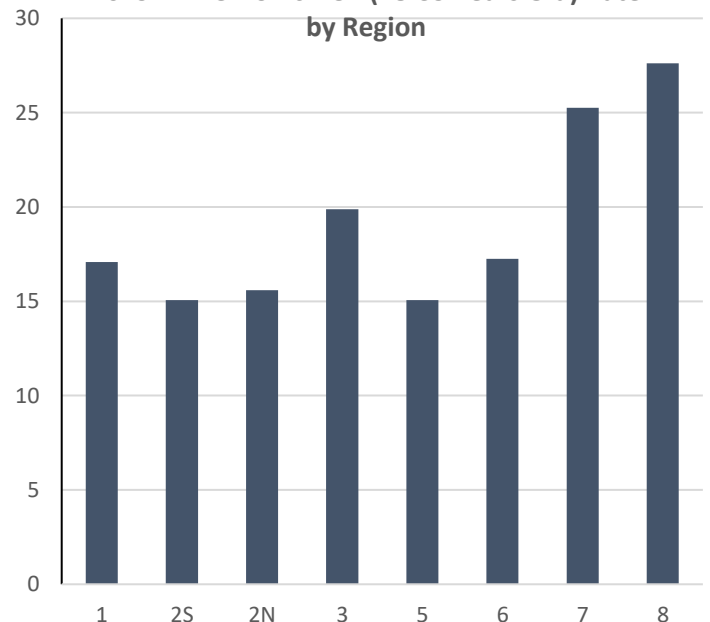
2019 YTD Acute HCV Rate by Region



Annual Chronic HCV Case Counts (18-39 Years Old)



2019 YTD Chronic HCV (18-39 Years Old) Rate by Region



| County | LHJ | Region | Acute HCV Cases (Current Quarter) | Acute HCV Cases (This Quarter 2018) | Acute HCV Cases (YTD) | Acute HCV Cases (2018 YTD) |
|----------------|---------------------------------|--------|--------------------------------------|--|--------------------------|-------------------------------|
| Alcona | District Health Department #2 | 3 | 1 | 0 | 1 | 0 |
| Alger | Luce-Mackinac-Alger-Schoolcraft | 8 | 0 | 0 | 0 | 0 |
| Allegan | Allegan | 5 | 0 | 2 | 0 | 2 |
| Alpena | District Health Department #4 | 7 | 0 | 0 | 0 | 0 |
| Antrim | Northwest Michigan | 7 | 0 | 1 | 1 | 2 |
| Arenac | Central Michigan | 3 | 0 | 0 | 0 | 0 |
| Baraga | Western Upper Penninsula | 8 | 0 | 0 | 0 | 1 |
| Barry | Barry-Eaton | 5 | 0 | 1 | 0 | 1 |
| Bay | Bay | 3 | 0 | 0 | 3 | 2 |
| Benzie | Benzie-Leelanau | 7 | 0 | 0 | 0 | 0 |
| Berrien | Berrien | 5 | 1 | 2 | 3 | 3 |
| Branch | Branch-Hillsdale-St. Joseph | 5 | 0 | 0 | 0 | 0 |
| Calhoun | Calhoun | 5 | 0 | 1 | 0 | 1 |
| Cass | Van Buren-Cass | 5 | 0 | 1 | 1 | 1 |
| Charlevoix | Northwest Michigan | 7 | 0 | 0 | 0 | 0 |
| Cheboygan | District Health Department #4 | 7 | 0 | 0 | 1 | 0 |
| Chippewa | Chippewa | 8 | 0 | 0 | 1 | 3 |
| Clare | Central Michigan | 6 | 0 | 0 | 0 | 0 |
| Clinton | Mid-Michigan | 1 | 0 | 0 | 1 | 0 |
| Crawford | District Health Department #10 | 7 | 0 | 0 | 1 | 0 |
| Delta | Delta-Menominee | 8 | 0 | 1 | 0 | 3 |
| Detroit City | Detroit City | 25 | 0 | 0 | 0 | 0 |
| Dickinson | Dickinson-Iron | 8 | 0 | 0 | 0 | 0 |
| Eaton | Barry-Eaton | 1 | 0 | 0 | 0 | 2 |
| Emmet | Northwest Michigan | 7 | 0 | 0 | 1 | 0 |
| Genesee | Genesee | 3 | 1 | 3 | 3 | 11 |
| Gladwin | Central Michigan | 3 | 0 | 0 | 1 | 0 |
| Gogebic | Western Upper Penninsula | 8 | 0 | 0 | 0 | 0 |
| Grand Traverse | Grand Traverse | 7 | 0 | 0 | 2 | 1 |
| Gratiot | Mid-Michigan | 1 | 0 | 0 | 0 | 0 |
| Hillsdale | Branch-Hillsdale-St. Joseph | 1 | 0 | 0 | 0 | 0 |
| Houghton | Western Upper Penninsula | 8 | 0 | 2 | 1 | 2 |
| Huron | Huron | 3 | 0 | 0 | 1 | 0 |
| Ingham | Ingham | 1 | 1 | 1 | 4 | 6 |
| Ionia | Ionia | 6 | 0 | 0 | 0 | 1 |
| Iosco | District Health Department #2 | 3 | 0 | 0 | 1 | 0 |
| Iron | Dickinson-Iron | 8 | 0 | 0 | 0 | 1 |
| Isabella | Central Michigan | 6 | 0 | 1 | 0 | 2 |
| Jackson | Jackson | 1 | 0 | 1 | 6 | 2 |
| Kalamazoo | Kalamazoo | 5 | 1 | 3 | 2 | 5 |
| Kalkaska | District Health Department #10 | 7 | 0 | 0 | 0 | 0 |
| Kent | Kent | 6 | 0 | 2 | 3 | 6 |

| County | LHJ | Region | Acute HCV Cases (Current Quarter) | Acute HCV Cases (This Quarter 2018) | Acute HCV Cases (YTD) | Acute HCV Cases (2018 YTD) |
|------------------|------------------------------------|--------|--------------------------------------|--|--------------------------|-------------------------------|
| Keweenaw | Western Upper Peninsula | 8 | 0 | 0 | 0 | 0 |
| Lake | District Health Department #10 | 6 | 0 | 0 | 0 | 0 |
| Lapeer | Lapeer | 3 | 0 | 0 | 0 | 0 |
| Leelanau | Benzie-Leelanau | 7 | 0 | 0 | 0 | 0 |
| Lenawee | Lenawee | 1 | 0 | 0 | 1 | 0 |
| Livingston | Livingston | 1 | 0 | 0 | 0 | 0 |
| Luce | Luce-Mackinac-Alger-Schoolcraft | 8 | 0 | 0 | 0 | 0 |
| Mackinac | Luce-Mackinac-Alger-Schoolcraft | 8 | 0 | 0 | 0 | 0 |
| Macomb | Macomb | 2N | 6 | 14 | 19 | 24 |
| Manistee | District Health Department #10 | 7 | 0 | 0 | 0 | 0 |
| Marquette | Marquette | 8 | 0 | 0 | 1 | 2 |
| Mason | District Health Department #10 | 6 | 0 | 0 | 0 | 1 |
| Mecosta | District Health Department #10 | 6 | 0 | 0 | 0 | 0 |
| Menominee | Delta-Menominee | 8 | 0 | 0 | 1 | 2 |
| Midland | Midland | 3 | 0 | 0 | 0 | 0 |
| Missaukee | District Health Department #10 | 7 | 0 | 0 | 0 | 2 |
| Monroe | Monroe | 2S | 0 | 0 | 0 | 0 |
| Montcalm | Mid-Michigan | 6 | 0 | 1 | 0 | 3 |
| Montmorency | District Health Department #4 | 7 | 0 | 0 | 0 | 0 |
| Muskegon | Muskegon | 6 | 4 | 3 | 7 | 8 |
| Newaygo | District Health Department #10 | 6 | 0 | 0 | 0 | 0 |
| Oakland | Oakland | 2N | 0 | 0 | 2 | 5 |
| Oceana | District Health Department #10 | 6 | 0 | 0 | 0 | 0 |
| Ogemaw | District Health Department #2 | 3 | 0 | 0 | 0 | 3 |
| Ontonagon | Western Upper Peninsula | 8 | 0 | 0 | 0 | 0 |
| Osceola | Central Michigan | 6 | 0 | 1 | 0 | 1 |
| Oscoda | District Health Department #2 | 3 | 0 | 0 | 0 | 0 |
| Otsego | Northwest Michigan | 7 | 0 | 1 | 0 | 1 |
| Ottawa | Ottawa | 6 | 0 | 0 | 0 | 1 |
| Presque Isle | District Health Department #4 | 7 | 0 | 0 | 0 | 0 |
| Roscommon | Central Michigan | 7 | 0 | 0 | 0 | 0 |
| Saginaw | Saginaw | 3 | 0 | 0 | 0 | 3 |
| St Clair | St Clair | 2N | 4 | 2 | 5 | 6 |
| St Joseph | Branch-Hillsdale-St. Joseph | 5 | 0 | 0 | 0 | 0 |
| Sanilac | Sanilac | 3 | 0 | 0 | 0 | 0 |
| Schoolcraft | Luce-Mackinac-Alger-Schoolcraft | 8 | 0 | 0 | 0 | 1 |
| Shiawassee | Shiawassee | 1 | 0 | 0 | 0 | 0 |
| Tuscola | Tuscola | 3 | 0 | 0 | 0 | 0 |
| Van Buren | Van Buren-Cass | 5 | 0 | 1 | 1 | 2 |
| Washtenaw | Washtenaw | 2S | 0 | 0 | 2 | 1 |
| Wayne | Wayne | 2S | 0 | 0 | 7 | 0 |
| Wexford | District Health Department #10 | 7 | 0 | 0 | 0 | 1 |
| MDOC | Michigan Department of Corrections | MDOC | 2 | 0 | 2 | 0 |
| STATEWIDE | | | 21 | 45 | 86 | 125 |

| County | LHJ | Region | Chronic HCV Cases, Adults Under 40 (Current Quarter) | Chronic HCV, Adults Under 40 (This Quarter 2018) | Chronic HCV Cases, Adults Under 40 (YTD) | Chronic HCV Cases, Adults Under 40 (YTD 2018) |
|----------------|---------------------------------|--------|--|--|--|---|
| Alcona | District Health Department #2 | 3 | <5 | 0 | <5 | <5 |
| Alger | Luce-Mackinac-Alger-Schoolcraft | 8 | 0 | 0 | 0 | <5 |
| Allegan | Allegan | 5 | <5 | <5 | 9 | <5 |
| Alpena | District Health Department #4 | 7 | <5 | 0 | 12 | <5 |
| Antrim | Northwest Michigan | 7 | 5 | 0 | 10 | <5 |
| Arenac | Central Michigan | 3 | <5 | 0 | <5 | 5 |
| Baraga | Western Upper Penninsula | 8 | <5 | <5 | 8 | 8 |
| Barry | Barry-Eaton | 5 | 5 | 0 | 8 | 6 |
| Bay | Bay | 3 | <5 | 11 | 20 | 37 |
| Benzie | Benzie-Leelanau | 7 | <5 | <5 | 6 | <5 |
| Berrien | Berrien | 5 | 8 | <5 | 20 | 23 |
| Branch | Branch-Hillsdale-St. Joseph | 5 | <5 | <5 | 7 | 5 |
| Calhoun | Calhoun | 5 | 9 | <5 | 31 | 17 |
| Cass | Van Buren-Cass | 5 | <5 | 0 | 5 | 12 |
| Charlevoix | Northwest Michigan | 7 | <5 | <5 | 6 | <5 |
| Cheboygan | District Health Department #4 | 7 | <5 | <5 | <5 | 10 |
| Chippewa | Chippewa | 8 | 6 | 7 | 16 | 23 |
| Clare | Central Michigan | 6 | <5 | <5 | 6 | 11 |
| Clinton | Mid-Michigan | 1 | <5 | <5 | <5 | 5 |
| Crawford | District Health Department #10 | 7 | <5 | 0 | <5 | 0 |
| Delta | Delta-Menominee | 8 | <5 | <5 | 11 | 17 |
| Detroit City | Detroit City | 25 | 32 | 14 | 105 | 123 |
| Dickinson | Dickinson-Iron | 8 | <5 | <5 | 6 | <5 |
| Eaton | Barry-Eaton | 1 | <5 | <5 | 16 | 12 |
| Emmet | Northwest Michigan | 7 | <5 | 0 | 5 | <5 |
| Genesee | Genesee | 3 | 26 | 22 | 85 | 101 |
| Gladwin | Central Michigan | 3 | 0 | 0 | 5 | 5 |
| Gogebic | Western Upper Penninsula | 8 | 0 | 0 | 0 | 7 |
| Grand Traverse | Grand Traverse | 7 | 8 | <5 | 23 | 19 |
| Gratiot | Mid-Michigan | 1 | <5 | 0 | 7 | <5 |
| Hillsdale | Branch-Hillsdale-St. Joseph | 1 | <5 | <5 | 14 | 10 |
| Houghton | Western Upper Penninsula | 8 | <5 | <5 | 8 | 6 |
| Huron | Huron | 3 | <5 | 0 | <5 | <5 |
| Ingham | Ingham | 1 | 16 | 10 | 53 | 42 |
| Ionia | Ionia | 6 | 5 | <5 | 9 | 9 |
| Iosco | District Health Department #2 | 3 | <5 | <5 | 5 | <5 |
| Iron | Dickinson-Iron | 8 | <5 | <5 | 7 | 7 |
| Isabella | Central Michigan | 6 | 6 | <5 | 22 | 23 |
| Jackson | Jackson | 1 | 12 | 8 | 33 | 52 |
| Kalamazoo | Kalamazoo | 5 | 14 | 13 | 46 | 45 |
| Kalkaska | District Health Department #10 | 7 | <5 | <5 | <5 | <5 |
| Kent | Kent | 6 | 24 | 16 | 103 | 65 |
| Keweenaw | Western Upper Penninsula | 8 | 0 | 0 | <5 | 0 |

| County | LHJ | Region | Chronic HCV Cases, Adults Under 40 (Current Quarter) | Chronic HCV, Adults Under 40 (This Quarter 2018) | Chronic HCV Cases, Adults Under 40 (YTD) | Chronic HCV Cases, Adults Under 40 (YTD 2018) |
|------------------|------------------------------------|--------|--|--|--|---|
| Lake | District Health Department #10 | 6 | 0 | 0 | <5 | 0 |
| Lapeer | Lapeer | 3 | 12 | <5 | 28 | 13 |
| Leelanau | Benzie-Leelanau | 7 | <5 | <5 | 6 | <5 |
| Lenawee | Lenawee | 1 | <5 | 0 | 18 | 17 |
| Livingston | Livingston | 1 | 7 | 0 | 20 | 15 |
| Luce | Luce-Mackinac-Alger-Schoolcraft | 8 | <5 | <5 | <5 | 5 |
| Mackinac | Luce-Mackinac-Alger-Schoolcraft | 8 | 0 | 0 | 0 | <5 |
| Macomb | Macomb | 2N | 64 | 33 | 183 | 162 |
| Manistee | District Health Department #10 | 7 | <5 | <5 | <5 | <5 |
| Marquette | Marquette | 8 | 10 | 5 | 21 | 19 |
| Mason | District Health Department #10 | 6 | <5 | <5 | 12 | <5 |
| Mecosta | District Health Department #10 | 6 | <5 | <5 | <5 | 9 |
| Menominee | Delta-Menominee | 8 | <5 | <5 | 6 | <5 |
| Midland | Midland | 3 | 5 | <5 | 16 | 20 |
| Missaukee | District Health Department #10 | 7 | 0 | <5 | <5 | <5 |
| Monroe | Monroe | 2S | 20 | 0 | 50 | 31 |
| Montcalm | Mid-Michigan | 6 | <5 | <5 | 16 | 9 |
| Montmorency | District Health Department #4 | 7 | 0 | 0 | <5 | <5 |
| Muskegon | Muskegon | 6 | 16 | 8 | 45 | 25 |
| Newaygo | District Health Department #10 | 6 | <5 | <5 | 7 | 15 |
| Oakland | Oakland | 2N | 36 | 5 | 120 | 118 |
| Oceana | District Health Department #10 | 6 | 0 | 0 | <5 | <5 |
| Ogemaw | District Health Department #2 | 3 | <5 | <5 | <5 | 14 |
| Ontonagon | Western Upper Peninsula | 8 | 0 | 0 | 0 | 0 |
| Osceola | Central Michigan | 6 | 0 | <5 | 5 | 5 |
| Oscoda | District Health Department #2 | 3 | 0 | 0 | <5 | 6 |
| Otsego | Northwest Michigan | 7 | 0 | <5 | 8 | 9 |
| Ottawa | Ottawa | 6 | <5 | 5 | 17 | 17 |
| Presque Isle | District Health Department #4 | 7 | 0 | 0 | <5 | 0 |
| Roscommon | Central Michigan | 7 | 0 | 0 | 5 | <5 |
| Saginaw | Saginaw | 3 | 6 | 10 | 39 | 42 |
| St Clair | St Clair | 2N | 11 | 8 | 41 | 36 |
| St Joseph | Branch-Hillsdale-St. Joseph | 5 | <5 | 5 | 10 | 13 |
| Sanilac | Sanilac | 3 | <5 | <5 | 10 | 6 |
| Schoolcraft | Luce-Mackinac-Alger-Schoolcraft | 8 | 0 | 0 | 0 | <5 |
| Shiawassee | Shiawassee | 1 | 6 | <5 | 17 | 10 |
| Tuscola | Tuscola | 3 | <5 | 0 | <5 | 6 |
| Van Buren | Van Buren-Cass | 5 | <5 | <5 | 7 | 14 |
| Washtenaw | Washtenaw | 2S | <5 | 8 | 16 | 26 |
| Wayne | Wayne | 2S | 52 | 34 | 178 | 167 |
| Wexford | District Health Department #10 | 7 | 5 | <5 | 9 | 10 |
| MDOC | Michigan Department of Corrections | MDOC | 29 | 37 | 179 | 180 |
| STATEWIDE | | | 535 | 332 | 1872 | 1790 |

Technical Notes

Hepatitis C Virus Monthly Surveillance Report

Data in this report should be interpreted with caution and with acknowledgement of the limitations. Please direct any questions or comments regarding this report or the methods to the MDHHS Viral Hepatitis Unit (MDHHS-Hepatitis@michigan.gov)

Acute and Chronic HCV Infection

- Acute HCV and Chronic HCV data are obtained from the Michigan Disease Surveillance System ([MDSS](#)).
- Only completed cases meeting CDC/CSTE case definitions ([CSTE hepatitis case definitions](#)) are pulled for inclusion in the report. Included in the analysis are:
 - All Probable and Confirmed Acute HCV cases
 - Probable and Confirmed Chronic HCV cases between the ages of 18 and 39
- Cases are pulled no earlier than 30 days from the end of the reporting month (e.g. January data is extracted no earlier than March 1st). These data are not finalized and are subject to change throughout the year.
- It should be noted that CDC/CSTE case definitions for acute and chronic HCV were significantly changed in calendar year 2016 ([acute](#) and [chronic](#)). Therefore, increases in acute and chronic HCV cases in 2016 may be reflective of the change in case counting methods and not necessarily an increase in new cases.

For acute and chronic HCV acquisition, complete risk factor information is needed in order for MDHHS to identify trends in transmission related to injection drug use, health care transmission, and emerging risk factors. The temporality of chronic HCV infections is often unknown due to the lack of symptoms and awareness of the time of infection. Timely and comprehensive follow-up is needed in order to maximize the effectiveness of this report.

Regional Rates and Projections

- Year to date case rates are stratified by Michigan Public Health Preparedness Regions (MPHPR). A map of the MPHPRs can be accessed here ([Regional Map](#)).
- Cases from the Michigan Department of Corrections (MDOC) are removed from regional case rates.
- Rates are calculated using 2015 Census data for the population ([2010 US Census](#)).
- The projected number of cases in 2016 is calculated by multiplying the year to date cases by the proportion of months remaining in the year.