

Interim Analysis of COVID-19 cases in Montana (as of 6/26/2020)

This report is an interim epidemiological review of COVID-19 cases in Montana. Data is analyzed based on information available as of June 26, 2020. Current case count at the time of analysis is:

Case Count = 852

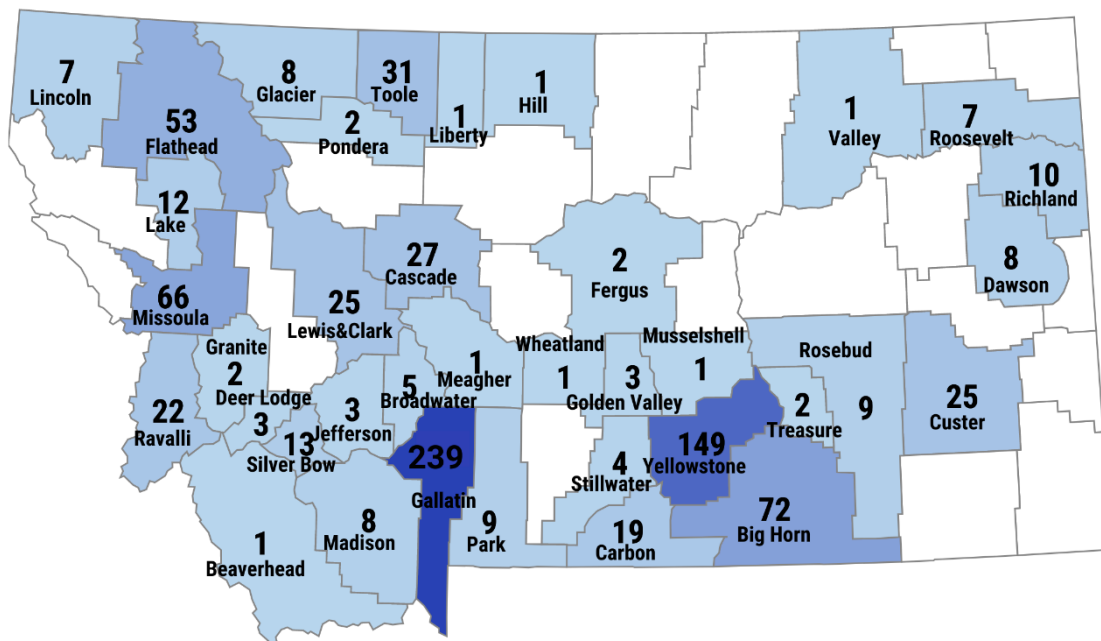
This report is completed using data that is available during the time of analysis and there may be a delay between current case count and this report, due to rapidly changing updates. When data is limited to available information, number of cases included in analysis is indicated in graphs.

Geographic Distribution

There are 852 cases of COVID-19 reported in 37 counties in Montana. Most cases are reported in more populous counties. Gallatin County has been the most impacted, reporting 28% of all reported cases, followed by Yellowstone (17%), Big Horn, (8%), Missoula (8%), Flathead (6%), and Toole (4%) counties (Figure 1). Of the more rural counties, Big Horn and Toole County have been particularly impacted by COVID-19 in Montana.

Figure 1: Map of Reported Montana COVID-19 cases*

Reported COVID-19 Cases in Montana as of 6/26/2020

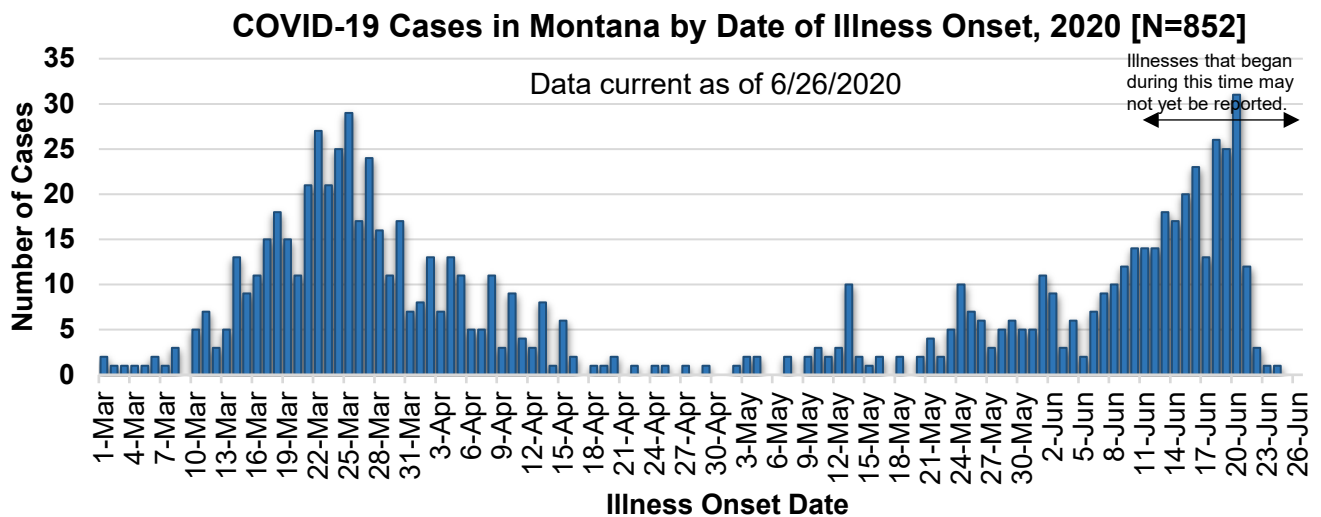


*Cases reported on the map initially included residents of other states who were tested and isolated in Montana. As COVID-19 is now widespread across the United States, the map no longer includes out of state residents who test positive in Montana in order to align with Council of State and Territorial Epidemiologists guidelines that classify cases by the individual's state of residence. This is standard practice for all communicable diseases to ensure accurate case reporting for Montana. For more detail, please visit: <https://dphhs.mt.gov/publichealth/cdepi/diseases/coronavirusmt/demographics>

Epidemiological Data

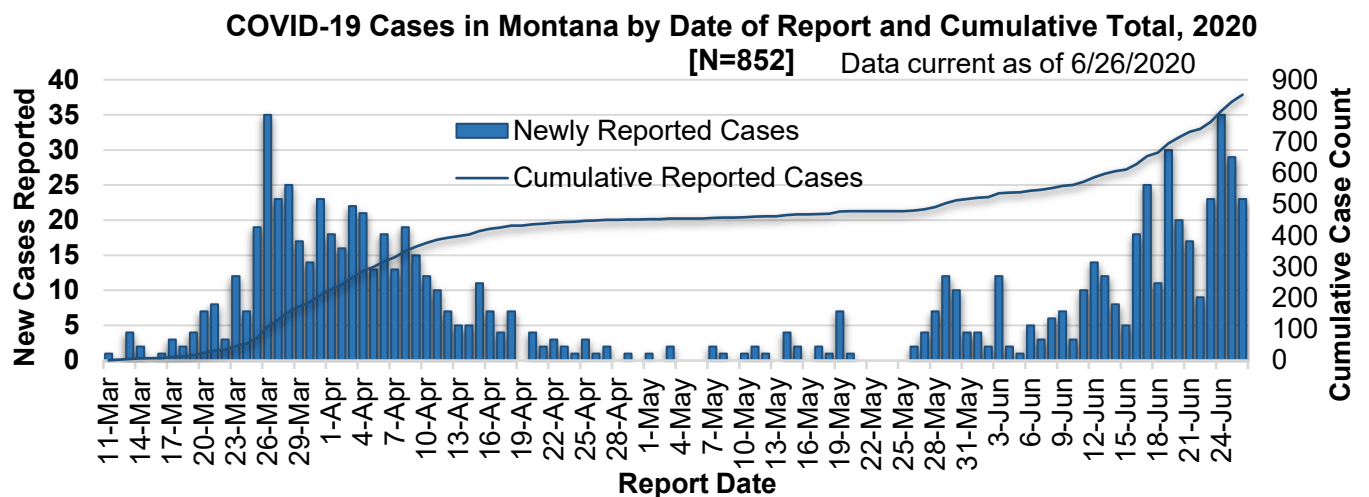
A total of 852 cases were reported as of 6/26/2020. Illness onset date is available for most (79%) reported cases. When onset date is not available, collection date is used to calculate an estimated onset date (Figure 2). Illness onsets that occurred within the past 10 days may not yet be reported, due to a lag time between illness onset, seeking a provider to get tested, and receiving test results.

Figure 2: Epi Curve for Montana COVID-19 cases



The first COVID-19 case in Montana was reported on 3/11/2020. Since then, new reports have climbed to 852 cases (Figure 3). Growth was initially exponential until reaching about 100 case reports, then growth became linear, meaning the number of new cases each day was about the same as the day before. By mid-April, growth significantly slowed down and during most of May there were few new reported cases. Case reports appear to grow exponentially again in June, since reaching 500 reported cases. Of note, updated CDC contact tracing recommendations on May 29, 2020 may contribute to an increase in reported cases as all contacts to a case are recommended to be tested.

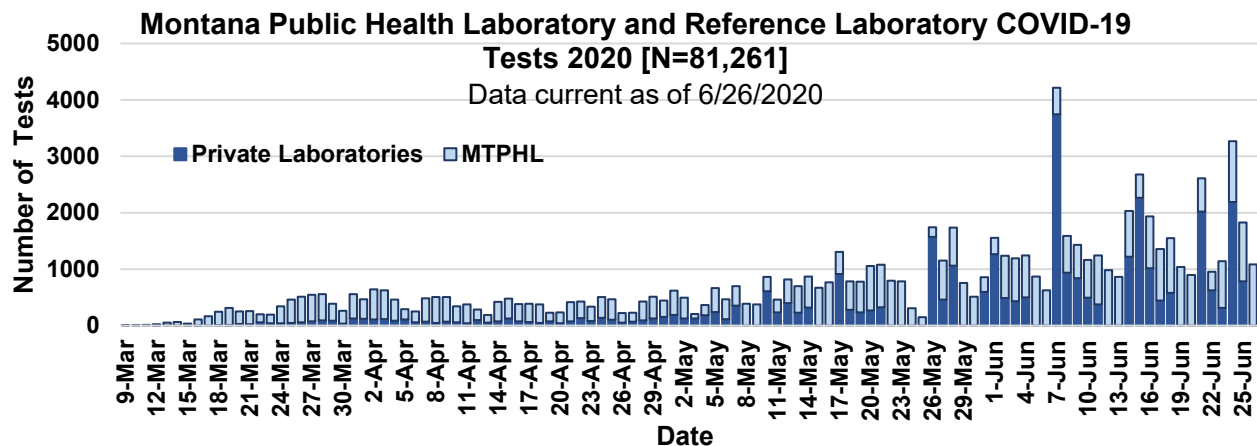
Figure 3: Cumulative reported cases for COVID-19 in Montana



Laboratory Data

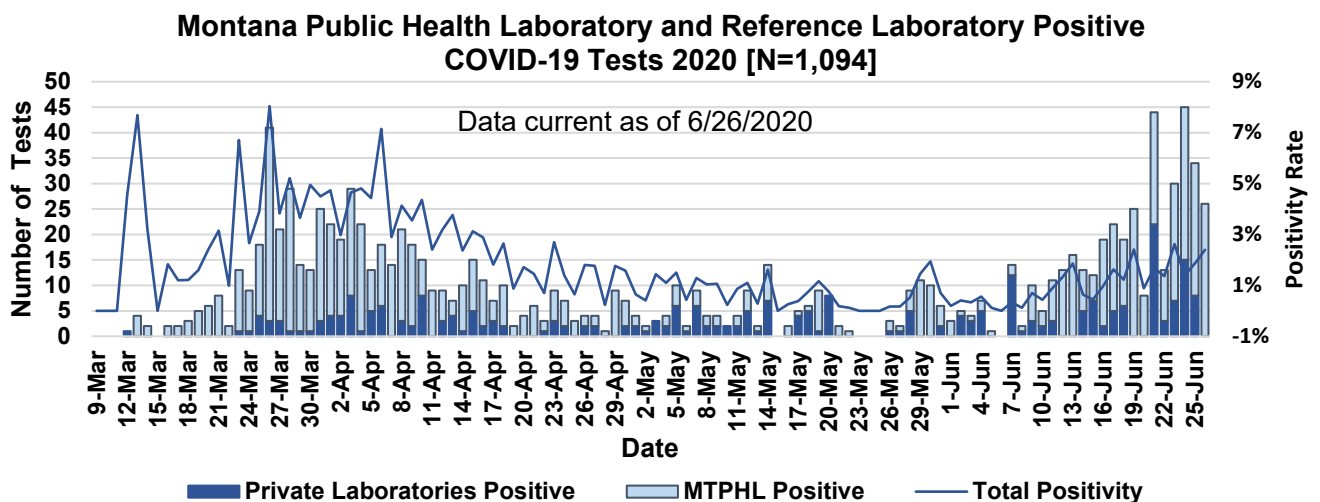
COVID-19 testing was initially available solely through the CDC. COVID-19 PCR testing capability was implemented by the Montana Public Health Laboratory (MTPHL) on March 9th. Private laboratories began implementing COVID-19 testing in the weeks following. Private laboratories include reference laboratories and those in smaller hospital labs performing point-of-care (POC) testing. A total of 81,261 tests have been completed to date. In June, an average of 1,560 tests were completed daily, which is more than double of the specimens tested daily in May (Figure 4).

Figure 4: Total Laboratory Testing for COVID-19 in Montana



So far 1,094 positive tests have been resulted through MTPHL and private laboratories. Some of these tests are repeat specimens from the same individual to check for clearance of the virus, but positive cases are only counted once. The overall positivity rate for all laboratory testing to date is about 2%, though this has varied over time. In March and April, the average positivity was 3% and has dropped down to 0.7% in May. In June, the average positivity is currently at 1% and continues to rise (Figure 5).

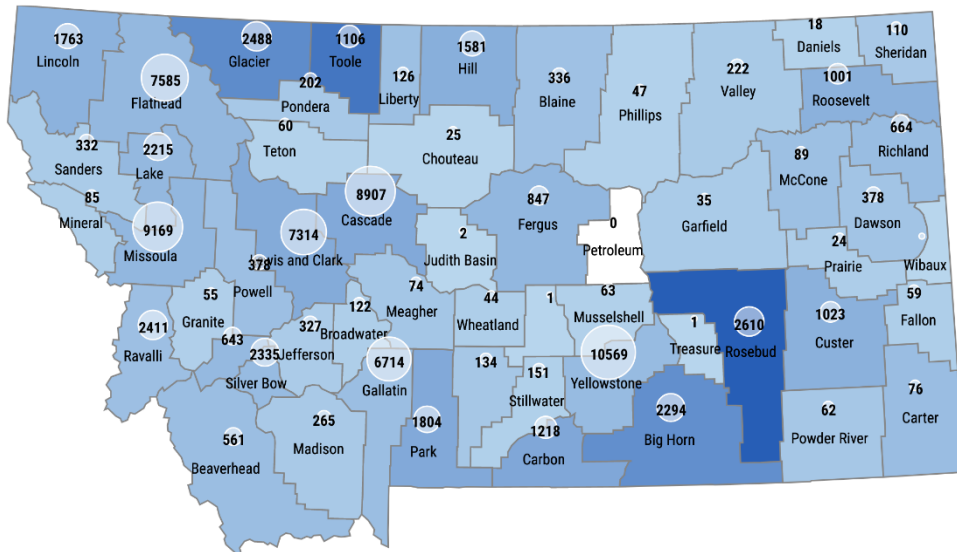
Figure 5: Positive Laboratory Tests for COVID-19 in Montana



Of all the COVID-19 tests conducted in Montana, most were from persons in Yellowstone County (13%), followed by Missoula (11%) and Cascade (11%) counties (Figure 6). Lab testing data is displayed for county of residence when known. When county of residence is unknown, the county of the facility collecting the test was used. Positive case reports are reflected in Figure 1 and are always counted by county of residence.

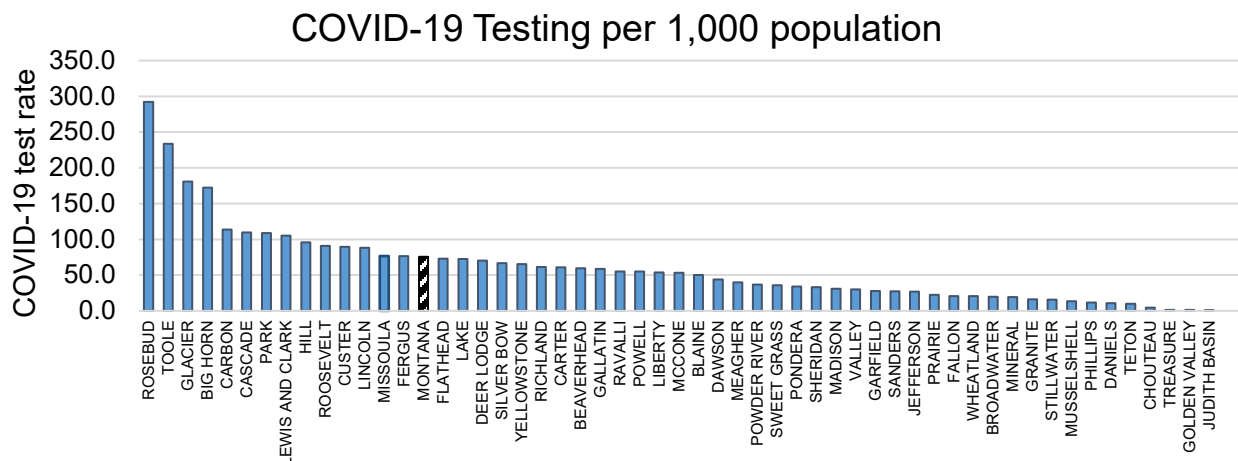
Figure 6: COVID-19 Total Tests and Test Rate in Montana

COVID-19 Testing in Montana as of 6/26/2020



The counties with the highest rate of tests per 1,000 residents are Rosebud (292.0/1,000), Toole (233.5/1,000), Glacier (180.9/1,000) and Big Horn (172.2/1,000) counties (Figure 6 & 7). The average COVID testing rate for Montana is 75.6/1,000 population. Large scale community test events contribute to COVID testing rate by county. In May and June, there has been a significant increase in testing compared to previous months, primarily among those who are between 60-69 years of age.

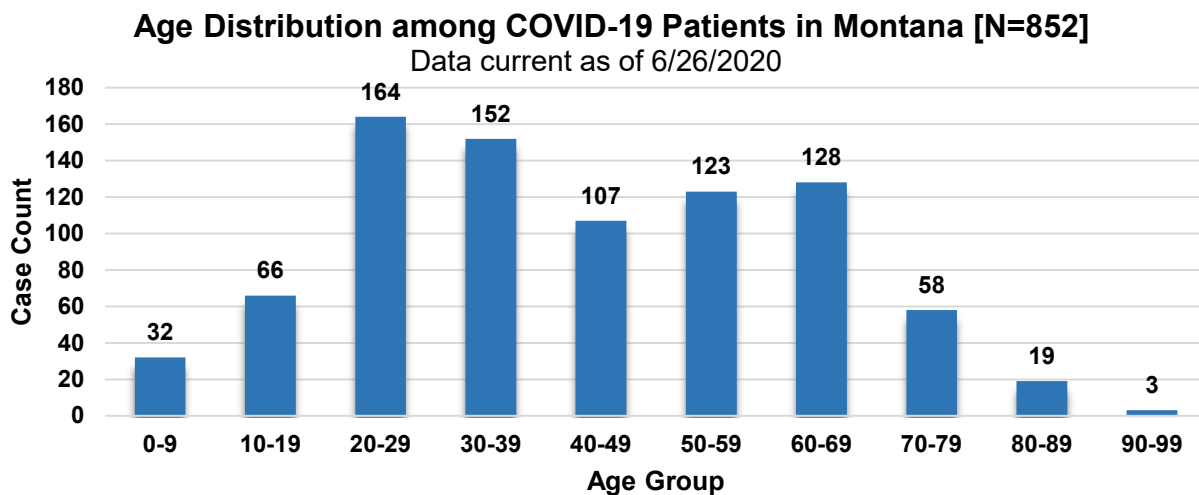
Figure 7: Ranked COVID Test Rate by County in Montana



Age and Demographic Distribution

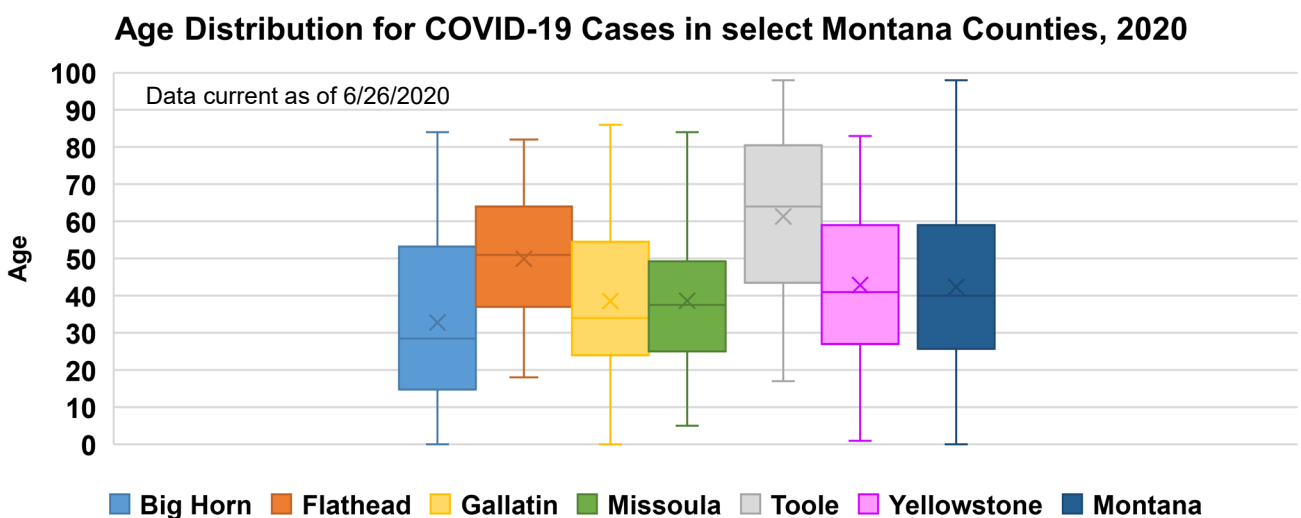
Persons between 20-29 years of age account for 19% of all reported COVID-19 cases in Montana. The next most common age group is 30-39 years (18%), followed by 60-69 years (15%) (Figure 8). The median age for all cases is 40 years of age with a range between <1-98 years. Fifty percent of cases are between 26-59 years of age.

Figure 8: Age Distribution for COVID-19 cases in Montana



In the six counties with more than 30 reported cases, the age distribution shows some slight variations. Most of these counties report ages comparable to the state average, with Flathead County reporting a higher median age of 51 years old and Gallatin County a lower median age of 34 years old (Figure 9). Big Horn County has the youngest cohort where half of all cases are under 29 years of age and Toole County has the oldest cohort where half of the reported cases are older than 63 years.

Figure 9: Age Distribution for COVID-19 cases in select Montana Counties



Persons infected with COVID-19 are equally distributed among men and women, with 50% of cases reported as female and 50% reported as male. Of 773 (91%) cases with known race at the time of report, 83% of persons identify as white and 15% as American Indian, Alaska Native, Native Hawaiian or Pacific Islander. Other races making up less than 3% of the cases identify as African American, Asian or other race (Table 1). Ninety-two percent of all cases with ethnicity information available identify as non-Hispanic and 8% as Hispanic. Native Americans make up about 7% of Montana's population, but represent 15% of reported COVID-19 cases in the state.

Table 1: Race of COVID-19 Cases in Montana

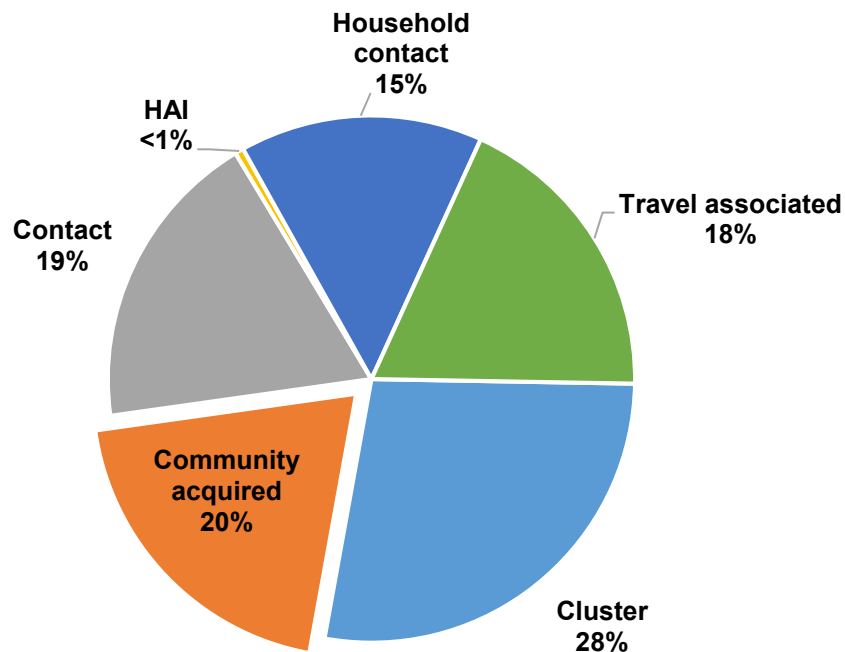
Race	Count	Percent
White	640	83%
American Indian, Alaska Native, Native Hawaiian, Pacific Islander	113	15%
Black or African American	4	0.5%
Asian	2	0.3%
Other	14	1.8%
TOTAL	773	

Transmission Characteristics

There are 37 counties reporting COVID-19 cases and even though 18 of those counties indicate that at least one person acquired the virus in the community, eight counties have reported widespread community acquired transmission occurring in their county. Of current data available, 20% of all cases with known transmission information likely acquired the virus in the community; most of those are in Gallatin and Yellowstone counties. Eighteen percent of reported cases likely acquired the virus through travel-related exposures. About 34% of cases were contacts to a known case, either within the household or otherwise. Clusters identified 28% of new case reports (Figure 10).

Figure 10: Known Routes of Transmission for Montana COVID-19

Route of Transmission for COVID-19 cases in Montana, 2020 [N=758]

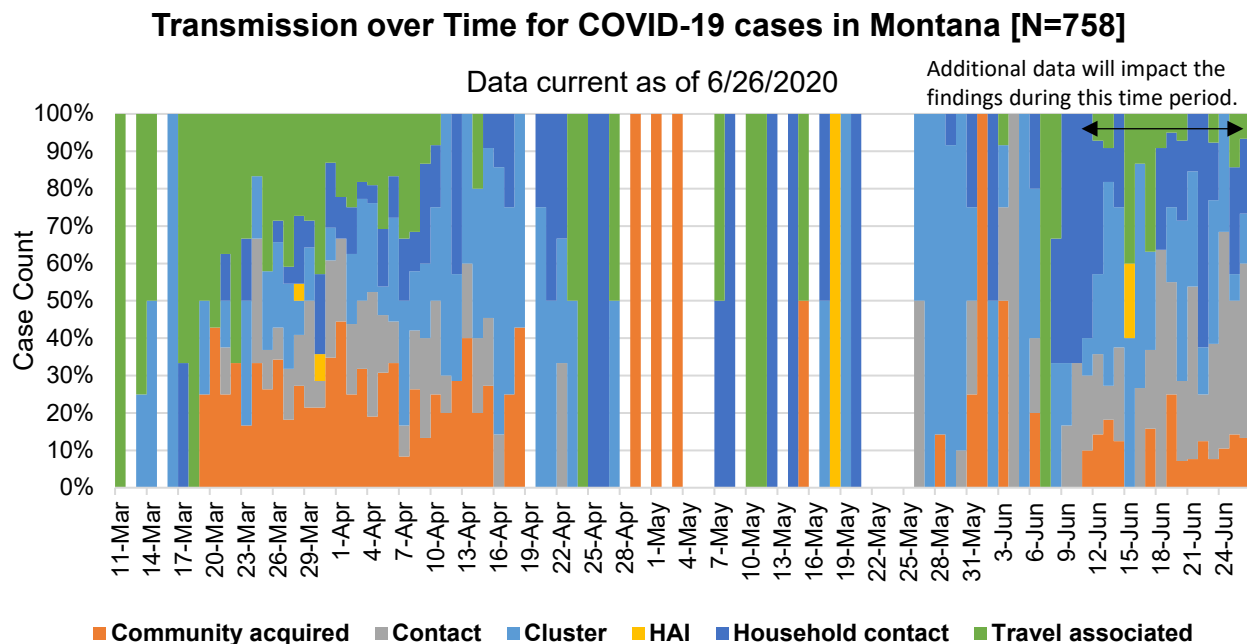


Data unavailable and currently under investigation for 94 (11%) persons.

CATEGORY	DEFINITION
TRAVEL ASSOCIATED	Case traveled out-of-state during the incubation period
COMMUNITY ACQUIRED	Case was unable to be linked with other known cases
CONTACT	Contact to a case not in their household and not part of a known cluster
HOUSEHOLD CONTACT	Household contact to a confirmed case
CLUSTER	Case is part of a known cluster
HAI	Healthcare-associated infection
UNDER INVESTIGATION	Likely route of transmission is still under investigation

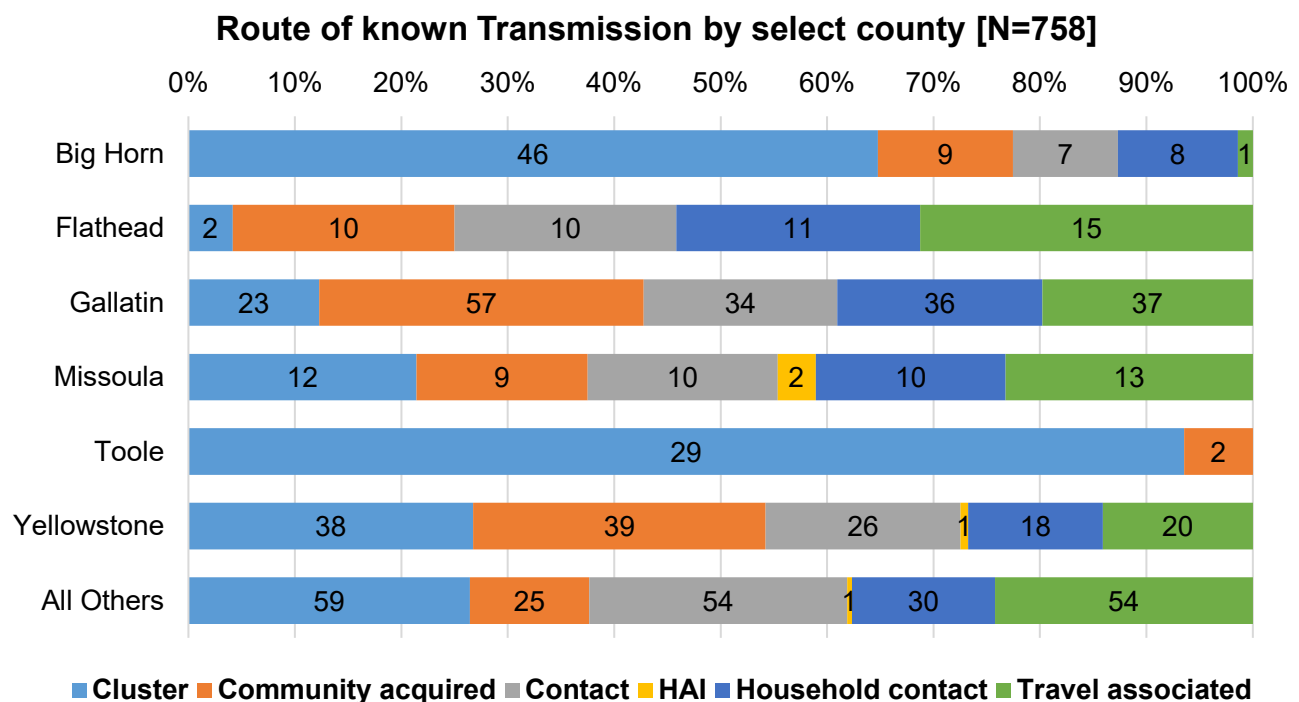
Transmission changes over time can indicate effective public health efforts, such as timely investigations, thorough contact findings, and measures to reduce community-acquired transmission. Transmission information is generally unknown for newly reported cases under investigation. The percent of community-acquired cases had steadily contributed to disease counts until mid-April. After that, new community-acquired cases only contribute to new COVID-19 reports periodically but with increased frequency in June. Travel-related transmission contributed to most cases early in the outbreak and then declined significantly, contributing only sporadically to new cases in May and June. Contact tracing and cluster investigations have significantly contributed to finding new cases, indicating that disease control efforts through local public health staff is identifying those infected and isolating them appropriately. No clusters were reported in early May, but new clusters have been identified towards the end of May and into June. Contacts and household contacts continue to be identified, making up more than half of all cases reported in May and June (Figure 11). Persons are more likely to acquire the virus through contact with a known case, especially within a household. Sporadic infections through travel and in the community continue to be reported.

Figure 11: Percent of known transmission contributing to COVID-19 Montana cases



More detail about route of transmission has been analyzed for the six counties with more than 30 reported cases. Contact and household contact investigations contribute to nearly 40% of new cases in Flathead, Gallatin and Missoula counties. About one third of cases in Gallatin and Yellowstone counties are attributable to community-acquired transmission, whereas in Flathead and Missoula counties, only about 20% are community-acquired. Travel-associated transmissions account for around 20% of cases in Gallatin and Missoula counties and 30% of new cases in Flathead County. Most cases in Big Horn County are linked to a larger cluster, and many of the cases are household contacts. Most cases in Toole County are related to a cluster of illnesses. In addition, some significant cluster activity is noted in Yellowstone and Missoula counties (Figure 12). Of all other counties reporting less than 30 cases, one quarter of cases were travel-related. Another third was either a contact to a known case or household contact. The others were either part of a cluster or acquired the virus in the community.

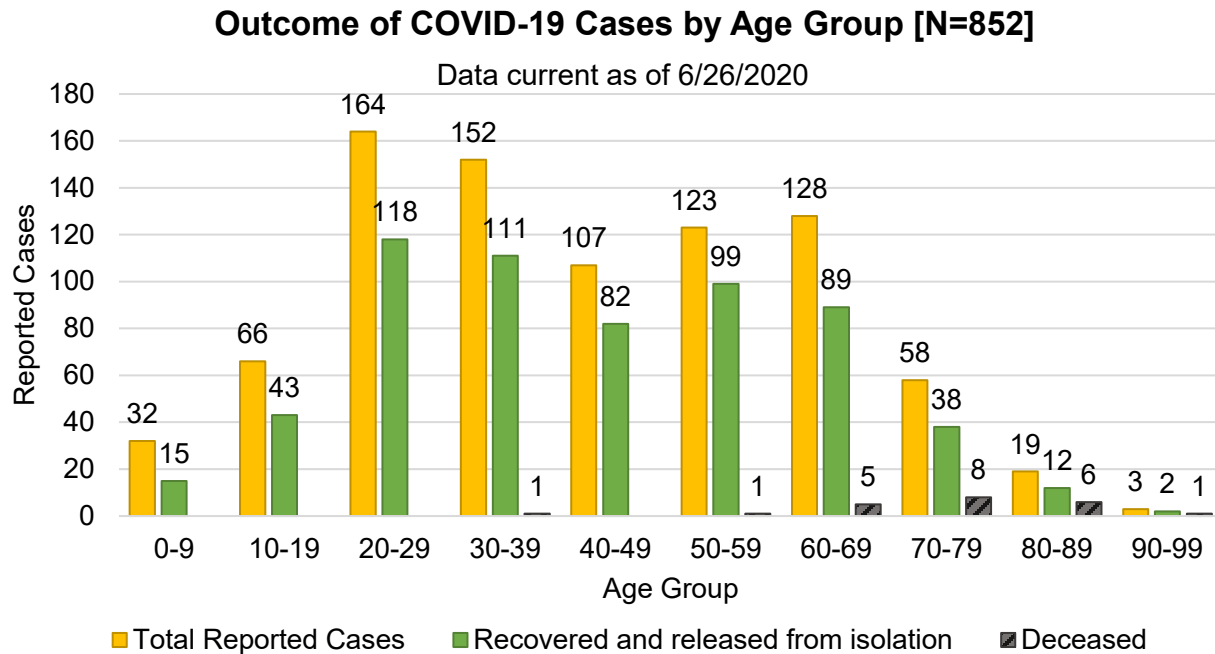
Figure 12: Breakdown of known transmission for select counties



Outcomes

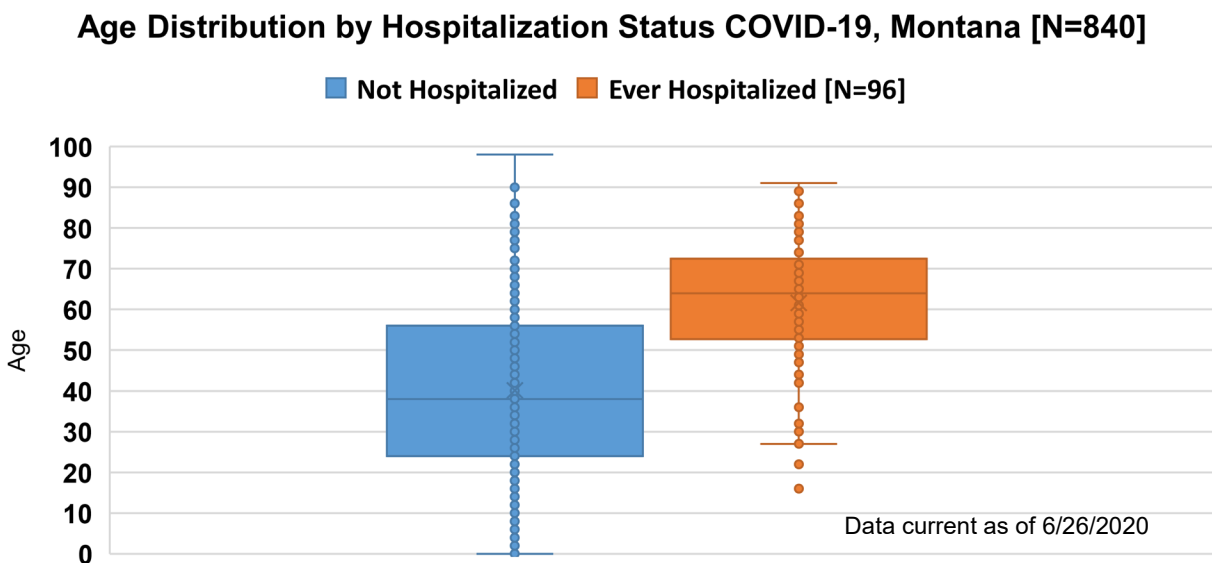
The current outcomes of COVID-19 cases in Montana depict the impact of the illness on the population. There are currently 221 (26%) persons actively infected and 609 (71%) persons who have recovered, meaning they have cleared the illness and are released from isolation (Figure 13). Twenty-two persons who were infected with COVID-19 have died. Counties reporting deaths include Toole (6), Yellowstone (4), Big Horn (3), Cascade, (2), Flathead (2), Gallatin (1), Lincoln (1), Madison (1), Missoula (1) and Rosebud (1). Persons who died were between 30 and 91 years of age, and 55% were male. Fourteen (64%) of those who died identified as white and eight (36%) as Native American.

Figure 13: Current infections and illness outcomes for Montana COVID-19



Persons who required hospitalization for COVID-19 are generally much older than those not requiring hospitalization (Figure 14). To date, 96 persons have been hospitalized with a median age of 64 years, half of them are between 53 and 73 years old. Those who did not require hospitalization have a median age of 40, and half of patients are between 25 and 57 years old. Twenty-two percent of Native Americans infected with COVID-19 required hospitalization versus 10% of those who identify as white and were infected with COVID-19.









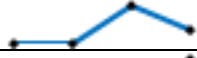












Figure 14: Age Distribution among COVID-19 cases compared by known hospitalization status



Counties Reporting a COVID-19 Case with Trendline

Beaverhead	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
Big Horn	0	0	0	0	1	2	0	0	0	5	0	20	8	8	11	17		
Broadwater	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	
Carbon	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	7	5	
Cascade	0	0	7	4	2	0	1	1	1	1	0	0	0	0	0	4	6	
Custer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	18	4	
Dawson	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	
Deer Lodge	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	
Fergus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	
Flathead	0	2	4	14	14	3	0	0	0	0	0	0	0	0	0	8	8	
Gallatin	1	3	42	55	34	7	4	0	3	0	0	2	10	26	17	35		
Glacier	0	0	0	1	2	1	0	2	0	0	0	0	0	0	0	1	1	
Golden Valley	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	
Granite	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Hill	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Jefferson	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
Lake	1	0	1	3	0	0	0	0	0	0	0	0	0	4	1	2		
Lewis and Clark	0	3	6	4	3	0	0	0	0	0	0	0	2	1	3	3		
Liberty	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Lincoln	0	0	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	
Madison	0	1	2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	
Meagher	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Missoula	0	4	5	9	11	6	4	0	0	0	0	0	0	0	0	9	18	
Musselshell	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
Park	0	0	1	5	1	0	0	1	0	0	0	0	0	0	0	0	1	
Pondera	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	
Ravalli	0	1	0	1	1	2	0	0	0	0	8	0	1	1	2	5		
Richland	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	3	4	
Roosevelt	0	1	0	0	2	3	1	0	0	0	0	0	0	0	0	0	0	
Rosebud	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	6	2	
Silver Bow	1	0	8	2	0	0	0	0	0	0	0	0	0	0	0	0	2	
Stillwater	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1		
Toole	0	0	4	8	8	9	0	0	0	0	0	0	0	0	0	2	0	
Treasure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Valley	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
Wheatland	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
Yellowstone	1	4	18	15	19	13	7	4	1	3	3	2	14	4	12	29		
MONTANA	5	19	107	135	111	49	19	8	5	10	11	25	35	48	109	155		

COVID-19 cases reported in the past four weeks

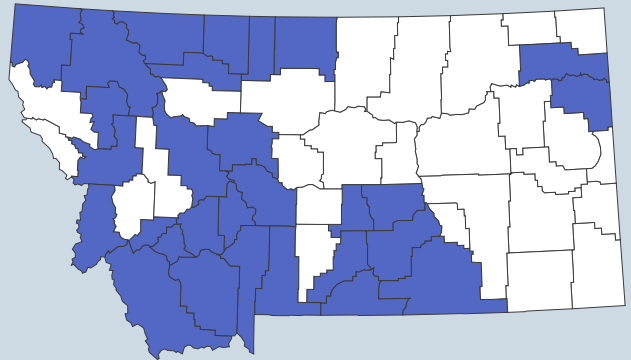
County	5-Jun	12-Jun	19-Jun	26-Jun	Total	Percent	Trendline
Gallatin	10	26	17	35	88	25.9	
Yellowstone	14	4	12	29	59	17.4	
Big Horn	8	8	11	17	44	12.9	
Missoula	0	0	9	18	27	7.9	
Custer	0	3	18	4	25	7.4	
Flathead	0	0	8	8	16	4.7	
Carbon	0	0	7	5	12	3.5	
Cascade	0	0	4	6	10	2.9	
Lewis and Clark	2	1	3	3	9	2.6	
Ravalli	1	1	2	5	9	2.6	
Rosebud	0	0	6	2	8	2.4	
Dawson	0	0	1	7	8	2.4	
Lake	0	4	1	2	7	2.1	
Richland	0	0	3	4	7	2.1	
Stillwater	0	1	1	1	3	0.9	
Fergus	0	0	2	0	2	0.6	
Toole	0	0	2	0	2	0.6	
Glacier	0	0	1	1	2	0.6	
Valley	0	0	1	0	1	0.3	
Park	0	0	0	1	1	0.3	
MONTANA	35	48	109	148	340		

MONTANA COVID-19 CASES

210 cumulative cases reported

22 counties

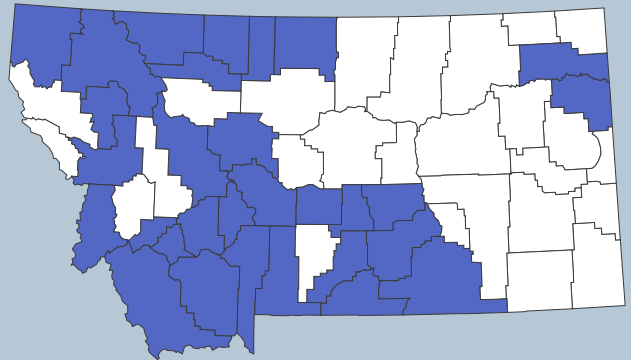
MARCH 31, 2020



452 cumulative cases reported

27 counties

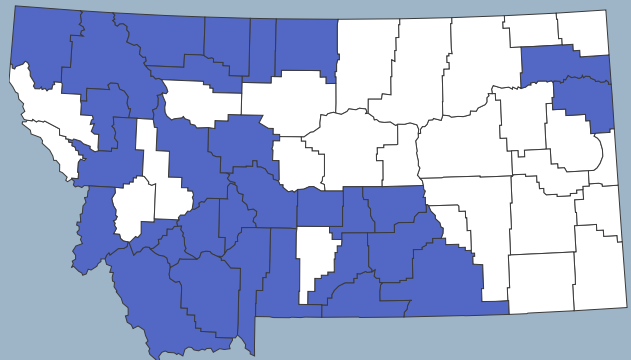
APRIL 30, 2020



505 cumulative cases reported

30 counties

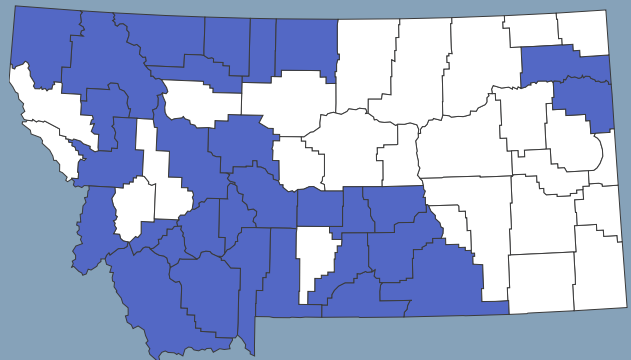
MAY 31, 2020



539 cumulative cases reported

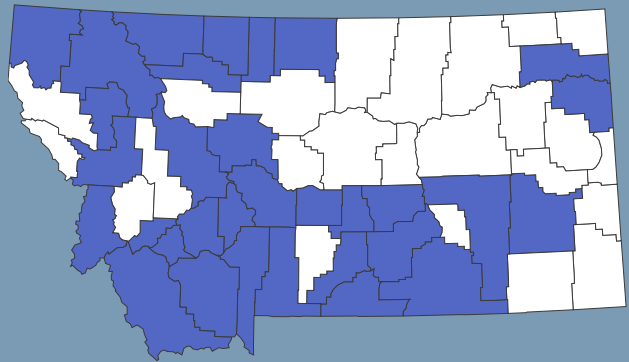
30 counties

WEEK ENDING 6/5



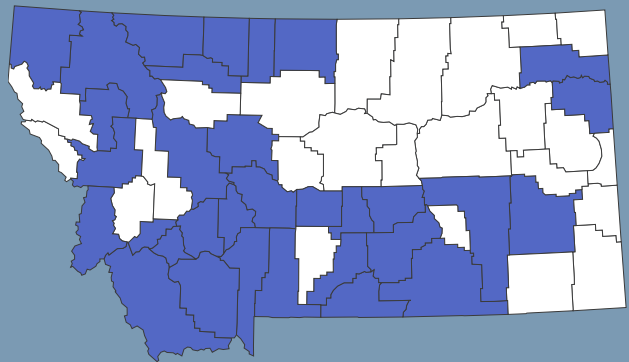
MONTANA COVID-19 CASES

587 cumulative cases reported
32 counties



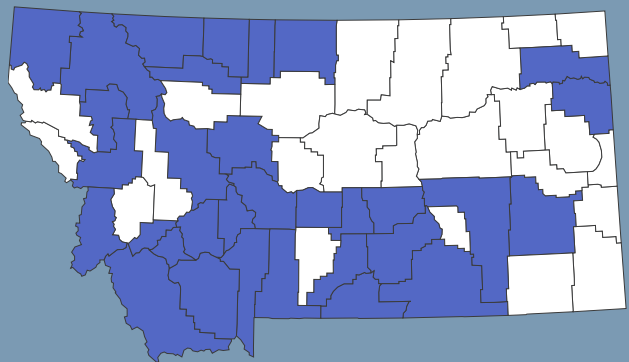
WEEK ENDING 6/12

696 cumulative cases reported
32 counties



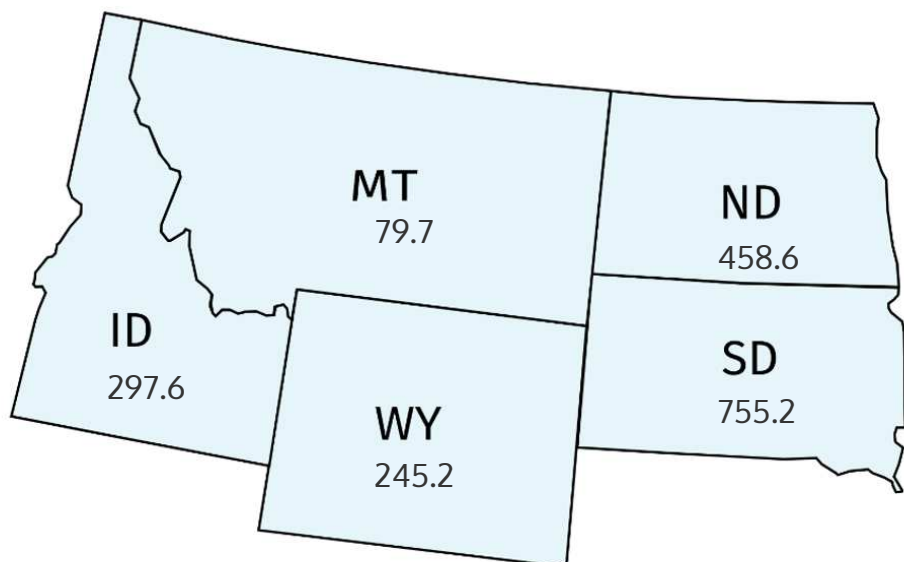
WEEK ENDING 6/19

852 cumulative cases reported
37 counties



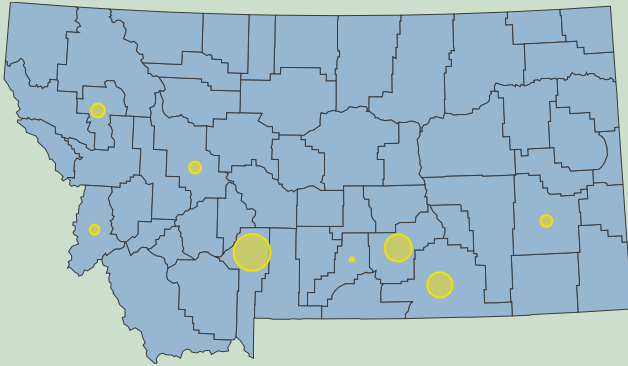
WEEK ENDING 6/26

COVID-19 Case Rates Per
100,000 Population -
Montana and neighboring
states, June 26, 2020



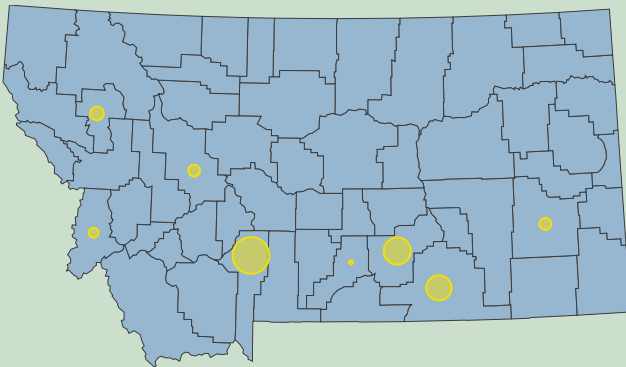
MONTANA COVID-19 CASES

COVID-19 Cases by Report Date -- May 30 - June 12, 2020



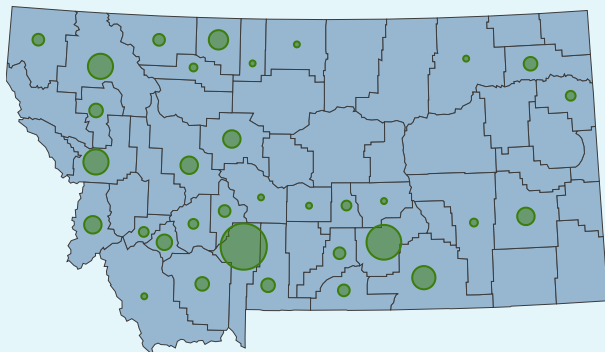
Cases: 83
Counties: 8
Range: 1-36

COVID-19 Cases by Report Date -- June 13-26, 2020



Cases: 290
Counties: 26
Range: 1-52

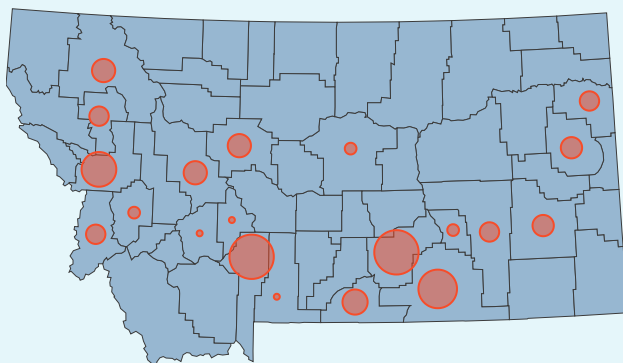
Recovered COVID-19 Cases -- Montana, June 26, 2020



Recovered: 604
Counties: 33
Range: 1-197

Recovered COVID-19 includes cases who have recovered and are released from isolation.

Active COVID-19 Cases -- Montana, June 26, 2020



Active: 236
Counties: 22
Range: 1-42

Active COVID-19 includes cases who are hospitalized or recovering but still remain in isolation.