COVID-19 BOARD OF COMMISSIONER UPDATE

JUNE 7, 2022

Data as of June 6, 2022

CONTENTS

EXECUTIVE SUMMARY

The following report contains COVID-19 related data from May 20, 2022, to June 2, 2022, on the 5 mitigation components Allegan County Health Department (ACHD) previously identified. Allegan County is currently in a low COVID-19 community level, but the Test Positivity Rate for Allegan County has been trending **upward** for eight consecutive weeks. ACHD continues to monitor local, statewide, and global COVID-19 data, and continues to follow Michigan Department of Health and Human Services (MDHHS) and the Centers for Disease Control and Prevention (CDC) recommendations.

This report contains information on the importance of staying up-to-date on COVID-19 vaccinations and boosters to help prevent the spread of COVID-19, information on COVID-19 rebound and Paxlovid, information and resources for parents on how to keep your children safe from COVID-19 during the end of the school year and at summer activities, and more. Check out the Appendices section of this report for educational graphics on resources in the Allegan County area.

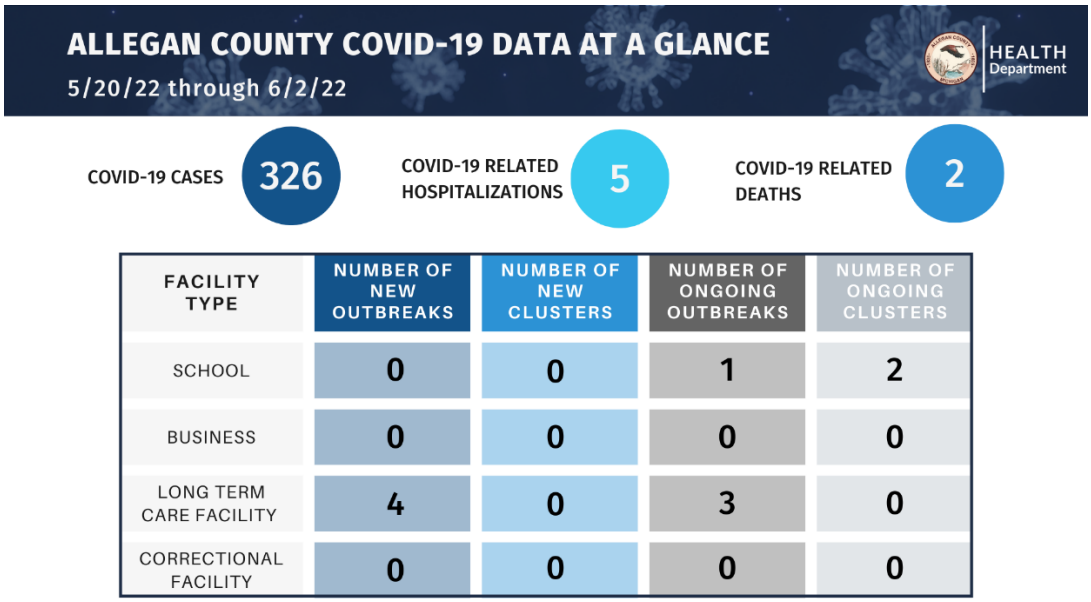
ACHD is looking to expand this report to include other public health topics, including monkeypox, avian influenza, groundwater, and more. After this June 7th COVID-19 Update, the name of the report will change to "BOC COVID-19 and Other Public Health Emerging Topics Update." With the recent activity of monkeypox in the United States, there is a section of monkeypox surveillance towards the end of this report.

As Allegan County remains in a low COVID-19 Community level. These Community Levels can be low, medium, or high and **are determined by looking at hospital beds being used, hospital admissions, and the total number of new COVID-19 cases in an area.** Find more about COVID-19 Community levels here.

ACHD continues to recommend the following:

- Staying up-to-date on your COVID-19 vaccines
- Getting tested if you have symptoms, before and after traveling, and before gathering with others.

An overview of COVID-19 data in Allegan County from 5/20/22 to 6/2/22 can be found in the graphic below:



FACILITY TYPE	NUMBER OF NEW OUTBREAKS	NUMBER OF NEW CLUSTERS	NUMBER OF ONGOING OUTBREAKS	NUMBER OF ONGOING CLUSTERS
SCHOOL	0	0	1	2
BUSINESS	0	0	0	0
LONG TERM CARE FACILITY	4	0	3	0
CORRECTIONAL FACILITY	0	0	0	0

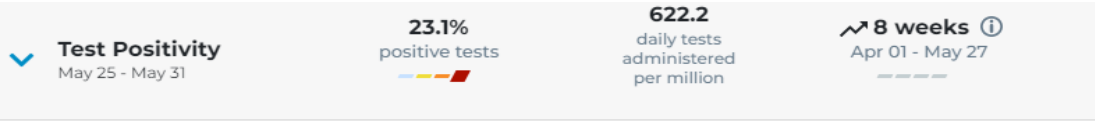
COVID-19 MITIGATION COMPONENTS

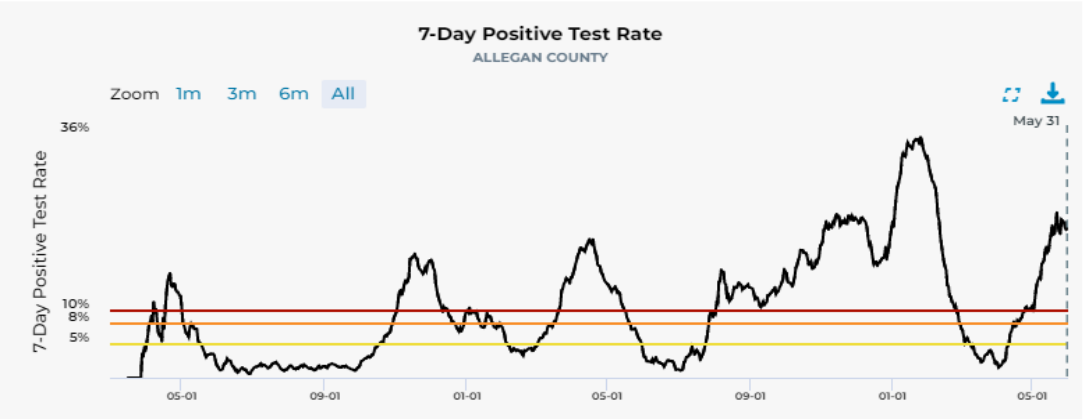
Allegan County currently is at a low community transmission level for COVID-19. At this time, ACHD is encouraging residents to stay up-to-date with their COVID-19 vaccines, be tested if they develop symptoms, and consider wearing a mask when needed.

COVID-19 Community Levels are a tool to help communities decide what prevention steps to take based on the latest data. Levels can be low, medium, or high and are determined by looking at hospital beds being used, hospital admissions, and the total number of new COVID-19 cases in an area. Find more about COVID-19 Community levels here.

ENHANCED ABILITY TO TEST

COUNTY-LEVEL DATA AS OF MAY 31, 2022





The Test Positivity Rate for Allegan County has been trending **upward** for eight consecutive weeks. **The 7-day positivity rate for Allegan County as of May 31 is 23.1% with 622.2 daily tests administered per million. This indicates a 2.1% increase in the 7-day positivity compared to the 5/11/2022 to 5/17/2022 reporting period, which had 825.5 daily tests administered per million.**

TEST AVAILABILITY

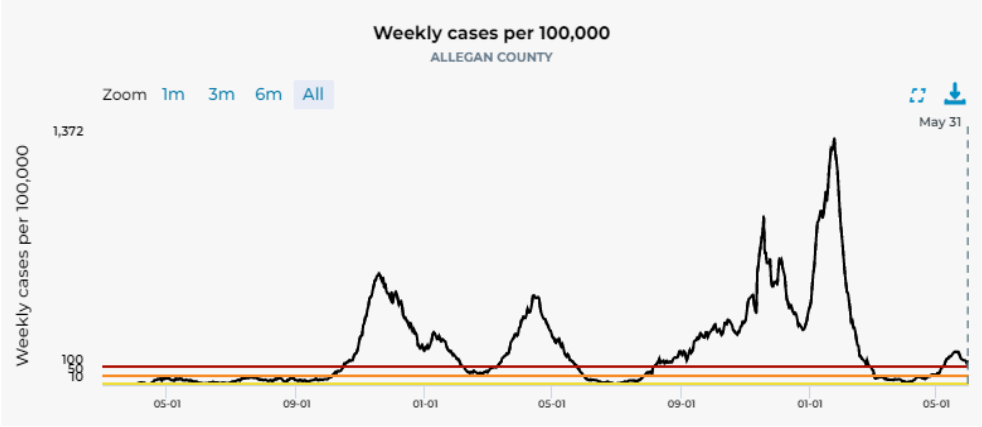
Demand for testing has remained low since the Omicron surge. Daily tests administered in Allegan County have also remained low.

Currently, there are multiple options in Allegan County where residents can obtain at-home testing kits or get tested for COVID-19. At this time, at-home tests are not reported in the Michigan Disease Surveillance System (MDSS) and therefore, are not included in the test positivity rates or case counts.

See Appendix below for a list of testing resources available to community members.

ROBUST CASE INVESTIGATION AND CONTACT TRACING

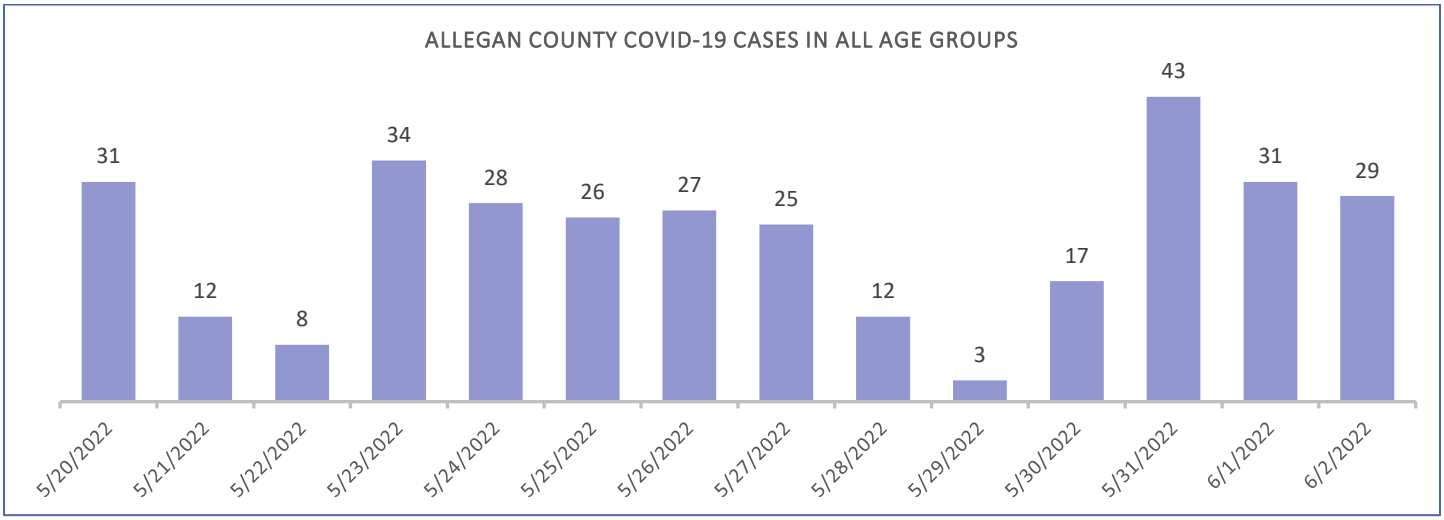
ALLEGAN COUNTY COVID-19 COMMUNITY LEVEL: LOW

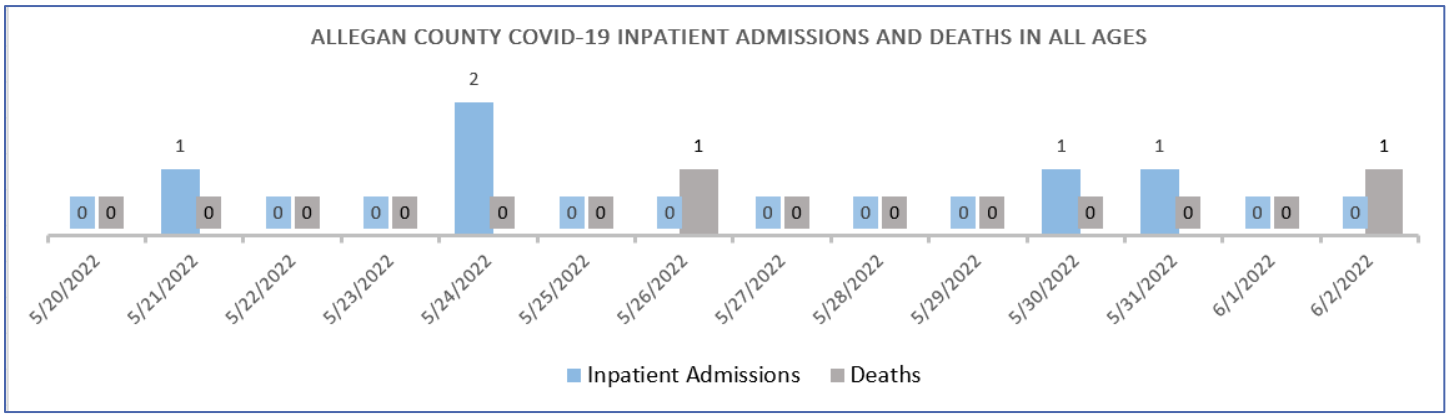


As of 5/31/2022, Allegan County remained at a low COVID-19 community level based on the CDC framework. **Models showed a significant decrease in cases compared to the 5/11/2022 to 5/17/2022 reporting period.** **During the period 5/25/2022 to 5/31/2022, Allegan County's new weekly case rate was 129.6 per 100,000 population with 153 weekly cases.**

Weekly cases decreased more than 28% since the 5/11/2022 to 5/17/2022 reporting period (177.8 per 100,000 and 210 weekly cases).

OVERVIEW OF COVID-19 CASES AND DEATHS IN THE LAST TWO WEEKS (5/20/2022 – 6/2/2022)





DURING 5/20/2022 TO 6/2/2022:

- **326 total cases** were reported via the Michigan Disease Surveillance System (MDSS) for Allegan County.
  - 252 confirmed cases and 74 probable cases related to SARS-CoV2 infection as reported.
- 20.9% of the cases were reported in the 30 to 39 age group, which had the highest number of cases during this timeframe.
- **Five hospitalizations** related to SARS-CoV-2 infection that were reported for Allegan County.
- **Two deaths** related to SARS-CoV-2 infection that were reported for Allegan County.
- 5.5% of the cases were reported to be related to international, domestic, and/or in-state travel.
- From 5/19/2022 to 6/1/2022, Allegan County had a reported[1] positivity rate of 21.7%, which is up from 19.7% that was reported for the previous 14-day time period of 5/6/2022 to 5/18/2022.

ACHD continues to monitor the COVID-19 metrics for hospitalizations and deaths as this can show the risk of a medically significant COVID-19 variant or healthcare system strain.

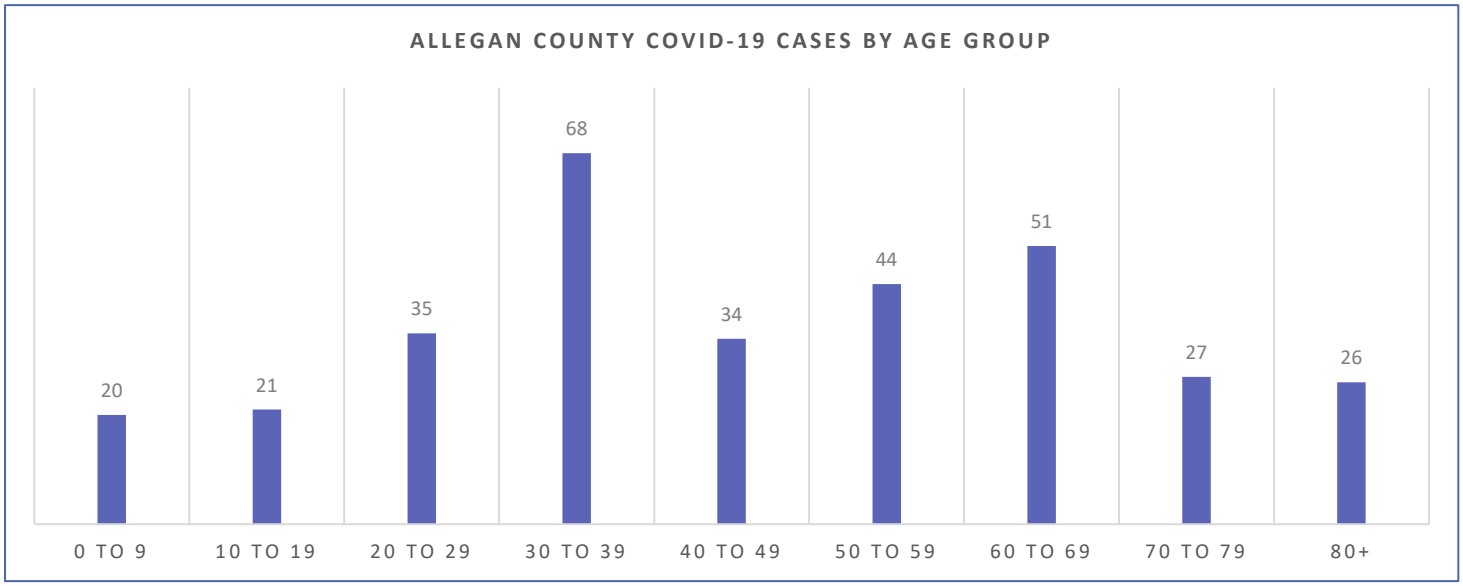
CASE INVESTIGATION[2]

ACHD is currently working to investigate all communicable disease cases. Prioritized groups for case investigation, when applicable, include individuals over the age of 65, school-aged individuals, and individuals that live or work in congregate care settings. During

[1] Michigan Health Alert Network (MI-HAN) Regional Data File
[2] Case investigation consists of contacting the individual and asking standard questions related to the disease and identifying those who might have been exposed.

the case investigation process, ACHD works to ensure all basic needs are being met for individuals and their families. All cases receive a Patient Education Genius (PEG) notification that is provided via email or text messages for a case investigation form.

CASES IN THE LAST TWO WEEKS, BY AGE GROUP (5/20/2022 – 6/2/2022)



From 5/20/2022 to 6/2/2022, 5.2% of cases were reported as asymptomatic in the Michigan Disease Surveillance System (MDSS). As displayed in the chart above, the school-age population continues to stay at a slower surge compared to other age groups, which is similar with the current statewide pattern of case rates. Overall, cases in all age groups are plateauing across Michigan.

- **11.3%** of investigated cases were **household close contacts**[3]
- **1.2%** of cases were reported as **community contacts**[4]
- **9.8%** of cases were close contacts to those who work or live in a **high-risk/congregate facility** in Allegan County.

Notifying close contacts helps individuals know about exposure and allows close contacts to make decisions that are more informed on their day-to-day lives.

326 cases were reported in the MDSS from 5/20/2022 to 6/2/2022

EXPOSURE LETTERS AND CLOSE CONTACTS

ACHD sends potential Exposure Letters for COVID-19, similar to other communicable disease letters. Potential Exposure Letters are sent to school-aged individuals based on classroom and bus lists provided by schools. Quarantine might be required if there is an identified outbreak or ongoing spread in the facility. Recommendations regarding masking and quarantine may change as conditions evolve or if Allegan County moves to a high level of community transmission, based on the CDC framework.

6,916 exposure letters were sent out as of June 6, 2022

0 close contacts are currently being monitored as of June 6, 2022

OUTBREAKS & CLUSTERS

[3] Household contact: person lived with someone who tested positive and later tested positive themselves.
[4] Community contact: person who was identified as a close contact in a setting other than a household

The following table shows the number of outbreaks that ACHD has identified for high-risk settings in Allegan County as of June 2, 2022. **ACHD has identified four new outbreaks related to Long-Term Care Facilities[5] since the last update.** No new outbreaks or clusters were identified for schools since the last report on May 24, 2022. ACHD has not identified any new outbreaks for businesses since February 17, 2022. ACHD reported three new outbreaks, two ongoing[6] clusters and four ongoing outbreaks in MDHHS' Situation Report as of June 2, 2022.

ACHD has a Business Mitigation Strategies Survey for businesses and Long-Term Care Facilities to complete and provide us with information on what current mitigation strategies they have in place, if there has been an outbreak identified at their location. Agencies can access the survey here.

Type of Setting	Total Number of Outbreaks*
School	18
Business	8
Long Term Care$^{\beta}$	24
Other Congregate Facilities$^{\alpha}$	2

*Includes clusters per requirement indicated in MDSS' outbreak investigation fields to assign an outbreak code for 'clusters'

$^{\beta}$Includes Skilled Nursing Facilities (SNF), Adult Foster Care (AFC), Home For the Aged (HFA), Assisted Living, and Independent Living facilities

$^{\alpha}$Includes jails, correctional facilities, and shelters

LONG TERM CARE & OTHER CONGREGATE CARE FACILITIES

An outbreak investigation is initiated when a resident at a Long-Term Care Facility (LTCF) is identified as a confirmed case of COVID-19. For correctional facilities, either a confirmed or a probable COVID-19 case will prompt an outbreak investigation. MDHHS offers further support for facilities via the Infection Prevention and Resource Assessment Team (IPRAT) when ACHD identifies facilities that are experiencing a large number of positive COVID-19 tests. As of June 2, 2022, ACHD has connected **nine** LTCFs in Allegan County with the IPRAT Team for additional mitigation assistance. During the month of May, ACHD saw a significant rise in potential outbreaks at Long-Term Care Facilities, as has been observed statewide; this trend is now showing signs of decrease. Despite the recent surge in cases related to SARS-CoV-2 infections, the **hospitalizations and deaths** at these facilities remain low. In Allegan County, a total of 49 resident probable and confirmed cases were reported in May, with **1 hospitalization** and **0 deaths**. In Michigan, the number of Long-Term Care Facilities reporting three or more cases in a single reporting period **decreased** in AFC/HFA from 36 to 25, and in Skilled Nursing Facilities (SNF) from 44 to 39 as of May 31, 2022.

Many of the Long-Term Care Facilities in Allegan County are experiencing staffing shortages. As of May 31, 202, in Michigan 31% of SNFs are reporting nursing shortages and 36% of SNFs are reporting aide shortages, which are relatively the same as last week.

479 resident cases and 52 resident deaths have been reported from January 1, 2020, to May 24, 2022[7]

According to statewide data[8], the case counts reported in both residents and staff in both Adult Foster Care (AFC)/Home for the Aged (HFA) and Skilled Nursing Facilities (SNF) **increased** since the last report, two weeks prior. Cases within LTCFs continue to be higher among staff than among residents, as has been the case throughout the Delta and Omicron surges.

787 staff cases have been reported from January 1, 2020, to May 24, 2022

SUFFICIENT HEALTH CARE CAPACITY

[5] Data from 10/21/2021
[6] The period of 28 days prior to the occurrence of an outbreak resolution
[7] The information above represents COVID-19 data reported directly to MDHHS by licensed and operating Skilled Nursing, Home for the Aged and Adult Foster Care facilities (licensed to serve 13 or more individuals) in Michigan from January 1, 2020, through May 24, 2022
[8] The data is from weekly reporting by facilities with bed occupancy of at least 13 beds

HOSPITALIZATIONS

Allegan County falls in the Region 5 Health Care Coalition. Given the location of the county, some community members will also access hospitals in the Region 6 Health Care Coalition (Grand Rapids-Holland Region). The chart below lists the hospitals that Allegan County community members may access for COVID-19 and non-COVID-19-related health needs and their current capacity levels.

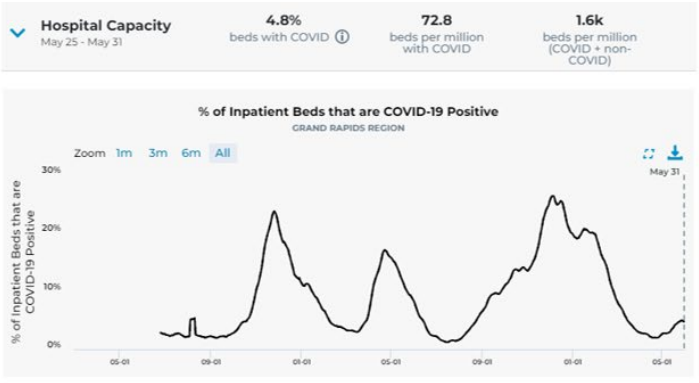
The following figures show the current percentage of inpatient beds treating COVID-19 patients, for the Grand Rapids Region (Region 6), and Kalamazoo Region (Region 5). Percentage of inpatient beds that are COVID-19 positive has been increasing for the past **4 weeks**. The **Grand Rapids Region** had **4.8%** of inpatient beds that are COVID-19 positive, as of May 31, 2022, which is **.9 % higher** than the previous reporting period, May 11 to May 17. The **Kalamazoo Region** had **4%** of inpatient beds that are COVID-19 positive, as of May 31, 2022, which is **.2 % higher** than the previous reporting period, May 11 to May 17.

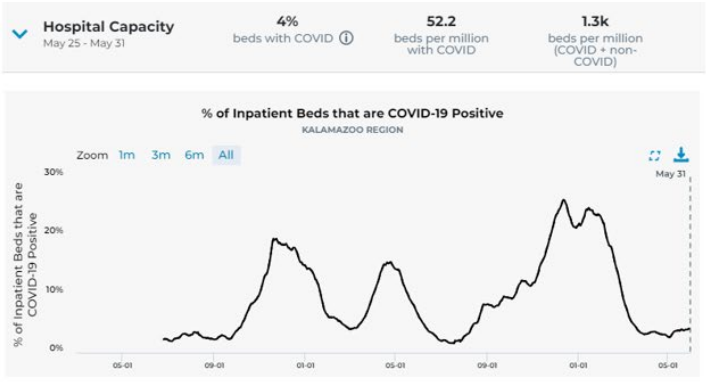
HOSPITALS IN THE ALLEGAN COUNTY AREA

Note: Some smaller hospitals might not have ICU beds for COVID-19 or non-COVID-19 patients

As of 5/30/2022

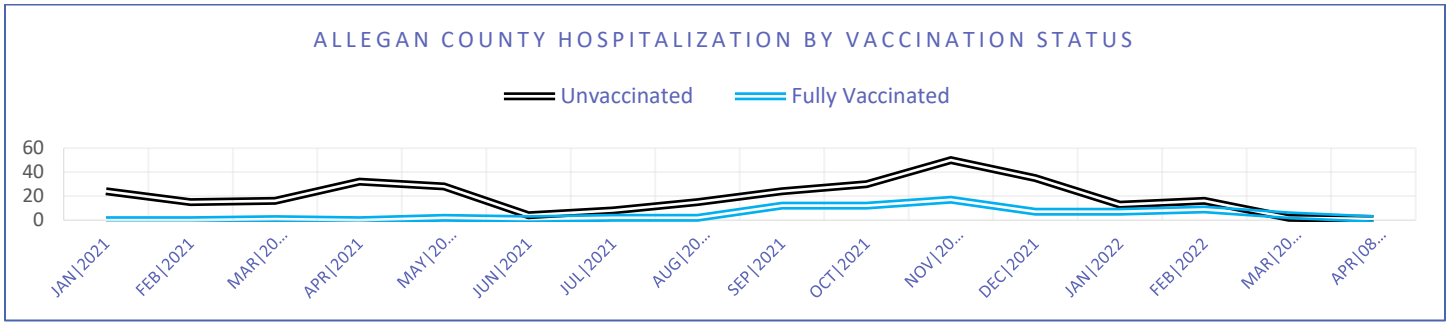
Hospital	COVID-19 Patients	COVID-19 Patients in ICU	Bed Occupancy %
Ascension Borgess Allegan Hospital	0	0	16%
Ascension Borgess Hospital	3	0	95%
Ascension Borgess-Pipp Hospital	0	0	59%
Bronson Methodist Hospital	18	1	89%
Bronson South Haven	1	0	88%
Holland Community Hospital	1	0	71%
Mercy Health Mercy Campus	22	1	74%
Mercy Health St. Mary's Main Campus	17	0	65%
Metro Health Hospital	6	0	76%
Spectrum Health - Blodgett Hospital	13	0	83%
Spectrum Health - Butterworth Hospital	26	5	85%
Spectrum Health Zeeland Hospital	1	0	42%
Spectrum Helen DeVos Children's Hospital	6	0	80%





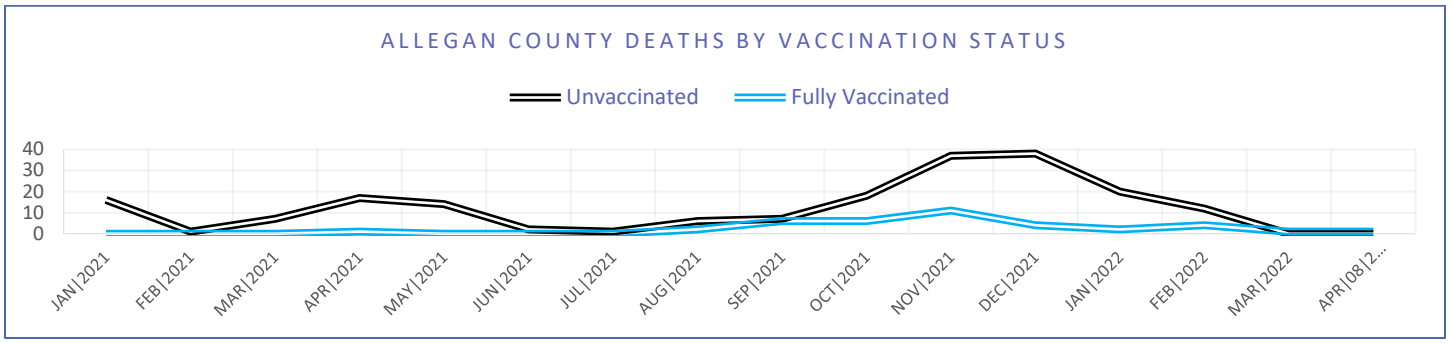
Vaccinations are effective at reducing hospitalizations from COVID-19. In Allegan County, **80.3%** of the **hospitalizations** from 1/1/2021 to 4/8/2022[9] have been in those that are **unvaccinated**.

[9] Updated data was not available at the time of publication, **see section "MDHHS Countywide Breakthrough Data Distribution Update" on page 14**



DEATHS

Similarly, vaccinations are effective at preventing deaths from COVID-19. From 1/1/2021 to 4/8/2022[10], **83.8%** of **COVID-19 deaths** were identified in **unvaccinated** Allegan County individuals.



BEST PRACTICES

SCHOOLS

Children ages 5 and up are now eligible to receive COVID-19 booster doses at least 5 months after receiving their primary vaccine series. ACHD encourages parents to keep their children up-to-date with their COVID-19 vaccinations to help prevent COVID-19 from spreading at school. As the school year ends, and summer activities start up, it's also important to keep children safe based on your COVID-19 Community Level. Parents can learn more COVID-19 Community levels, and about keeping their children COVID-19 safe in and out of school here.

[10] Updated data was not available at the time of publication. **See section "MDHHS Countywide Breakthrough Data Distribution Update" on page 14.**

ACHD has identified one new outbreak and one new cluster related to schools as of May 19, 2022. School related COVID-19 clusters and outbreaks are reported by ACHD each week to the Michigan Department of Health and Human Services (MDHHS). Weekly data on these clusters and outbreaks can be viewed here.

BUSINESSES

Businesses should continue to ensure increased ventilation, social distancing when possible, frequent handwashing, individuals staying home when sick and enhanced cleaning. These strategies help keep a healthy workplace.

COMMUNICATIONS

COVID-19 Health Education has been a mandated service in this response. The following are metrics related to COVID communication efforts from 5/20/2022 – 6/2/2022:

- 5 Social media posts
- 9 Education materials created/updated

COMMUNITY VACCINATION/HERD IMMUNITY/TREATMENT

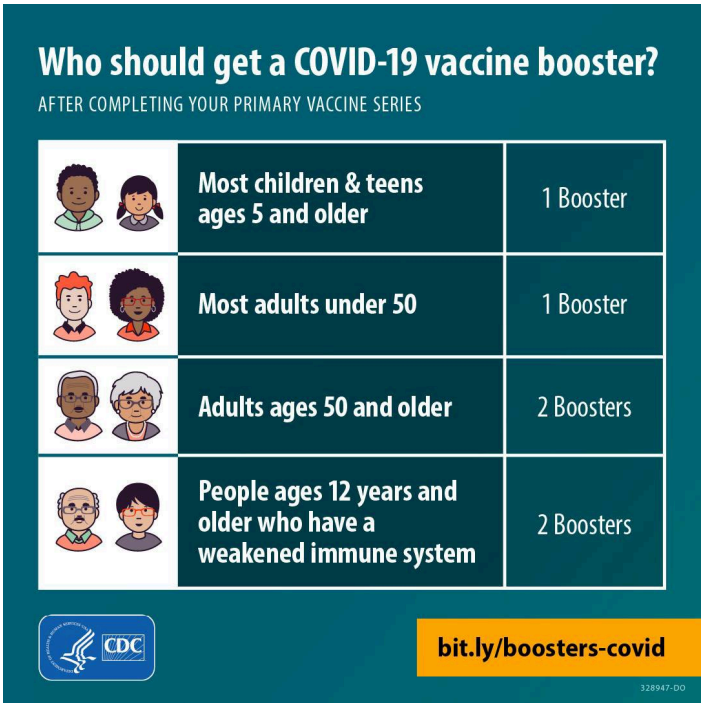
STAYING UP-TO-DATE ON COVID-19 VACCINES AND BOOSTERS

After vaccination, your body's ability to fight off COVID-19 can decrease over time. COVID-19 vaccine boosters can further enhance or restore protection that might have decreased over time after your primary series vaccination.

Those eligible for COVID-19 boosters at this time are:

- Everyone ages 5 years and older should get 1 booster after completing their COVID-19 vaccine primary series.
- Adults ages 50 years and older should get 2 booster doses after completing their COVID-19 vaccine primary series.
- People ages 12 years and older who are moderately or severely immunocompromised should get 2 booster doses after completing their COVID-19 primary series.

The Centers for Disease Control and Prevention (CDC) also released a new tool that lets you quickly see if and when you're eligible for a COVID-19 booster.



To view the COVID-19 Vaccination Schedule click here. To view the Immunocompromised COVID-19 vaccination schedule click here.

COVID-19 REBOUND AND PAXLOVID

In December 2021, a COVID-19 antiviral—Paxlovid—was authorized by the Food and Drug Administration (FDA) for emergency use in adults and pediatric patients 12 years of age and older in the United States. Paxlovid is a prescription oral antiviral drug that reduces the risk of hospitalization and death for patients with mild to moderate COVID-19 who are at risk of disease progression and severe illness. While Paxlovid does not prevent infection, it does prevent hospitalization and death by 90% among high-risk individuals.

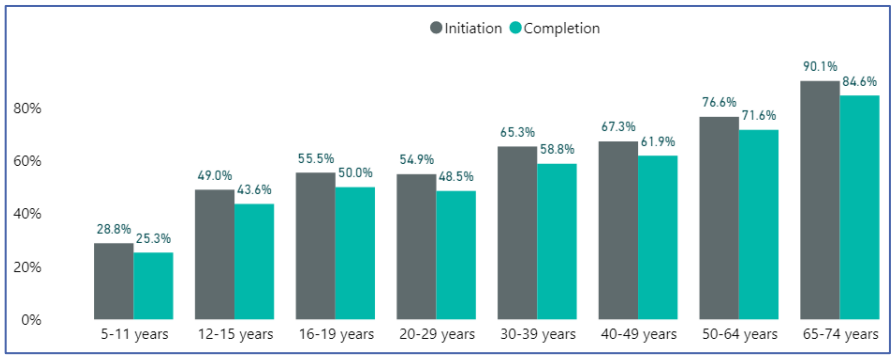
Data as of June 6, 2022

In recent case reports there are some patients who have completed a 5-day course of Paxlovid experiencing illness 2 to 8 days later, including patients who have been vaccinated and/or boosted and tested negative after recovering from initial infection. This is often referred as COVID-19 rebound. COVID-19 rebound is a recurrence of COVID-19 symptoms or a new positive viral test after having tested negative. It has been reported to occur between 2 and 8 days after initial recovery and may be part of the history of SARS-CoV-2 (virus that caused COVID-19) regardless of treatment with Paxlovid and vaccination status. Those who are experiencing a recurrence of COVID-19 symptoms or a new positive viral test after having tested negative should restart isolation and isolate again for at least 5 days and follow the CDC recommendations regarding isolation.

It has been recorded that those who have been treated with Paxlovid, and has experience COVID-19 rebound, have had mild illness and there are currently no reports of severe disease. COVID-19 treatments like antivirals and MAB have been recommended to treat those who are experiencing mild to moderate COVID-19 among persons at high risk for progression to severe disease. Paxlovid continues to be one of those COVID-19 treatments that is recommended. These options will help lower risk of hospitalization, death, progression to severe disease, and serve as a tool for those who have tested positive. If you or someone you know have tested positive for COVID-19 please refer to the CDC Quarantine and Isolation Guidelines.

For more information, visit the CDC Health Alert Network (HAN) on Paxlovid Rebound.

COVID-19 VACCINE COVERAGE BY AGE GROUP



As of 6/4/2022

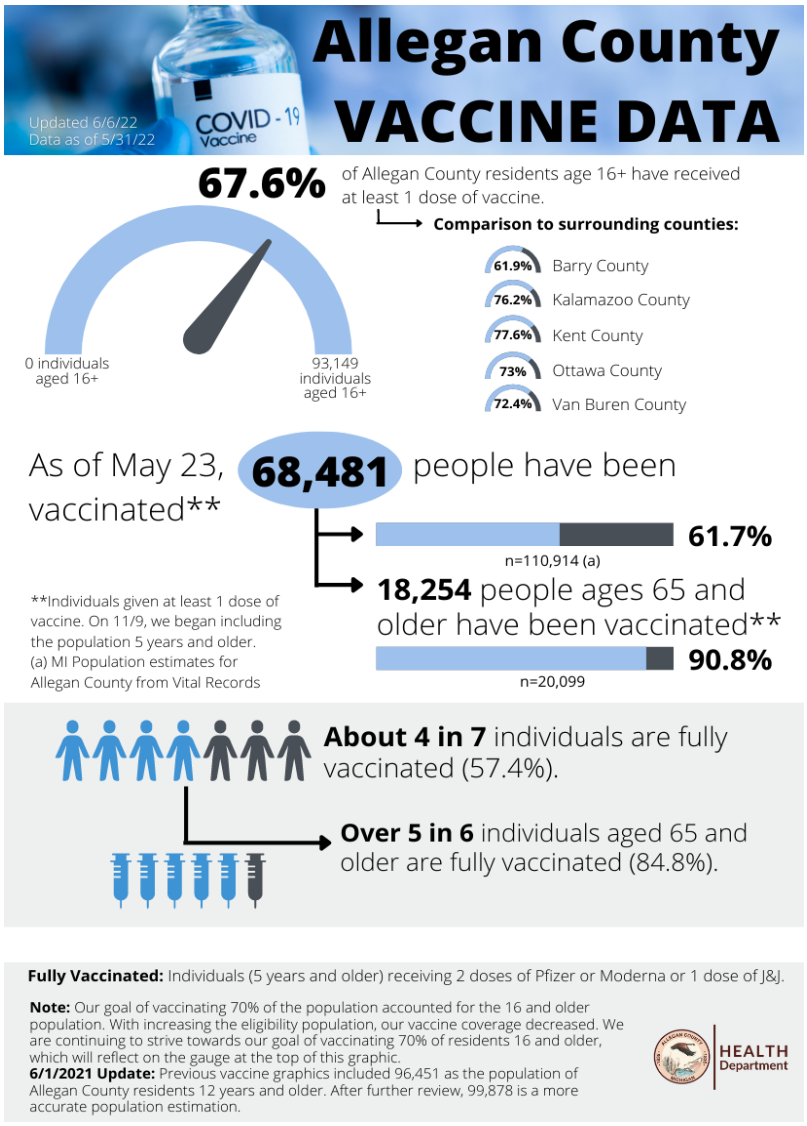
Residents aged **50+** have the highest percentage of vaccination, with these individuals meeting the 70% vaccination goal. Low vaccine rates seen in young children and adolescents may be due to the fact that emergency use was not authorized for this cohort until later on. Vaccine rates for ages **5-49** have been relatively stagnant since March 2022; vaccination rates for this group only increased about 1% since then.

VACCINE AVAILABILITY

Vaccine availability remains high as pharmacies, doctor's offices, and health care systems are administering vaccines. ACHD has vaccine appointments available for vulnerable populations or children in the Vaccine for Children program.

Residents are encouraged to visit www.vaccinefinder.org and www.vaccinatewestmi.com to find vaccination clinics near them, or call ACHD at 269-673-5411 to schedule an appointment.

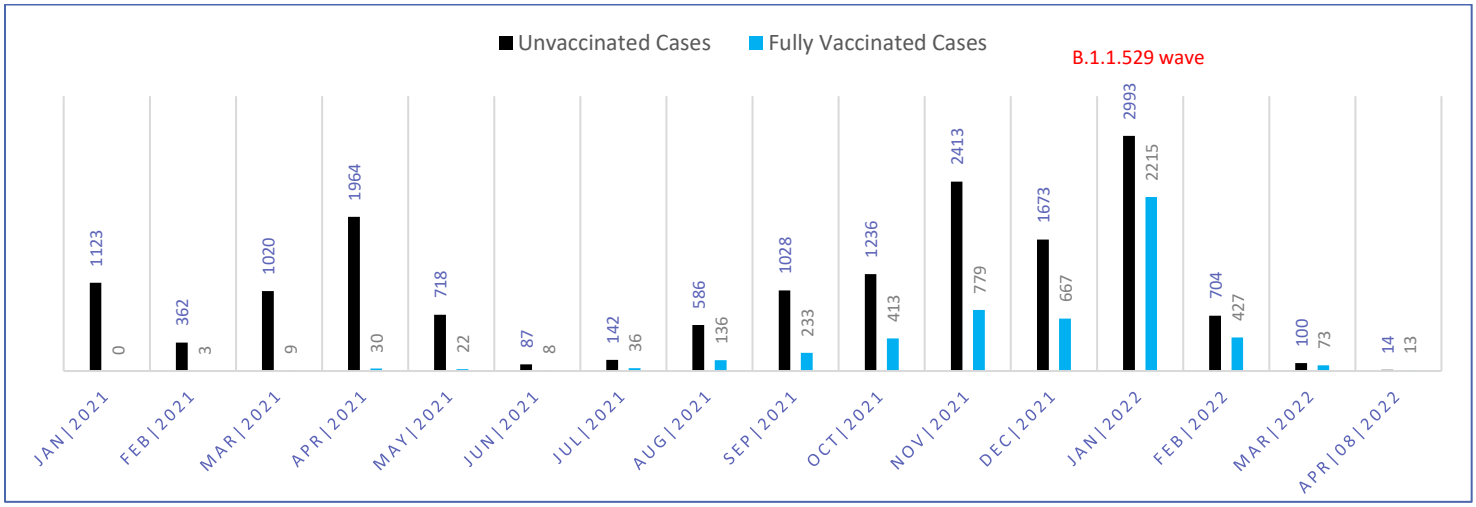
ACHD works with businesses and organizations offering support and/or vaccination clinics if there is an outbreak detected and assistance needed.

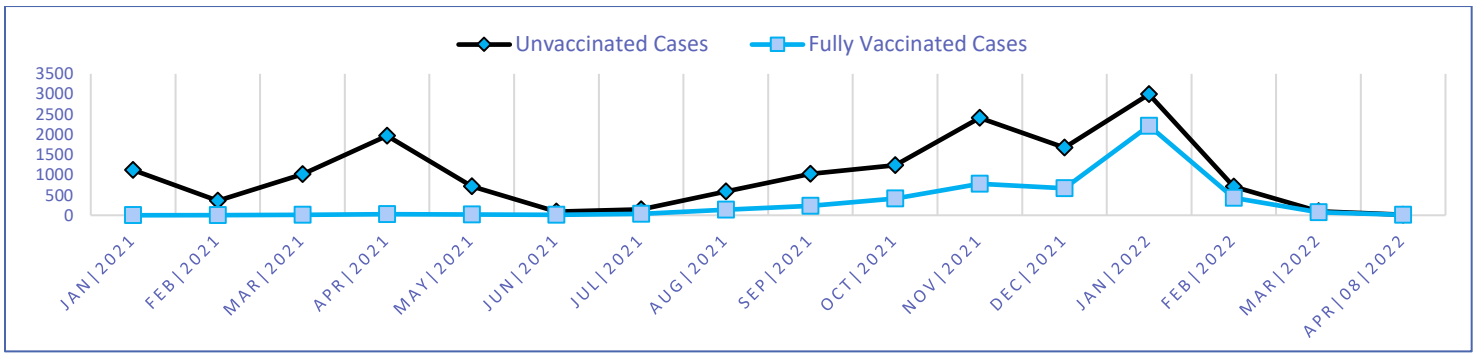


EFFECTIVENESS

ALLEGAN COUNTY UNVACCINATED AND FULLY VACCINATED COVID-19 CASES BY REFERRAL DATES 01/01/2021 TO 04/08/2022[11]

[11] Updated data was not available at the time of publication, **see section "MDHHS Countywide Breakthrough Data Distribution Update" on page 14**





When comparing fully vaccinated cases to unvaccinated cases, it is important to note that unvaccinated cases are more likely to occur even though fully vaccinated cases have increased since July 2021. As seen in the charts, the unvaccinated (black line) has more cases compared to the fully vaccinated (blue line).

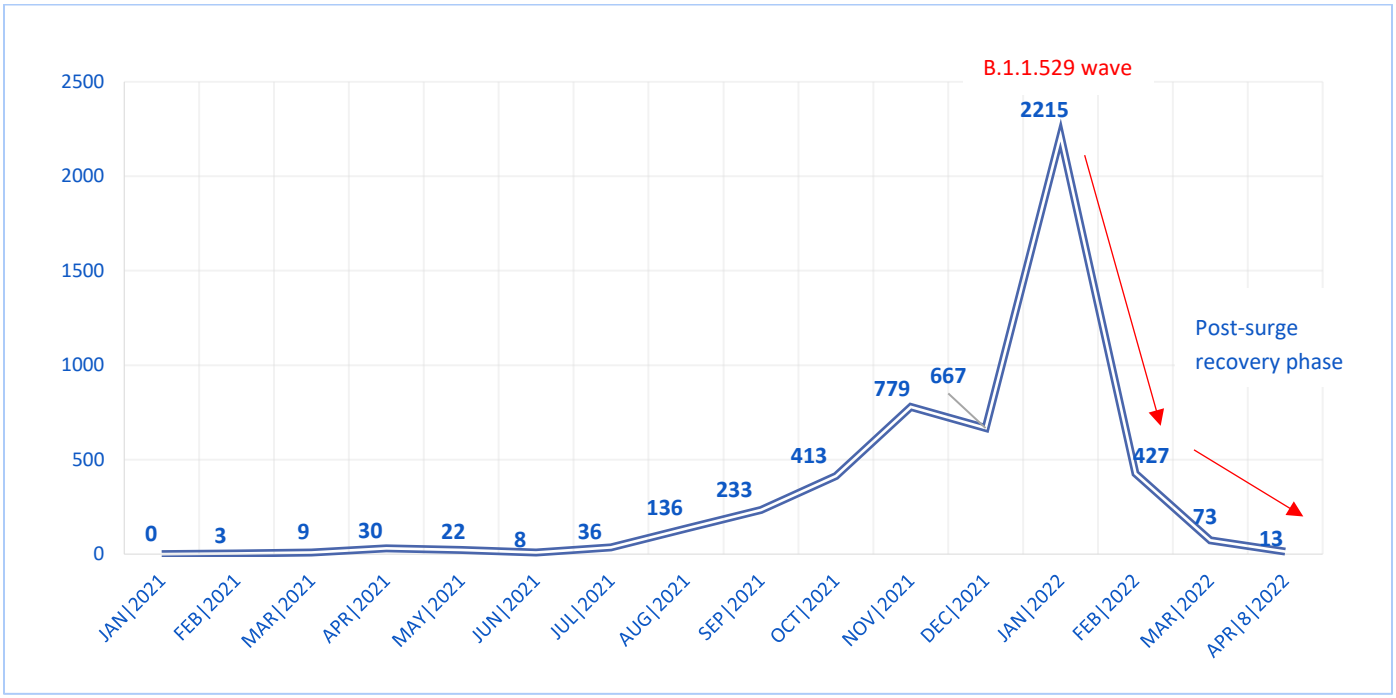
AS OF APRIL 08, 2022:

- 76% of the cases reported during this timeframe were identified as unvaccinated persons and 24% of cases met the CDC's case definition of a *breakthrough case*[12]
- Overall case rates as of April 8, 2022, indicate a continuation of Michigan in the *recovery phase*[13]
- Both unvaccinated and vaccinated cases saw an increase across all age groups during the *Omicron variant (B.1.1.529)* wave and plateauing during the *recovery phase*
- There were no hospitalizations and deaths that were reported in the 0 to 27 age group in fully vaccinated cases
- The data and modeling completed by MDHHS as of May 3, 2022, observed that through March (2022), unvaccinated individuals had a 1.8 times higher risk of testing positive for SARS-CoV-2 infection compared to individuals who were up to date on vaccinations. Individuals that were unvaccinated in the age group of 12 years and older had 2.8 times the risk of testing positive for COVID-19.

OVERVIEW OF ALLEGAN COUNTY COVID-19 BREAKTHROUGH CASES AS OF APRIL 08, 2022[14]

[12] Breakthrough case is defined as a SARS-CoV-2 infection occurring in an individual who is fully vaccinated (CDC)
[13] Recovery phase is the post-surge time period in which no immediate resurgence is predicted, and local and state public health will monitor conditions leading to future surges (MDHHS)
[14] Updated data was not available at the time of publication, **see section "MDHHS Countywide Breakthrough Data Distribution Update" on page 14**

Data as of June 6, 2022



AS OF APRIL 08, 2022:

- There were **23.9% (5,064) fully vaccinated cases** identified[15] from January 01, 2021, to April 08, 2022
- 8% of cases (including all ages) were reported as breakthrough cases
- 5.6% of cases in the 0 to 19 age group were reported as breakthrough cases
- 379 cases in the 0 to 18 age group were persons that met the CDC definition of being fully vaccinated or breakthrough case related to SARS-CoV-2 infection
- There were 1,045 cases (including all ages) with a specimen collection date ≥ 14 days after receipt of an additional or booster dose of any COVID-19 vaccine on or after August 13, 2021
- There have been no hospitalizations or deaths related to SARS-CoV-2 infection reported in the 5 to 11 age group.
- 2.8% of the cases in the latest vaccine eligible group of age 5-11 were reported as breakthrough cases
- 18.4% of cases were reported in the 50 to 59 age group, which is the group with the highest number of COVID-19 breakthrough cases
- The youngest fully vaccinated individual hospitalized related to SARS-CoV-2 infection was reported in the 20 to 29 age group
- The youngest fully vaccinated individual that died related to SARS-CoV-2 infection was reported in the 40 to 49 age group
- Both hospitalizations and deaths that had met the CDC's criteria of 'breakthrough cases' related to SARS-CoV-2 infection were seen to plateau during the post-surge recovery phase

MDHHS COUNTYWIDE BREAKTHROUGH DATA DISTRIBUTION UPDATE

MDHHS has discontinued the countywide distributions of breakthrough cases as of April 27, 2022. The last and final breakthrough data that was reviewed on an individual case level was completed for Allegan with a total number of 5,064 fully vaccinated cases as of April 8, 2022. **In the future, ACHD will be looking into ways to provide this level of information for individual cases by utilizing the case data reported via MDSS; however, we are currently exploring the limitations and challenges associated with this type of data export.** Due to the determination that calculating incidence risk ratios or vaccine effectiveness

[15] Identified via the MDSS-MCIR match criteria by referral, onset, diagnosis, or specimen collection dates.

using reduced sample sizes is not recommended for Local Health Jurisdictions (LHJ), **MDHHS continues to recommend that the best source available for LHJs to follow COVID-19 data by vaccination status is CDC COVID Data Tracker.**

Michigan is following the recommendation of the CDC and investigating breakthrough COVID-19 cases on a population-level, rather than on a case level. This means that while MDHHS will continue to investigate trends and the overall incidence of COVID-19 breakthrough cases and deaths, however, will not regularly investigate the individual cases for specific identifiers[16]. Statewide trends will continue to be updated weekly for Michigan in the data and modeling slide decks.

The data surrounding the rates of breakthrough cases, and burden of hospitalizations and deaths related to the SARS-CoV-2 infection, is further captured by learning How and Why CDC Monitors Vaccine Effectiveness. **Fully vaccinated individuals are less likely to develop serious infections, and are less likely to become hospitalized or die from a SARS-CoV-2 infection.**

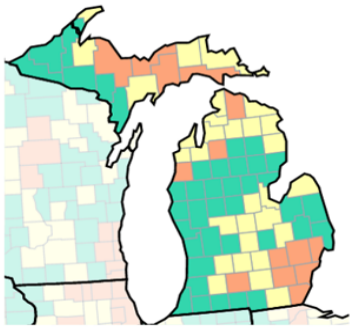
The breakthrough analysis provided by the CDC is a robust picture of current statistics and data for breakthrough cases, and follows a rigorous assessment of overall trends rather than looking at individual cases. For more information and the latest data on rates of COVID-19 breakthrough cases, hospitalizations, and deaths, please refer to CDC COVID Data Tracker: Rates of COVID-19 Cases and Deaths by Vaccination Status.

COVID-19 SURVEILLANCE

The main component of communicable disease investigation is surveillance, which is used to identify outbreaks or surges in cases regionally, statewide, nationally, and globally. ACHD has noted that there are increases related to COVID-19 activity from the BA.2 Omicron sub-variant in other areas of the world. In past data trends, the pattern indicating an increase in the case counts in other countries is also seen in the United States. ACHD continues to monitor these case surges.

STATEWIDE COVID-19 SURVEILLANCE

Statewide, as of **June 01, 2022**, Michigan Coronavirus Data reports a total of **2,547,366 cases** and **36,407 deaths** related to the SARS-CoV-2 infection.



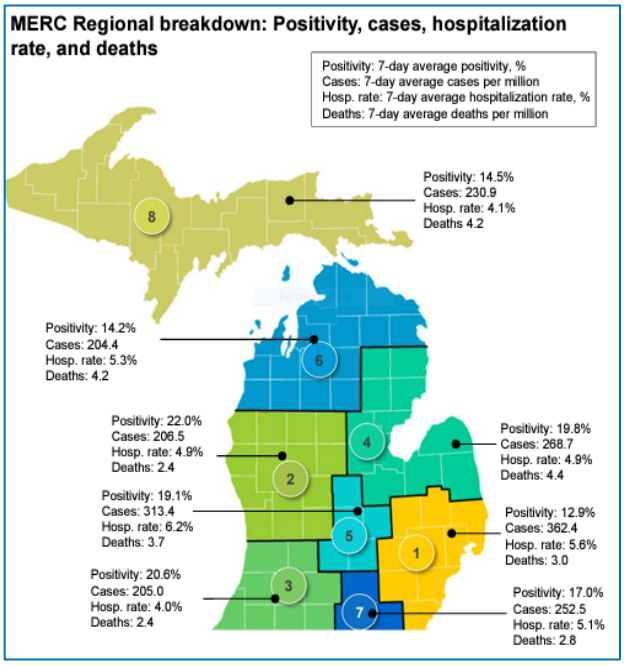
Percent of Counties

	United States	Michigan	Percent of MI Population
Low	72%	47%	27%
Medium	21%	36%	24%
High	8%	17%	49%

In the May 31 MDHHS' data and modeling update, **17%** of Michigan counties are at **High COVID-19 Community Levels** and **47%** continue to be at **Low Community Levels**, data as of May 26, 2022. Currently, 49% of the residents in Michigan are living in a county categorized as a High COVID-19 community level. Michigan counties that are at Medium COVID-19 community levels are currently at 36% percent, which is a slight increase from 34% during the week of May 16, 2022, and now includes 24% of the population in Michigan.

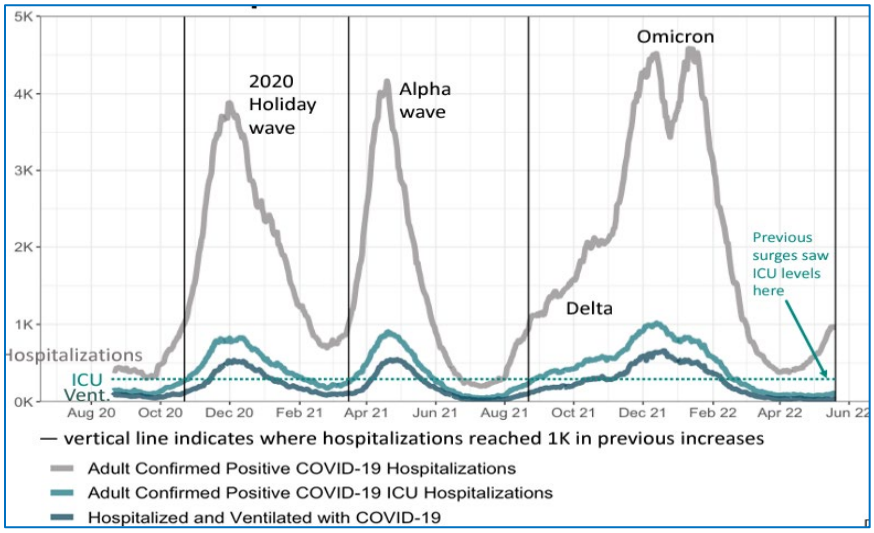
Case rates are currently seen as plateauing across Michigan. The 7-day **case rates in all age groups are plateauing or decreasing** in both daily confirmed and probable cases per million by age group. Most age groups have seen a decrease in hospitalizations during the week of May 29, 2022. Data and modeling shows that **trends for daily hospital admissions decreased (-5%) since last week** (versus +7% in the prior week of May 23, 2022.) Data through May 20, 2022 shows that **the 7-day average death rate has plateaued for individuals in the age group over 80 years**.

[16] Metrics for hospitalization and death



The adjacent map shows data distribution across the Michigan Economic Recovery Council (MERC) regions as of May 31, 2022. The data indicate that **MERC Region 3**, which includes Allegan County, has a **7-day hospitalization rate of 4%.** The statewide **COVID+ hospital census has decreased 7% and the COVID+ ICU census has decreased by 19%** from the prior week of May 23, 2022. The COVID positive hospital census continues to decrease in Preparedness Regions 2N, 2S, 5, 6, 7, and 8, with the exception of an increase noted in Regions 1 and 3.

Statewide, case rates across all age groups are seen to be decreasing during the week of May 23, 2022. Data as of May 20, 2022 indicates that the case rates by onset date for all age groups are now between 186.8 and 391.2 per million persons. Case counts continue to remain highest in the 30 to 39 age groups. Case rates by race or ethnicity data are decreasing for all reported race and ethnic groups. An early sign of plateau or decrease has been noted for Long Term Care Facilities (LTCFs). Case counts in both residents and staff, and the reported number of outbreaks in LTCFs are declining as of May 31, 2022. Furthermore, data shows that the COVID positive hospital admission rates have been decreasing in the 60 to 80 age group.



The adjacent chart is a statewide depiction of trends related to COVID-19 hospitalizations and severe disease burdens.

Based on observations from all prior surges (Alpha and Delta waves), a simultaneous increase was seen in patients hospitalized with COVID-19 versus patients in Intensive Care Unit (ICU) with COVID-19 and patients on ventilators with COVID-19. However, the current surge (Omicron) is indicative of a dissociation in the aforementioned three metrics. Although **the current surge indicates an uptick in patients hospitalized with COVID-19, there have not been an increase in ICU and ventilators usage related to COVID-19**. This shows that most hospitalized patients are not experiencing severe illnesses related to the SARS-CoV-2 infection. Vaccinations and therapeutics may have played a significant role in the decrease of severe disease burden.

MICHIGAN 7-DAY METRICS/DATA SURVEILLANCE[17] AS OF JUNE 3, 2022

Cases	Percent Positivity	Deaths	New Hospital Admissions	% of Population ≥ 5 Years of Age Fully Vaccinated
19,535	**15-19.9%**	**50**	**143.86**	**64.1%**

[17] CDC COVID-19 Data Tracker

Data as of June 6, 2022

Michigan remains in the *recovery phase*[18] due to current case rates and hospitalizations and increased access to mitigation measures. **Administration of COVID-19 vaccinations and booster doses remain a critical component during the recovery phase.** Mask requirements continue to return to some schools and businesses located in counties with High COVID-19 Community Levels.

NATIONWIDE COVID-19 SURVEILLANCE

Total **cases** nationwide as of June 3, 2022, is **84,550,392 (up 1,461,022 from May 20, 2022). 1,008,063** total **deaths (up 6,371 from May 20, 2022)** have been reported as of June 3, 2022; which accounts for more than 15% of total deaths worldwide.

Over the last 14 days, hospitalizations are up 20% in 45 states

COVID-19 cases nationwide are more than six times higher than this time last year – CDC

Overall, U.S. COVID-19 cases are higher than they were last year, **however, hospitalizations and deaths remain lower than they were around this time in the previous year (2021).** This indicates greater immunity through vaccination, previous infection and availability of treatments. "Looking at case numbers from May 26, 2021, nationwide, there were just over 23,000 new cases; on May 26 this year, it's more than 124,000 new cases (this does not include at-home tests). According to the CDC, COVID cases nationwide are more than five times higher than last year. The Johns Hopkins Coronavirus Resource Center showed a 7-day average of **119,725 (85% more cases)** cases as of May 28, 2022. The 7-day average this same time last year was **17,887** cases. For deaths, the 7-day average of **470** was reported on Friday and marked a decrease from **637** (**26% decrease**) for the same day last year. Fewer deaths were recorded, however, this also highlights the newer, potentially more fatal variants when compared to proportion change in overall case count.

As of May 31, 2022, signs of plateaus and declines were observed in Region 5 (Midwest) states, which includes Michigan; with Illinois and Michigan having the highest case rates. In the U.S., **8%** of counties are at **High COVID-19 Community Levels**, a 1% decrease from the May 24, 2022 data modeling updates. California, Texas, Florida, New York and Illinois have the highest overall cases in the nation as of June 3, 2022. **Michigan is currently ranked number ten** for COVID-19 case counts. The U.S. has reported the 7-day COVID-19 case average has increased over **18.8%** since the prior week. The case rate as of May 31, 2022, is 231 cases/100,000 for the previous 7 days (last week: 223 cases per/100,000). For reference, Allegan County saw a case rate of 129.6 per 100,000 for this reporting period.

Region 5 States with the Highest COVID-19 Case Rates	Cases Reported in the Last 7 Days†	Deaths Reported in the Last 7 Days†
Illinois	32, 403	47
Michigan	19, 535	50

†Data reported by the CDC COVID-19 Data Tracker as of June 3, 2022

GLOBAL COVID-19 SURVEILLANCE

Globally, as of **June 3, 2022**, the World Health Organization (WHO) reports **528,816,317 confirmed cases (up 7,122,101 from May 20, 2022)** and **6,294,969 deaths (up 20,858 from May 20, 2022)** related to the SARS-CoV-2 infection. Global trends related to case rates appear to be declining or plateauing in most European countries following the second Omicron wave.

Update on Suspected Outbreak in North Korea:

[18] Recovery phase is the post-surge time period in which no immediate resurgence is predicted, and local and state public health will monitor conditions leading to future surges (MDHHS)

On May 11, North Korea declared a nationwide emergency after reporting its first COVID-19 outbreak. Since the pandemic began, North Korea has completely shut its borders in an effort to keep the virus out of the country. The country has limited availability for providing tests to their citizens, and a vast majority remains unvaccinated due to the Nation's refusal for vaccine supply. As of June 2, 2022, various news outlets have reported over 82,000 additional citizens of North Korea as experiencing symptoms of fever, bringing the total to over **3.7 million**. The World Health Organization has offered support to the country but have been unsuccessful. **Of note, there is limited data available for North Korea**.

COVID-19 INFECTION POTENTIALLY A COMMON LINK IN ACUTE PEDIATRIC HEPATITIS

On May 27, 2022, the World Health Organization reported at least 650 probable cases of acute pediatric hepatitis in 33 countries, more than double the amount since April. More than 200 cases have been detected in the U.S. and Puerto Rico (including Michigan). Worldwide, the children's ages range from 1 month to 16 years old; however, more than 75% of cases are among children under 5 years of age. Approximately 6% of cases required transplant and 1% of cases have died. Symptoms of hepatitis can include jaundice or a yellowing of the skin and/or eyes, dark urine, fever, fatigue, nausea, vomiting and joint pain. Most of the children infected are not eligible for the COVID vaccine, so there is no evidence that it played a role in the spread of this illness.

Adenovirus infection has been seen in about 35% of U.S. pediatric cases. On its own, an adenovirus is relatively harmless, but in the presence of a weakened immune system can cause severe infection. Prior COVID-19 infection may have primed the immune systems of these cases to being more susceptible to the adenovirus, which has a correlation to the hepatitis[19] outbreak. Furthermore, social distancing measures enacted during the COVID-19 pandemic may have reduced the population's ability to build up immunity against adenoviruses. Researchers are looking into several theories as they work to determine the actual source(s) of this outbreak.

The World Heath Organization has declared a **moderate** risk level for acute pediatric hepatitis.

The CDC highlights the following imperative goals as part of the Global Response to COVID-19 for the years 2020-2023:

- Reduce transmission of SARS-CoV-2 and impact of COVID-19 globally
- Expand scientific knowledge of SARS-CoV-2 and strengthen global public health leadership
- Improve long-term health security in low and middle income countries

As of June 3, 2022, there are no countries indicated at COVID-19 risk level 4 with special circumstances and/or travel precautions. Johns Hopkins University and Medicine Coronavirus Resource Center (JHU) has reported case surges in Taiwan, Germany and Australia as of June 3, 2022.

COVID-19 Risk Level 3 (High)	Cases Reported in the Last 7 Days*	Deaths Reported in the Last 7 Days*
Taiwan	No data available	No data available
Germany	217,820	32
Australia	230,026	277

*Data reported by the World Health Organization Coronavirus Dashboard as of June 3, 2022

COVID-19 Risk Level 3 (High)	Weekly New Hospital Admissions for COVID-19**	Closest Available Date of Data Point**
Taiwan	No data available	No data available
Germany	23	6/2/2022
Australia	No data available	No data available

**Data reported by the Our World in Data - Coronavirus (COVID-19) Hospitalizations

The WHO has included a structured document that summarizes current public health surveillance of COVID-19, which includes key components such as case investigation, surveillance, and epidemiological protocols. These components focus on the "coronavirus

[19] The most common causes of acute hepatitis are the viral hepatitis infections A and E, less commonly hepatitis B and C

disease 2019 (COVID-19) in humans resulting from the infection caused by the SARS-CoV-2 virus." For more information, please visit: WHO: Public Health Surveillance COVID-19: Interim Guidance.

WASTEWATER SURVEILLANCE

UPDATE: MDHHS Wastewater Surveillance as of May 31, 2022

- 50% (10/20) of Sentinel Wastewater Epidemiology Evaluation Project (SWEEP) sites saw an increase in the most recent week ending on May 31, 2022
- 20% of sites saw a plateau in trends
- 30% (6/20) of sentinel sites are showing declines in the previous 15- days

ACHD has been working with Hope College as they sample wastewater for COVID-19 to determine future directions for its use. There are 20 sewer-shed sites that are reporting positive and negative test results to MDHHS every week. For more information, please visit Coronavirus - Sentinel Wastewater Epidemiology Evaluation Project (SWEEP) (michigan.gov).

Hope College has collaborated with several local health departments to produce a dashboard, which displays the most recent wastewater readings and the case counts for participating counties. A shared wastewater dashboard configuration for sister counties Ottawa and Allegan was created to evaluate wastewater levels for both jurisdictions simultaneously. The colored circles of differing sizes represent the concentration of COVID-19 in the wastewater as of June 2, 2022 (TPA[20], GLC[21], TPP[22]), that have existing data points for the most recent nine calendar days (5/24/2022 to 6/2/2022). The red circles represent increasing COVID-19 concentration levels, and the yellow circle represents decreasing concentration levels.

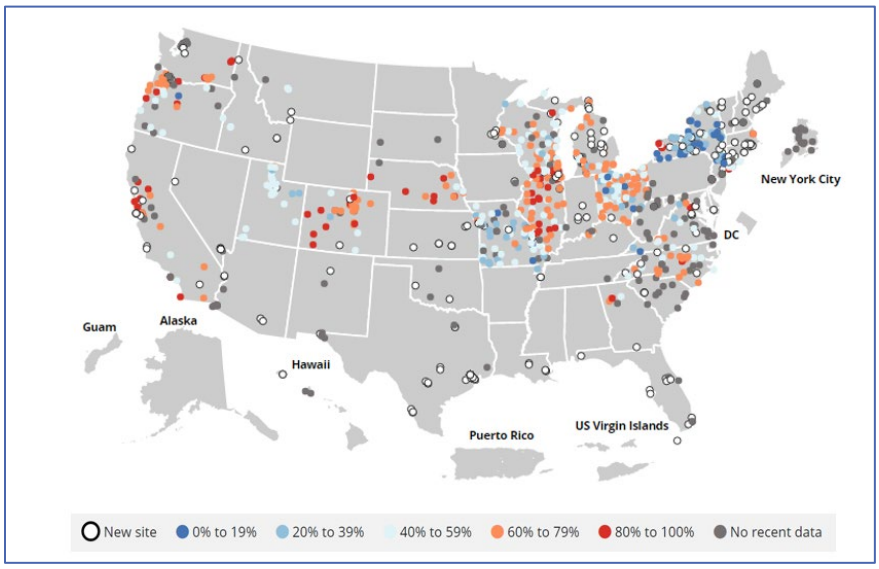
***The following three sites have the most current and accurate data readings:**

Allegan Sewershed Sites	Trend Dates	Trend Patterns
TPA	6/2/2022	Decreasing
GLC	6/1/2022	Increasing
TPP	6/1/2022	Increasing

Figure 1 the current wastewater sewer shed sites that Hope College is monitoring in Allegan County.

[20] Allegan Water Resource Recovery Facility
[21] Gun Lake Casino
[22] Plainwell Wastewater Treatment Plant

Data as of June 6, 2022



Wastewater surveillance is rapidly increasing in the U.S.

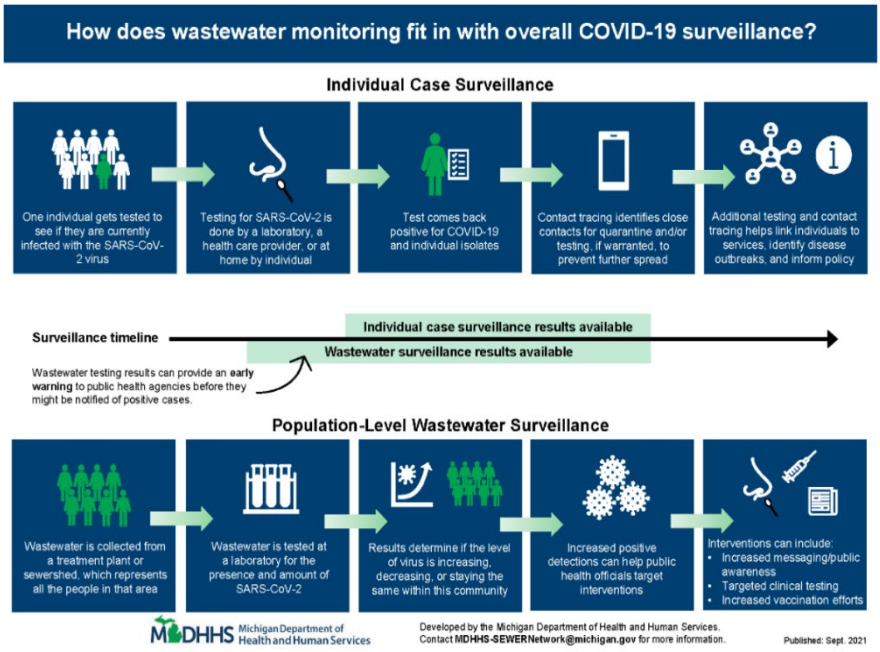
The adjacent map shows 954 wastewater-sampling sites in the US as of June 3, 2022

223 new wastewater-sampling sites were added during the timeframe, May 16, 2022 to May 30, 2022

A modest overall increase in wastewater levels, which may lead to a large percent change, does not necessarily mean we will see major increases in transmission in a community. More than half of sites in the U.S. are seeing "modest increases" in levels of virus, according to CDC, although the system does not cover the entire country and does not yet have the capacity to offer an ongoing estimate of the true number of cases beyond official counts. Access to at-home tests, comes at the expense of comprehensive data. As a result, we have to infer that there are more cases than are actually reported.

The figure to the right depicts the method of using wastewater surveillance data to monitor case patterns at individual and population levels as it relates to the SARS-CoV-2 infection.

ACHD will continue to monitor available dashboards for future case surges correlating to local wastewater signals. There will be more information regarding this level of data analysis in future updates. MDHHS is working toward including wastewater surveillance for Allegan County in the SWEEP dashboard.

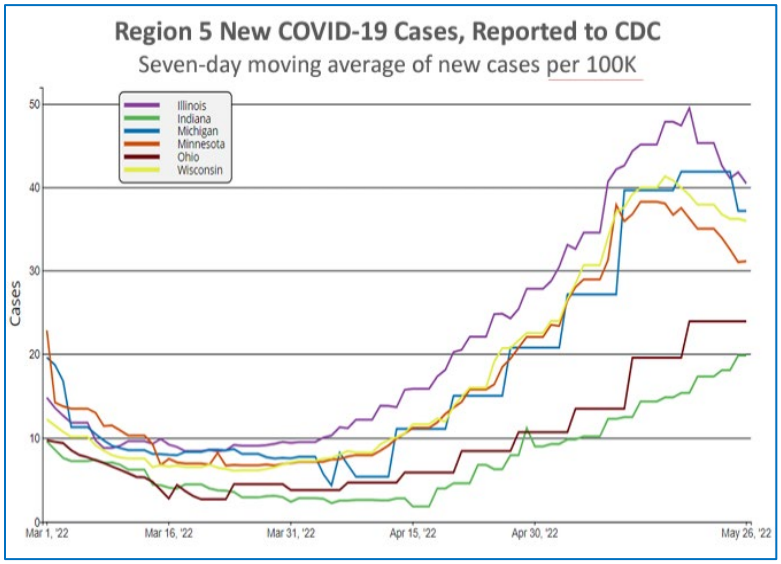


EPIDEMIOLOGIC SURVEILLANCE: BA.2 OMICRON SUB-VARIANT

Data as of June 6, 2022

Global trends for BA.2 cases are slowing and many countries in Europe continue to show early signs of decline; cases in the U.S. continue to increase, however, case counts appears to be slowing in Midwestern states (Region 5). Current data continues to show that given the levels of vaccination/boosters and immunity from recent Omicron infection, a significant rise in hospitalization and mortality is not expected to occur.

BA.2.12.1 continues to be the common variant circulating in HHS Region 5, which includes Michigan, Illinois, Indiana, Minnesota, Ohio, Wisconsin. Since April 15, 2022, there have been 1,762 variant of concern (VOC) specimens sequenced in Michigan in which 100% of specimens were sequenced as Omicron.



The adjacent chart shows the current increase in the 7-day moving average of new cases per 100,000 population in Michigan (blue line), and includes data as of May 27, 2022.

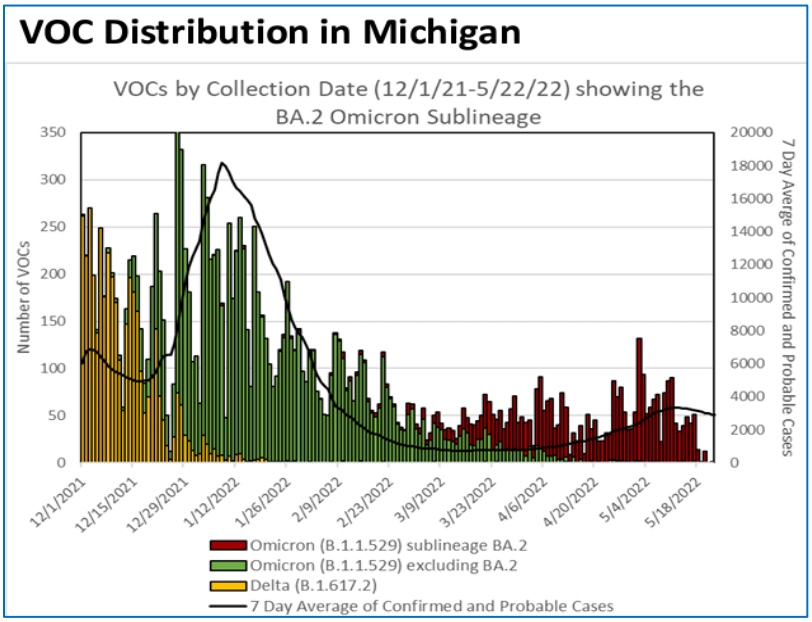
BA.2 is more resistant to some monoclonal treatments than BA.1 and BA.1.1 variants. The following therapies are still encouraged as treatments against the BA.2 variant: Paxlovid, Remdesivir, and Molnupiravir. For more information on these COVID-19 therapies, visit COVID-19 Therapeutics Information Page. As cases of this new variant continue to rise, the same preventive measures are recommended to curb its spread and reduce the virus' opportunities for mutation. ACHD continues to monitor this Omicron sub-lineage and deploy response measures accordingly. For more information, visit: Nonhospitalized Adults: Therapeutic Management | COVID-19 Treatment Guidelines (nih.gov)

STUDIES ON EMERGING VARIANT AS OF MAY 31, 2022 DATA AND MODELING

Omicron continues to be the predominant variant of concern (VOC) with several sub-lineages, including BA.4, BA.5, BA.2.12.1, and recombinants of these.

BA.4 and BA.5 are newer sublineages of the Omicron variant, which may spread more rapidly than current Omicron lineages circulating in the United States (U.S) and the United Kingdom (U.K). The data related to the transmission of new Omicron sublineages are still very preliminary; however, note that these variants are currently spreading in other countries such as South Africa (BA.4) and Portugal (BA.5).

The BA.2.12.1 sublineage is now the most predominant variant in the U.S, however, the proportion of BA.2 **is decreasing and noted to be less than 50% for the first time.**



The VOC Distribution in Michigan chart shows the Variant of Concern (VOC) distribution in Michigan as published by the MDHHS data and modeling on May 31, 2022. The chart depicts that **100% of the specimens sequenced were indicative of the Omicron BA.1.1.529 variant and sub-variant BA.2**.

Data as of June 6, 2022

Current trends indicate that Michigan will likely reach 800 cases per million population in early June

Figure 1 is based on the estimated R_t[23] (shown in purple) in which projections had assumed constant R_t for the data during the two weeks ranging from May 2 through May 13, 2022, showing continuous increases in cases. The projections for hospitalizations as of May 16, 2022 relayed that Michigan would be seeing up to 50 weekly admissions per 100,000 population by early June.

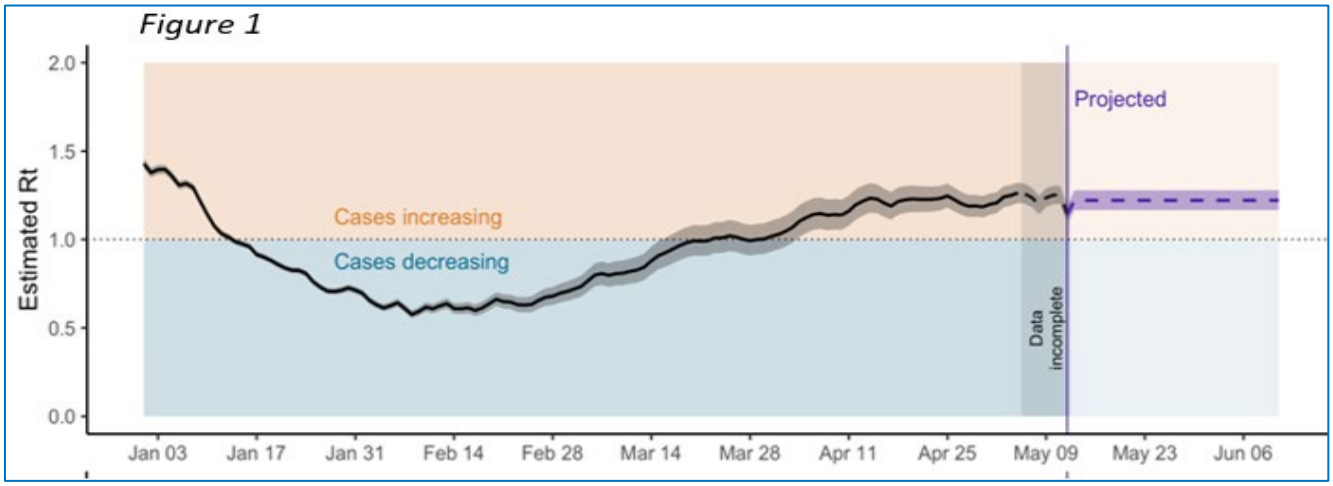


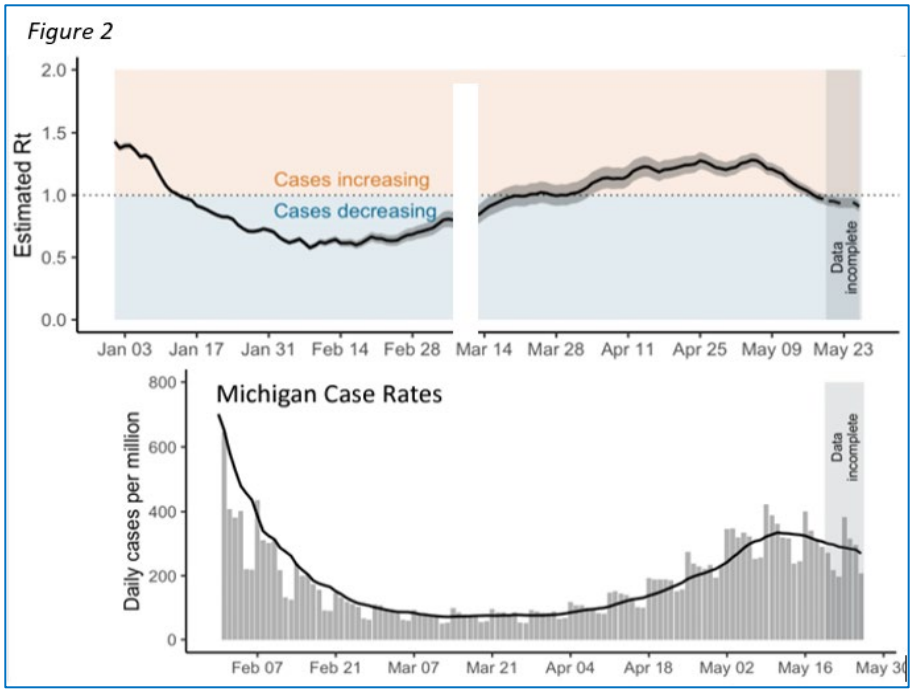
Figure 2 relays an update in the statewide Estimated Rt based on new data and modeling as of May 31, 2021.

Case rates increase when the Rt is greater than 1 and decrease when the Rt is less than 1.

Michigan Rt has currently reached 1, which indicates neither an increase or decrease. This means that case rates in Michigan appear to have plateaued.

Data as of May 27, 2022 via MIStartMap shows that 39 counties are currently seeing increases and 26 counties are at elevated incidence plateaus.

*Study limitation***:** This modeling is subject to change as MDHHS continues to follow Michigan data closely.



EPIDEMIOLOGIC SURVEILLANCE: MONKEYPOX

Monkeypox is a rare disease caused by an infection with the monkeypox virus, which was initially discovered in 1958. The name 'monkeypox' was derived following two outbreaks of a pox-like disease in colonies of monkeys that were preserved for research

[23] Rt is a unit of epidemiological unit of measurement to indicate the reproduction number of a virus over a particular time

purposes. The first human case of monkeypox was documented in 1970 in the Democratic Republic of Congo. For more information and key facts about this poxvirus, visit: World Health Organization: Monkeypox and CDC|Monkeypox|Poxvirus.

The CDC investigated one positive monkeypox case in the U.S. in collaboration with the Massachusetts Department of Health on May 18, 2022. The case was identified as a U.S. resident returning from Canada. Globally, a number of non-endemic countries have reported to the World Health Organization (WHO) of having identified the largest cluster of these cases. Epidemiological investigations are ongoing (internationally) and the route of transmission between individuals identified in these clusters are under further study. For a detailed list of the outbreaks reported in non-endemic countries, visit: Multi-country monkeypox outbreak in non-endemic countries (who.int)

CDC is urging U.S. healthcare providers to be alert for patients associating with rash-illnesses. For information regarding CDC's clinician recommendations, visit: U.S. Monkeypox 2022: Situation Summary.

MDHHS is actively working with the CDC to establish further action-steps and processes in place for state and local health response to the monkeypox virus.

As of June 3, 2022, MDHHS has released the following key resources and information related to the monkeypox disease:

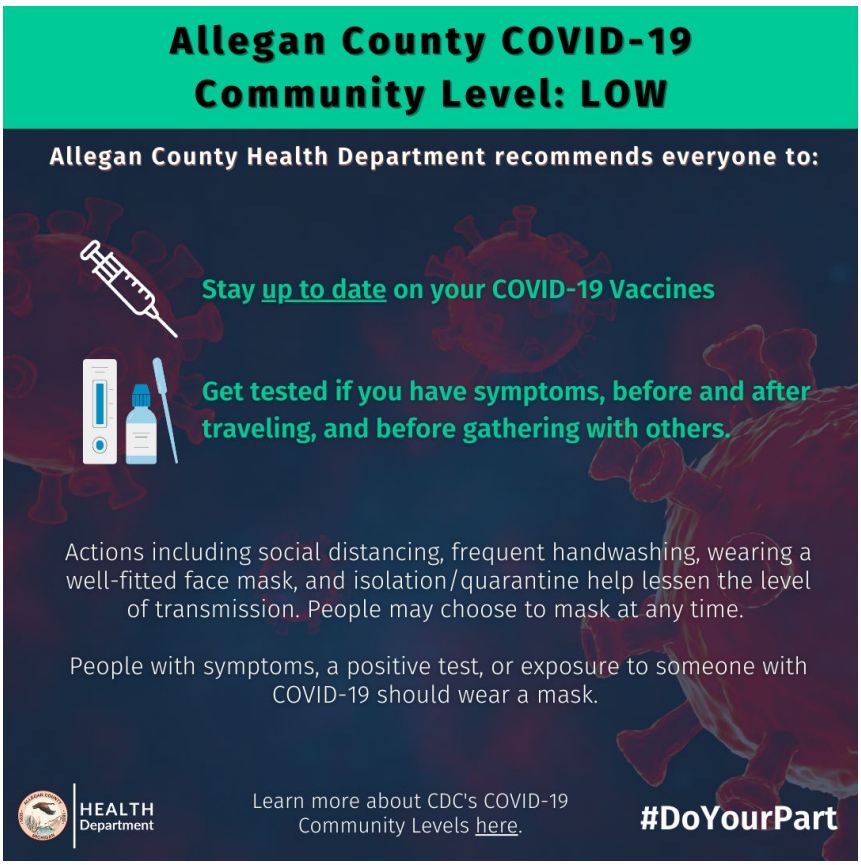
- United States: 21 confirmed monkeypox/orthopoxvirus cases in 11 states (CDC US Map)
- Global: 790 confirmed cases in 28 countries (CDC Global Map)
- A summary of the first 17 cases in the US was released by the CDC in the June 3, 2022 Morbidity and Mortality Weekly Report (MMWR) Monkeypox Outbreak — Nine States, May 2022
    - 14 patients reported international travel involving 11 countries during the 21 days preceding symptom onset
    - 16 patients identified as men who have sex with men (MSM)
    - All patients were adults (average age = 40 years; range = 28–61 years)
    - The symptom onset for 'rash' was reported for the timeframe May 1, 2022 through May 27, 2022
    - 12 patients reported prodromal symptoms before rash onset such as fatigue, fever, or headache.
    - Among 8 patients, the rash started in the genital or perianal area. All but 1 patient developed a disseminated rash, occurring on the arms, trunk, legs, and face.
- On June 2, 2022, the CDC updated the monkeypox case definitions (suspect, probable, confirmed).
- To access the new CDC Fact Sheet, visit "Monkeypox: Get the Facts"

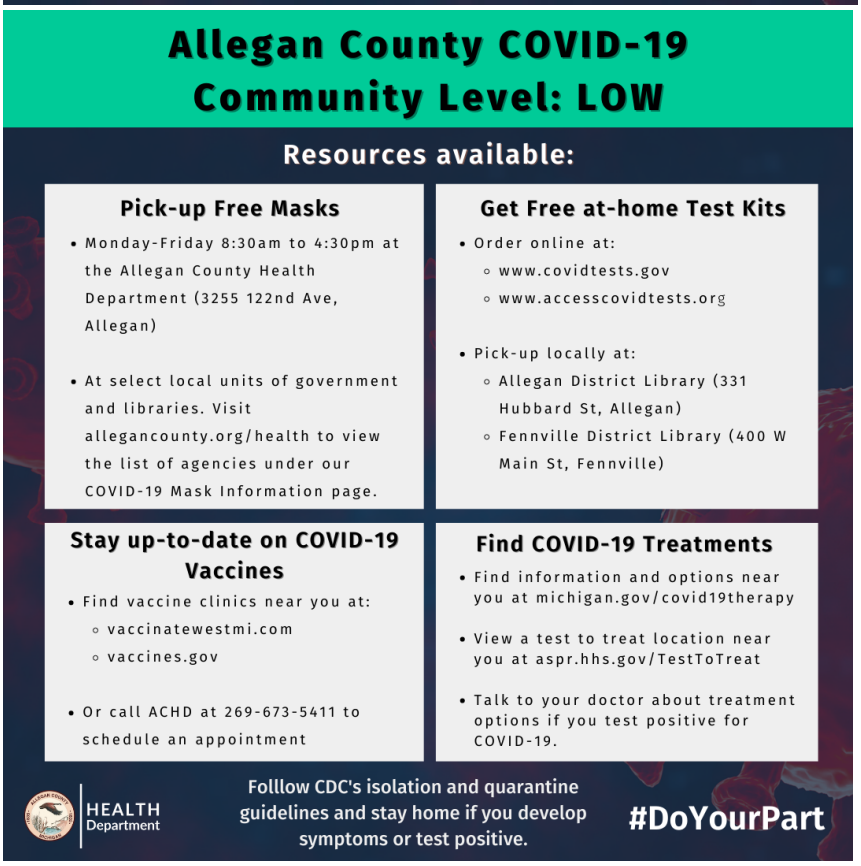
The COVID-19 pandemic led the current presidential administration to re-evaluate its biodefense strategies. The new Senior Director for Global Health Security and Biodefense on the United States National Security Council, Raj Panjabi, is in charge of overseeing the current monkeypox outbreak. The outbreak mirrors the difficulties experienced during the COVID-19 pandemic, for instance, challenges with global communication, limited supply of vaccines and overall inequities in healthcare access. This new role may present opportunities for funding additional public health resources and will ensure more coordinated responses to future pandemics.

SOURCES

- Allegan County Health Department Facebook page
- Centers for Disease Control and Prevention
- CDC COVID-19 Data Tracker
- CDC COVID-19 Travel Guidance
- CDC Frequently Asked COVID-19 Questions for K-12 Settings and ECE
- CDC Health Alert Network
- CDC Health Alert Network – Paxlovid Rebound
- CDC Provisional COVID-19 Deaths: Focus on Ages 0-18 Years
- CDC Stay Up-to-date on Vaccinations
- COVID Data Tracker Weekly Review
- COVID-19 Vaccine Dashboard
- CHN Associates, Student, and Family Assistance Program Monthly Report
- Find a COVID-19 Vaccine Near You
- HONU
- Long Term Care Data
- MDHHS – Booster Doses available for Children 5-11
- MDHHS Quarantine and Isolation Guidance
- MDHHS School Outbreak Reporting
- MI COVID response Data and Modeling
- Michigan Coronavirus: COVID-19 Vaccine
- Michigan COVID-19 Wastewater Testing and SWEEP Dashboard
- Michigan Coronavirus Data
- Michigan Department of Health and Human Services (MDHHS) Breakthrough Cases Data File
- Michigan Disease Surveillance System (MDSS)
- Michigan Health Alert Network (MIHAN)
- MI Safe Start Map and CDC Indicators
- New COVID-19 Cases Worldwide - Johns Hopkins Coronavirus Resource Center (jhu.edu)
- Office of International Health and Biodefense - United States Department of State
- Our World in Data - Coronavirus (COVID-19) Hospitalizations
- US Food and Drug Administration
- Vaccinate West Michigan
- World Health Organization Coronavirus Dashboard

APPENDICES





Data as of June 6, 2022

FREE AT-HOME TEST KITS TO ORDER ONLINE:

- www.Covidtests.gov - order 3 sets of 4 free at-home test kits from the federal government. (If you already ordered your first set, order a second or third today)
    - If you have health insurance through an employer or Marketplace, your insurance will pay you back for 8 at-home tests each month for each person on your plan. View more information here.
- www.AccessCovidtests.org - order free at-home test kits through Project ACT (enter zip code to check eligibility)

FREE AT-HOME TEST KITS FROM MDHHS AVAILABLE AT 2 LIBRARIES IN ALLEGAN COUNTY:

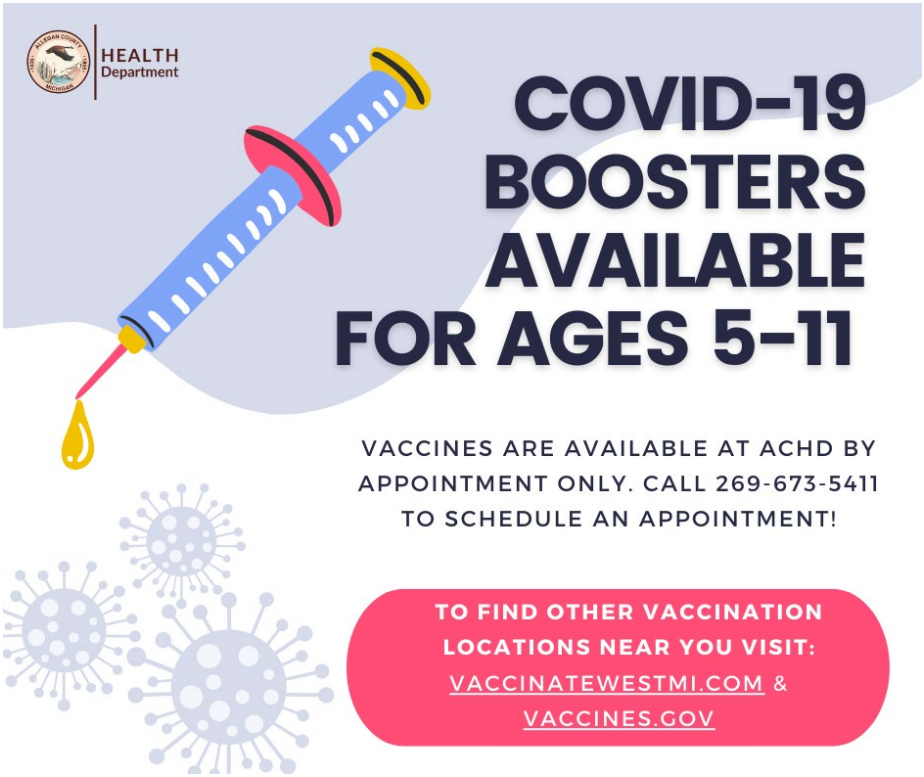
- Allegan District Library (331 Hubbard St, Allegan)
- Fennville District Library (400 W Main St, Fennville)

FREE COMMUNITY TESTING EVENTS ARE HELD EVERY WEDNESDAY AND FRIDAY AT THE ALLEGAN COUNTY TRANSPORTATION BUILDING FROM 12 PM – 5 PM. THESE EVENTS OFFER PCR AND RAPID TESTING OPTIONS.

VISIT THE MDHHS COMMUNITY BASED POP-UP TESTING PAGE TO SIGN UP FOR THE TESTING EVENTS AT ALLEGAN TRANSPORTATION BUILDING AND TO FIND OTHER TESTING SITES NEAR YOU.

Visit https://www.solvhealth.com/covid-testing to find additional COVID-19 sites near you.

COVID-19 testing location finder: Coronavirus - Test



Data as of June 6, 2022