

COVID-19 Update

November 4, 2020



HEALTH
Department

Allegan County COVID-19 Dashboard,

data as of 11/4/20 at 2pm

<https://alleganco.maps.arcgis.com/apps/opstdashboard/index.html#/c05e1ec6222944748968f351273b3d41>

Allegan County COVID-19 Dashboard

Currently Monitoring
323

Allegan County close contacts that are currently being monitored through TraceForce.

Last update: a minute ago

Total Monitored
3,279

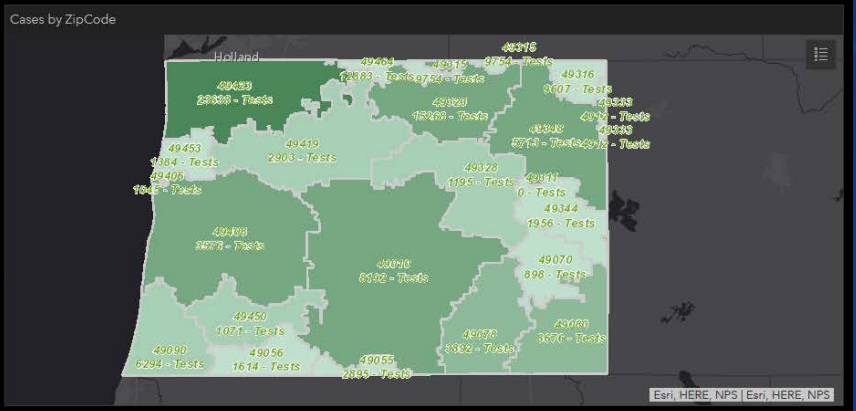
Individuals that have been identified as a close contact to someone who has a lab confirmed or probable diagnosis of COVID-19, a COVID-19 test pending, or a potential travel exposure.

Last update: a minute ago

Recovered
883
per MDHHS definition

The number of persons with a confirmed COVID-19 diagnosis (either by lab or probable positive diagnosis) who are alive 30 days post-onset (or referral date if onset is not available).

Last update: a minute ago



Negative Tests
44,484

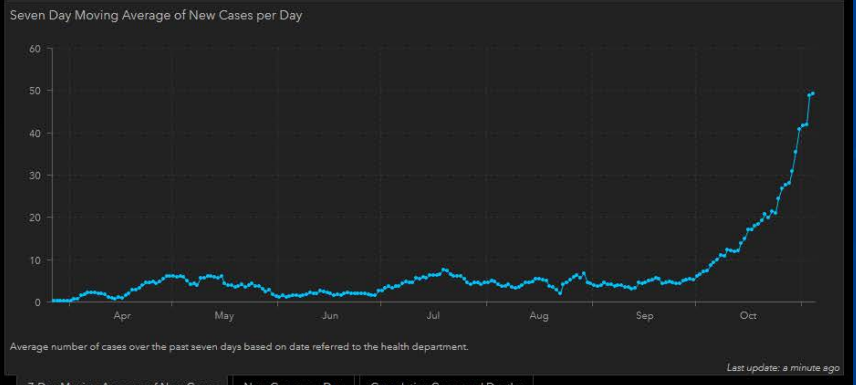
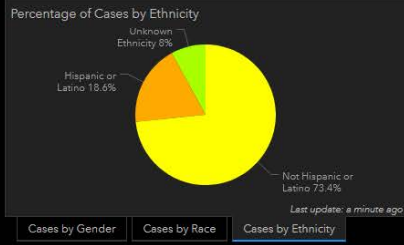
Lab confirmed negative for COVID-19.

Last update: a minute ago

Total Hospitalizations
71

Total hospitalizations (since March 21): positive or probable COVID-19 diagnosed persons that have been hospitalized during their course of illness.

Last update: a minute ago



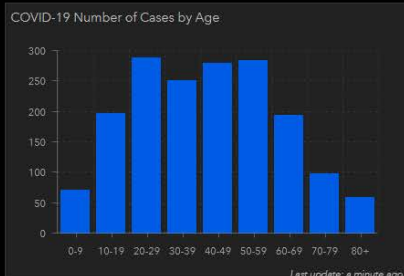
Total Cases
1,725

Last update: a minute ago

COVID-19 related deaths
8

Deaths occurring within 30 days of diagnosis are counted as a COVID-19 related death.

Last update: a minute ago



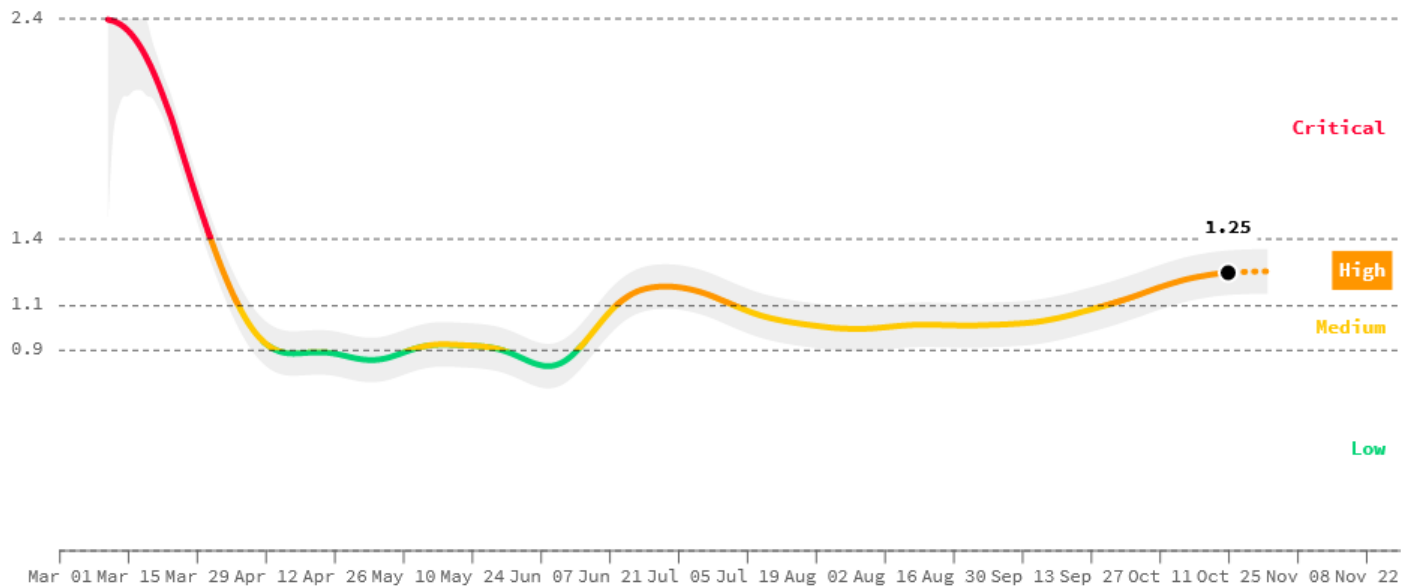
Infection rate

MICHIGAN

Save

Share

On average, each person in Michigan with COVID is infecting 1.25 other people. As such, the total number of active cases in Michigan is growing at an unsustainable rate. If this trend continues, the hospital system may become overloaded. Caution is warranted.



Last updated 11/3/2020. Each data point is a 14-day weighted average. We present the most recent seven days of data as a dashed line, as data is often revised by states several days after reporting. Learn more about [our methodology](#) and [our data sources](#).

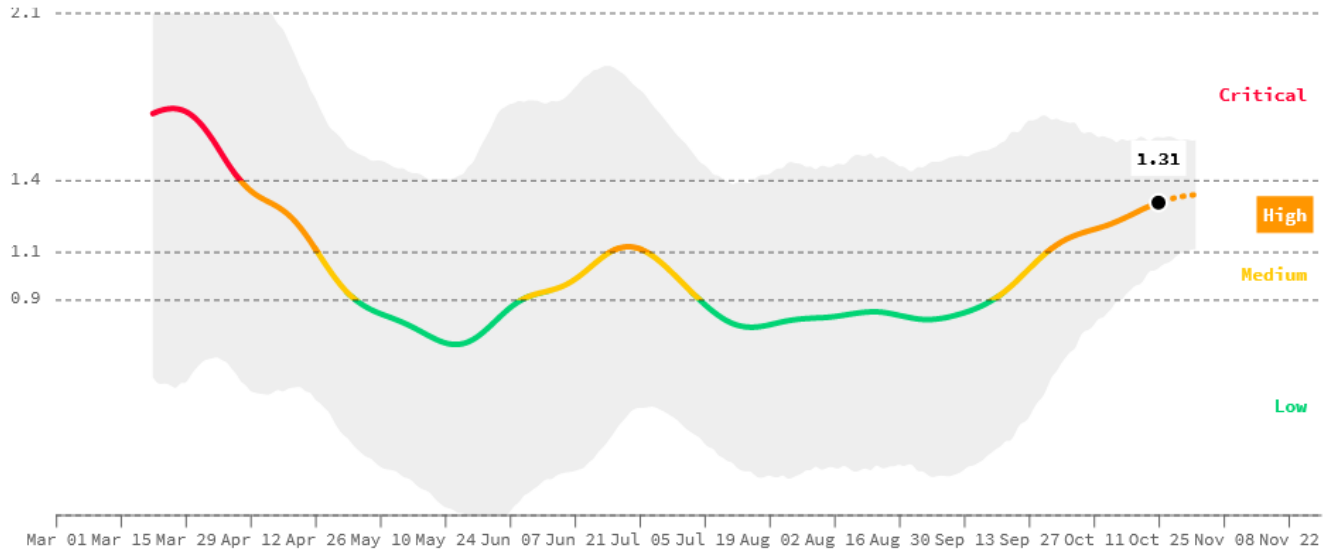
Infection rate

ALLEGAN COUNTY, MICHIGAN

Save

Share

On average, each person in Allegan County, Michigan with COVID is infecting 1.31 other people. As such, the total number of active cases in Allegan County, Michigan is growing at an unsustainable rate. If this trend continues, the hospital system may become overloaded. Caution is warranted.

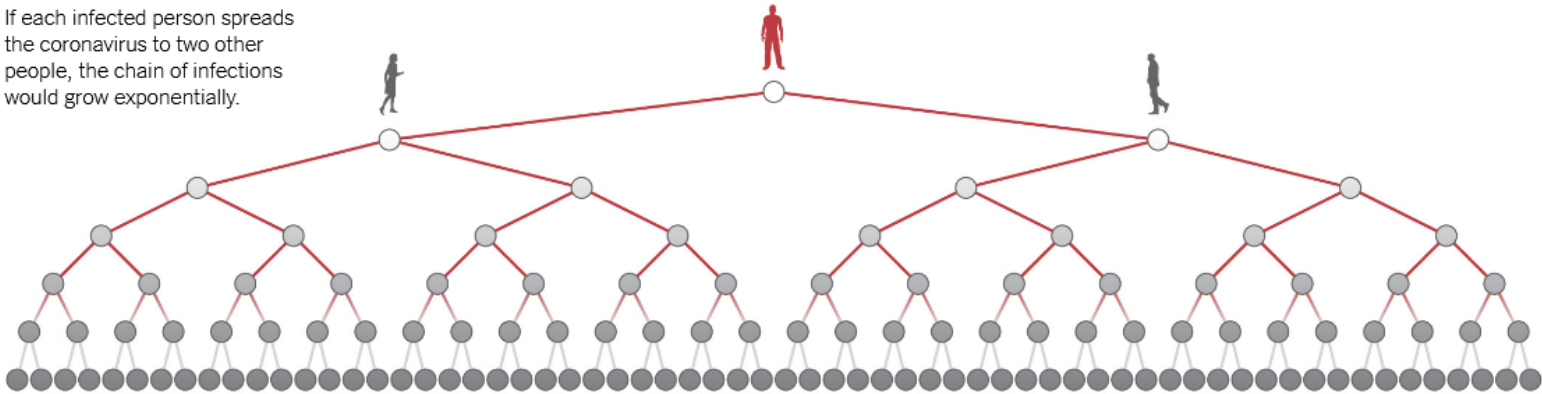


Last updated 11/3/2020. Each data point is a 14-day weighted average. We present the most recent seven days of data as a dashed line, as data is often revised by states several days after reporting. Learn more about [our methodology](#) and [our data sources](#).

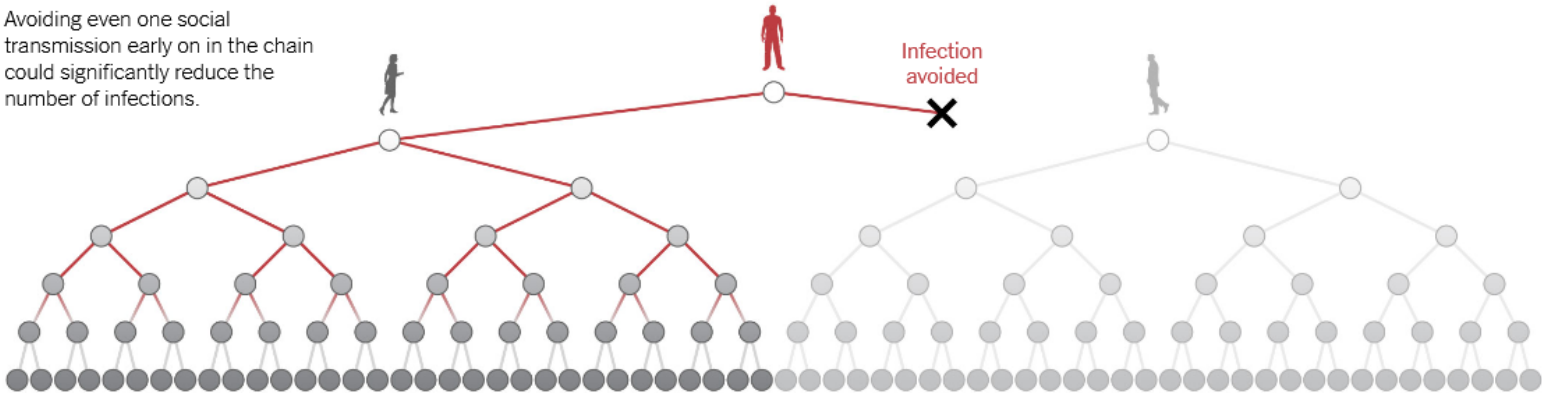
Cutting a Link in the Chain of Transmission

A simple tree diagram shows how limiting contacts early might prevent many infections.

If each infected person spreads the coronavirus to two other people, the chain of infections would grow exponentially.



Avoiding even one social transmission early on in the chain could significantly reduce the number of infections.



By Jonathan Corum

Source: [New York Times](#), "You Can Help Break the Chain of Transmission" published March 19, 2020. Image by Jonathan Corum

COVID-19 Mass Testing and Containment

MITIGATION ROADMAP



INCIDENT ACTION PLAN OBJECTIVES

1. Identify cases, isolate the sick, quarantine the exposed, and protect vulnerable populations

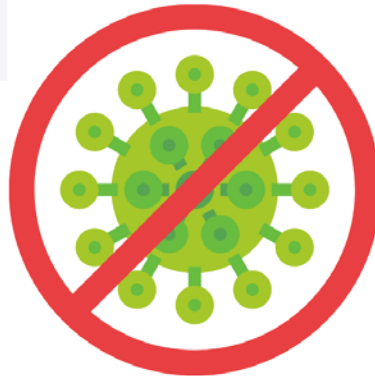
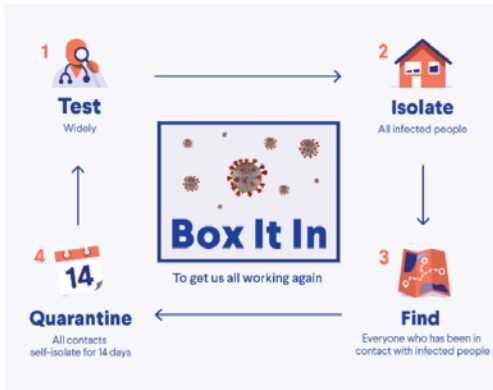
Provide information to the public, media, and County staff to increase public awareness, address misinformation, and protect the public and increase community resiliency
2. Prepare, mitigate, and recover from widespread transmission in Allegan County

STATE & LOCAL ORDERS

Michigan Public Health Code



EPIDEMIOLOGICAL MODEL





HEALTH Department

COVID- 19 Mitigation Strategies

Community Vaccination and/or Herd Immunity
Plan for clinics and evaluate whether protective measures (non-pharmaceutical interventions) can be lifted

Best Practices for Organizations
Face Coverings, Social Distancing, Environmental, Administrative Controls, Case and Contract Tracing and enforcement or orders as necessary.

Sufficient Health Care Capacity

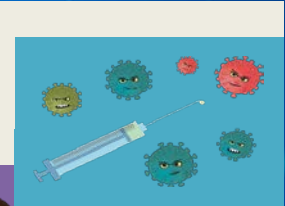
Ensure hospitals have resources to treat those with COVID-19 and non COVID-19 health care needs.

Robust Case Investigation and Contact Tracing

Foundation to containment of the virus until a vaccine is available. Case Investigation starts immediately and all contacts are attempted to be contacted and put on quarantine within 24 hrs. .

Enhanced Ability to Test

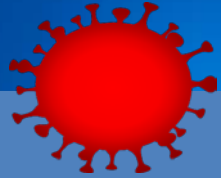
Testing congregate care (jails, nursing homes, etc.), community wide testing, and testing of communities of vulnerabilities, clusters and outbreaks.





HEALTH Department

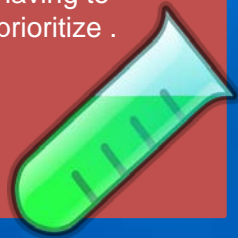
Challenges in Responding



It is a novel virus and guidance is ever changing. Keeping staff and community leaders and members updated as that guidance changes can be challenging.



Having scalable resources while still having to do other public health services. Constantly having to prioritize .



Timely Case investigation and contact tracing and getting people to understand the reason why it is so important to isolate/quarantine to disrupt the transmission.



Managing a response for a community that is incredibly divided on what the proper response should be.



Collaborate with a vast array of organizations within different sectors on mitigations measures and technical assistance as needed.

Enhanced Ability to Test

COVID-19 TESTING EVENTS



FREE COVID-19 testing (not antibody test)

Available to individuals of any age*, regardless of symptoms.

Individuals under the age of 18 will need parental/guardian consent

*Children under the age of 5 may be turned away. Please call 269-686-4546 closer to the event.

No pre-registration | No insurance needed | No doctor's note needed



Saturday, November 7 | 10:00am-1:00pm

Allegan County Transportation Building | 750 Airway Dr., Allegan

Saturday, November 21 | 10:00am-1:00pm

Allegan County Transportation Building | 750 Airway Dr., Allegan

Saturday, December 5 | 10:00am-1:00pm

Allegan County Transportation Building | 750 Airway Dr., Allegan

Saturday, December 19 | 10:00am-1:00pm

Allegan County Transportation Building | 750 Airway Dr., Allegan

NOTICE: In the event of severe weather, ACHD will cancel testing events for the protection of staff and residents. Please check our Facebook page @AlleganCountyHD or call 269-686-4546 for any cancellation notices the day of the event.



HEALTH
Department

Public Health Capacity

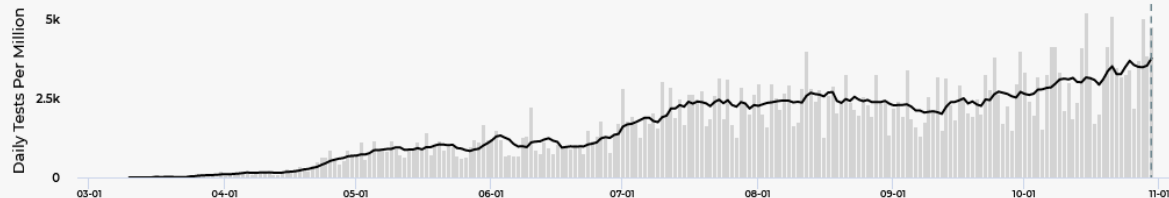
Tests

3.8k
daily per million*

435.4
daily tests
administered*

Allegan County Daily Tests Per Million Over Time

Click and drag in the plot area to zoom in

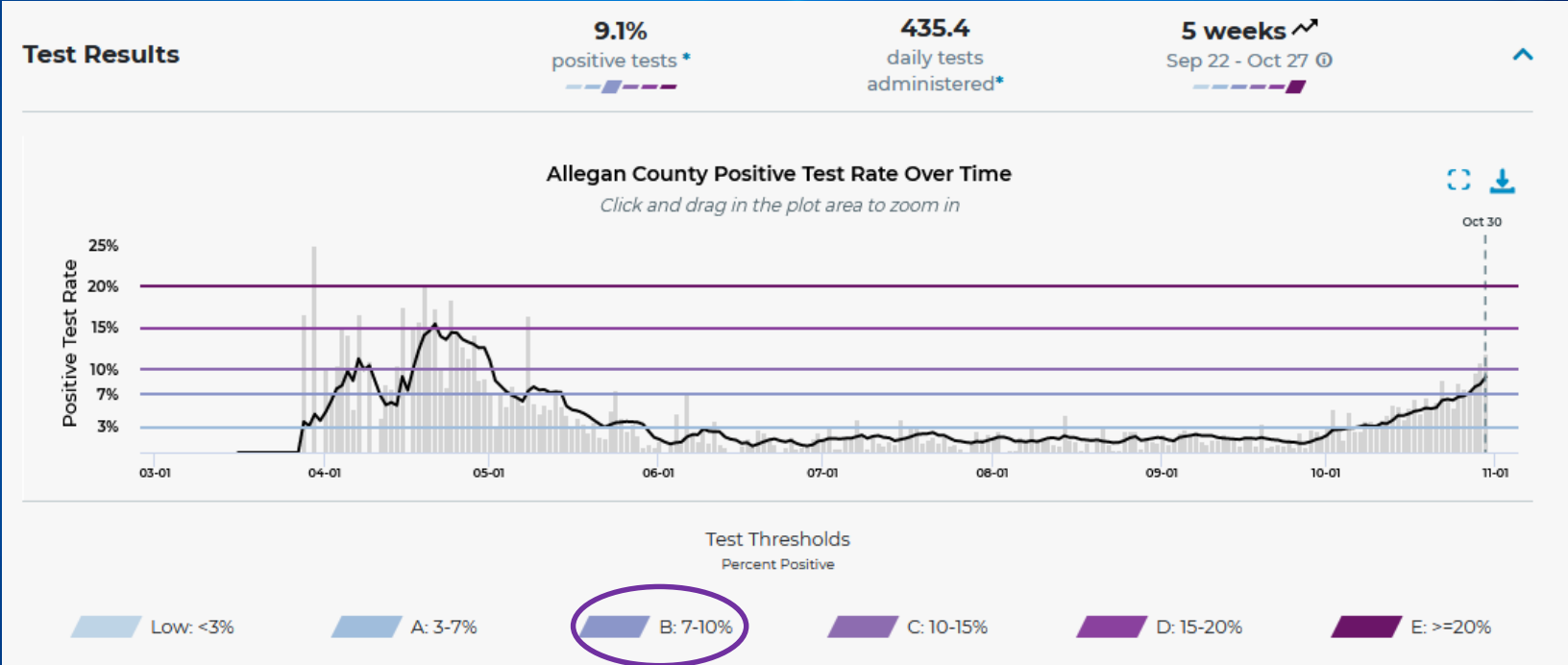


Data as of 10/30/20

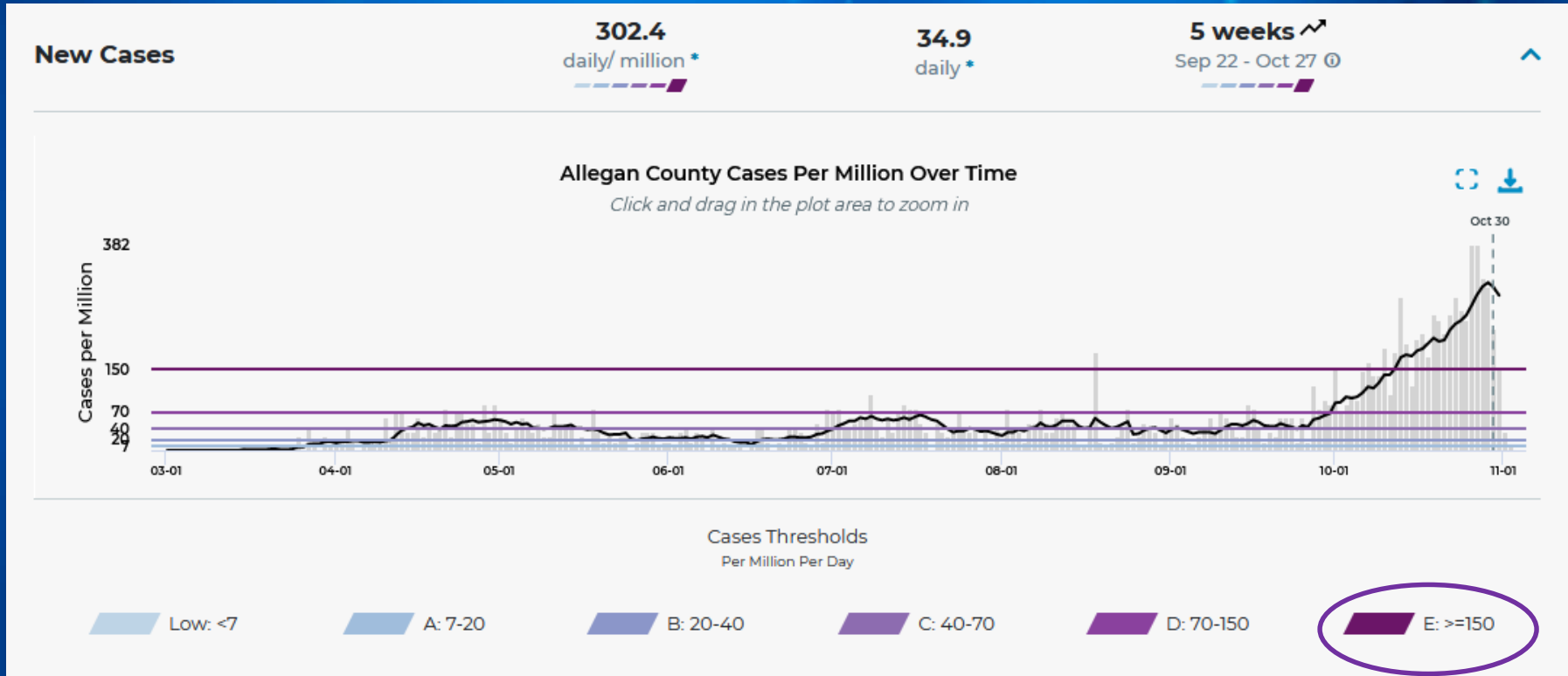
► www.Michigan.gov/coronavirustest

Enhanced Ability to Test

Alleghan County, data as of 10/30/20



Alleghen County, New Cases (data as of 10/30/20)



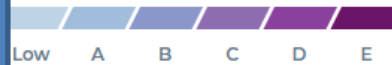
Comparison with neighboring counties

As of 11/2

Based on data from 10/26

Based on data from 10/30

Risk Levels



Features Overview * Over previous 7 days

AREA	TYPE	REGION RISK LEVEL	COUNTY RISK LEVEL	DAILY CASES*	DAILY CASES PER MIL.*	CASES WEEKLY TREND	DAILY TESTS*	DAILY TESTS PER MIL.	% POSITIVE TESTS*	TESTS WEEKLY TREND	MI SYMPTOMS SURVEYS	MI SYMPTOMS AT RISK
Allegan	County	-----■	E	31.0	269 ■	5w ↗ ■	435.4	3,778.1	9.1% ■	5w ↗ ■	87	3.4%
Barry	County	-----■	E	20.0	333 ■	1w ↗ ■	199.9	3,327.8	9.4% ■	1w ↗ ■	58	0.0%
Kalamazoo	County	-----■	E	62.3	238 ■	1w ↘ ■	1,222.3	4,672.8	9.3% ■	1w ↗ ■	314	1.0%
Kent	County	-----■	E	208.7	325 ■	7w ↗ ■	3,609.6	5,612.4	9.5% ■	7w ↗ ■	567	1.8%
Ottawa	County	-----■	E	88.3	311 ■	5w ↗ ■	1,628.7	5,734.2	9.2% ■	5w ↗ ■	176	3.4%
Van Buren	County	-----■	E	18.9	251 ■	5w ↗ ■	406.6	5,401.4	10.6% ■	4w ↗ ■	58	3.4%

Why do we share data on a per million level?

- ▶ As public health, we have to be able to compare “apples to apples” to understand not only what is happening in our area, but also areas surrounding us. It allows us to compare new cases per day in our area (prevalence of the virus in communities) to other communities with vastly different populations.
- ▶ $\# \text{ daily new cases} / \text{allegan county population} * 1,000,000,000$
- ▶ Visit mistartmap.info for other scale breakdowns of local data.

Robust Case Investigation and Contact Tracing

COVID-19, State of Michigan: Case Investigation TA Metrics

7-day rolling average

Case Completion Target:

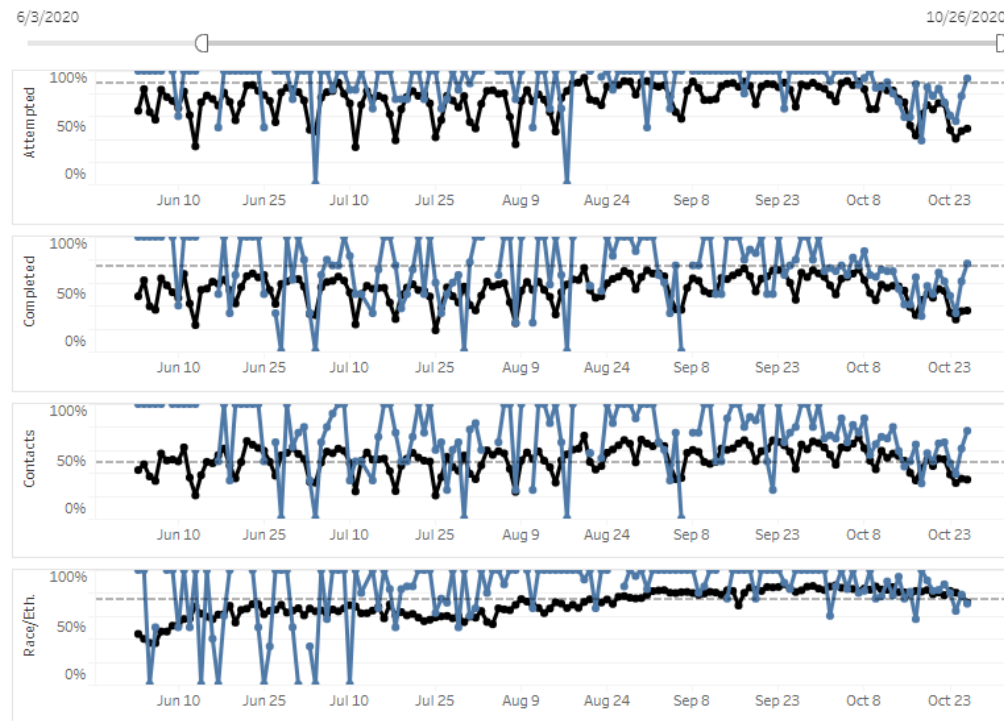
Jurisdiction

No
 Yes

Within first day
 Within second day
 Within seventh day

(Multiple values)

Chart 1: Percent of newly referred cases *attempted* to be investigated within one day
 Chart 2: Percent of newly referred cases *successfully investigated* within one day
 Chart 3: Percent of newly referred cases with at least one contact identified, or marked as "no contacts", within one day
 Chart 4: Percent of newly referred cases with race and ethnicity documented within one week



Jurisdiction

- Allegan County
- State of Michigan

Case Investigation Metrics, 7-day average - Referred on October 26, 2020

Target:

Weekend:

Sort by:

Jurisdiction	Cases	Contacts / Case*	TA bucket (10/12-10/18 referral)	Interview attempted in first day, 90' goal	Interview complete in first day, 75% goal	At least 1 contact elicited in first 50' goal	Race / eth. documented within 75% goal
State of Michigan	13,666	3.73	N/A	54.2%	39.5%	40.2%	78.2%
Allegan County	185	3.66	Yellow	75.7%	58.9%	59.5%	79.1%

Source: Michigan Disease Surveillance System * Contacts/case referred as of: 10/23/20

Epidemiologic Information, Allegan County

Overall	Percent
Healthcare Worker	9.0%
Live or work in high-risk/congregate facility	5.9%
First Responder	0.9%
Other Essential Worker/Critical Infrastructure	19.2%
Healthcare Contact to confirmed care	1.4%
Community Contact to confirmed case	16.6%
Household Contact to confirmed case	22.0%
Total Cases: 1728	

Cases Reported in Past two weeks	Percent
In quarantine at time of onset/positive test	30.4%
Associated with known cluster/outbreak	4.0%
Any Contact to confirmed case	29.3%
Healthcare contact to confirmed case	1.3%
Community contact to confirmed case	13.9%
Household contact to confirmed case	14.6%
Attended Community Event/Mass Gathering	4.6%
Any Travel (international, domestic, in state)	10.5%
Source of Infection is unknown	33.1%
Number of cases reported in past 2 weeks: 628	

Data as of 11/4/2020. Source: Michigan Disease Surveillance System

Clinical Information

Asymptomatic Cases: 16.0%



Symptoms	Percent
Fatigue/Lethargy/Weakness	66.7%
Cough	63.6%
Fever	52.9%
Chills	46.3%
Shortness of Breath	19.8%
Difficulty Breathing	12.7%
Muscle Aches (Myalgia)	53.1%
Headaches	62.1%
Runny Nose	45.5%
Nausea	20.3%
Congestion	51.2%
Sore Throat	37.9%
Diarrhea	23.3%
Loss of taste	39.2%
Loss of smell	37.8%

Data as of 11/4/2020.

Source: Michigan Disease Surveillance System

Breakdown of Cases by School Age Categories

Total Case Count	1728	Data as of 11/4/2020.
Number of Cases <18 years	194	Source: Michigan Disease Surveillance System
% cases <18 years	11.2%	

<u>Approximate Grade Level</u>	<u>Age</u>	<u>Case Count*</u>	<u>% total cases</u>	<u>% cases <18 years</u>
	0-2 years	20	1.2%	10.3%
Pre-K age	3-4 years	15	0.9%	7.7%
K-5th grade age	5-10 years	39	2.3%	20.1%
6-8th grade age	11-13 years	36	2.1%	18.6%
9-12th grade age	14-17 years	84	4.9%	43.3%

**Case counts are based on case ages, which have been grouped into approximate grade levels. These counts may not reflect the actual grade level of cases. To prevent double-counting of cases, the age brackets do not overlap.*

Case count by age, data from 10/21/2020 to 11/4/2020

0-2 years	3-4 years	5-10 years	11-13 years	14-17 years
6	6	15	14	34

Isolation V. Quarantine: What's the difference?

ISOLATION

people who have **COVID-19**
(tested positive or given
probable diagnosis)



What to do:

- Stay home, except to get medical care
- Separate yourself from others
- Wear a mask
- Clean all "high touch" surfaces frequently

When can you be around others?

You can be around others after:

- 10 days since symptoms first appeared and
- 24 hours with no fever without the use of fever-reducing medications and
- Other symptoms of COVID-19 are improving*

*Loss of taste and smell may persist for weeks or months after recovery and need not delay the end of isolation



QUARANTINE

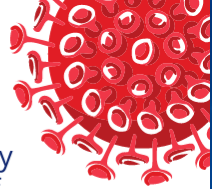
people who have **been exposed**
to **COVID-19**, but are **not sick**

What to do:

- Stay home for 14 days after your last contact with a person who has COVID-19
- Watch for fever (100.4 F, cough, shortness of breath, or other symptoms of COVID-19)
- Wear a mask
- If possible, stay away from others, especially people who are at higher risk for getting very sick from COVID-19

When can you be around others?

- 14 days after your last contact with the associated COVID-19 case
- **You cannot test out of a quarantine period**
 - Symptoms may appear 2-14 days after exposure to the virus
 - Early in incubation period, viral loads may not be high enough to produce positive test result



Who might be a close contact?

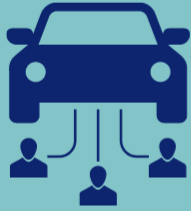
Version:10/14/2020

DISCLAIMER: This information was developed based on the latest information, but is subject to change at any time.

Mitigation strategies work!

COVID-19 and other infectious diseases. Identifying close contacts (or those that were within 6 feet for 15 or more minutes) is another key way we can slow the spread and quarantine those who may be exposed.

Everyday practices such as frequent hand washing, social distancing, properly wearing masks, and staying home when sick help all of us slow the spread of



CAR POOL BUDDIES

Co-workers driving to a destination in the same car can be close contacts if they are within 6ft of one another for 15+ minutes.

If wearing masks, the social distancing rule still applies. Scientists and doctors agree that masks and face coverings can help to reduce the spread by about 70 percent, but that doesn't cancel social distancing.



CUSTOMERS/CLIENTS

Customers or clients that shared time in an office and were within 6 feet of someone with COVID-19 for 15+ minutes.

If wearing masks, the social distancing rule still applies. Scientists and doctors agree that masks and face coverings can help to reduce the spread by about 70 percent, but that doesn't cancel social distancing.



LUNCH MATES

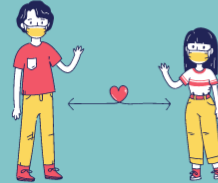
Lunch mates of person with COVID-19 if sitting within 6 feet for 15+ minutes. This is a higher risk time as face masks cannot be worn.

CUBICLE MATES

If your office space is an open concept and there are no barriers set up or social distancing is not maintained, those around a COVID-19 case would be considered a close contact.



*Public health authorities may determine that distances beyond 6 feet or less than 15 minutes can still result in high-risk exposures based on other considerations and circumstances in each particular case.



OTHERS

Any others that had interactions with someone with COVID-19 lasting over 15 minutes in confined areas such as bathrooms, office room, or meeting rooms where distancing of 6* feet is difficult to maintain.



Sufficient Health Care Capacity

Statewide Hospital Capacity Report for COVID-19*11/03/2020**

	Hospital Beds	Adult Hospital Beds	Hospital Inpatient Beds	Hospital Inpatient Bed Occupancy	Adult Hospital Inpatient Beds	Adult Hospital Inpatient Bed Occupancy	ICU Beds	ICU Bed Occupancy	Adult ICU Beds	Adult ICU Bed Occupancy	Total Ventilators	Mechanical Ventilators in use
Region 5	1,921	1,836	1,630	1,113	1,587	1,100	208	129	195	123	291	84

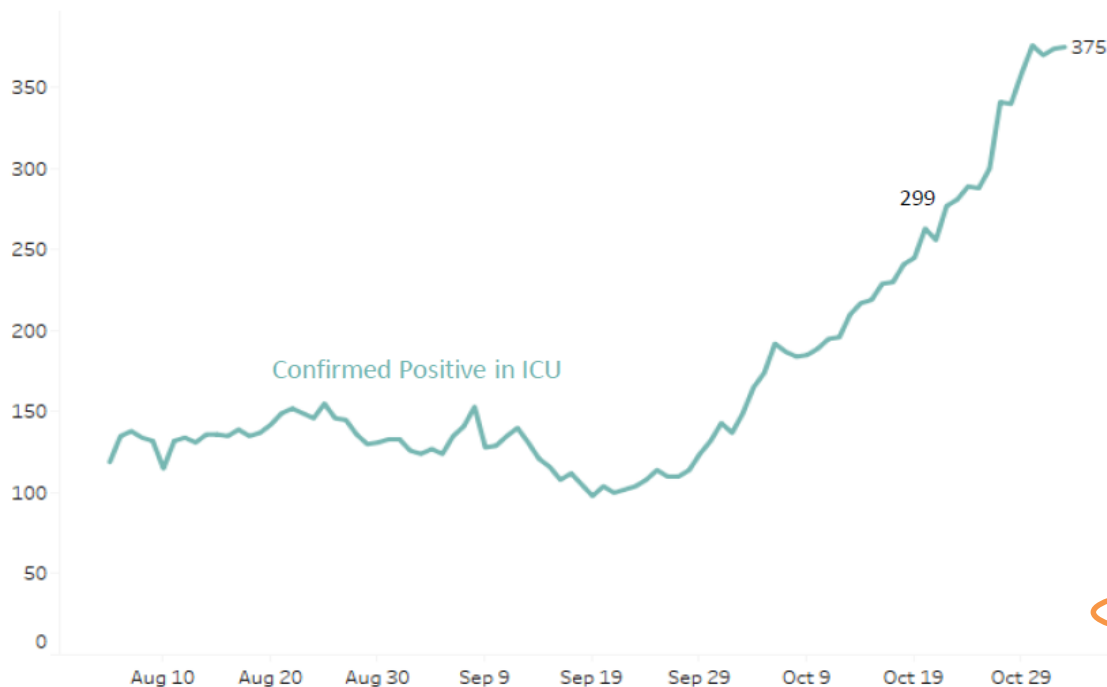
COVID-19 Metrics 11/3/2020, by HCC Region

HCC Region	Region 5
Total Hospitalized Adult Suspected/Confirmed	207
Adult Confirmed-Positive COVID	202
Hospitalized Peds Confirmed/Suspected	0
Hospitalized Ped Confirmed-Positive	0
Hospitalized and Ventilated COVID	15
Adult ICU Confirmed/Suspected COVID	37
ICU Adult Confirmed-Positive COVID	37
Prev Day COVID Related ED Visits	136



Statewide Hospitalization Trends: ICU COVID+ Census

Hospitalization Trends 8/1/2020 – 11/2/2020
Confirmed Positive in ICUs



Confirmed Positive hospitalizations in ICUs shows 5 week increasing trend as well.

Weekly growth is 25%

Doubling time is approximately 3 weeks

Statewide 15% of Adult ICU beds are occupied by COVID+ patients

	Adult ICU Occupancy	COVID in ICU	% of ICU beds COVID
Region 1	88%	28	15%
Region 2N	82%	64	12%
Region 2S	82%	62	9%
Region 3	88%	68	19%
Region 5	69%	32	16%
Region 6	71%	65	27%
Region 7	76%	24	14%
Region 8	81%	25	43%

Statewide Hospitalization Trends: Regional COVID+ Census

Hospitalization Trends 8/1/2020 – 11/2/2020
Confirmed Positive by Region



Region 6 and 7 showing rapid growth

Region 1, 5 and 8 show slower growth

On a per population basis Region 3 and 6 have highest hospitalized/Million

Region	Weekly Growth	COVID+ Hospitalized/Million Population
1	17%	101/M
2S	31%	132/M
2N	42%	169/M
3	42%	225/M
5	16%	187/M
6	75%	205/M
7	78%	82/M
8	16%	180/M

Time for your Flu Shot!

- ▶ Fighting the flu season will be especially important this year
- ▶ Helps prevent health care systems from becoming overwhelmed



Fight the Flu, Get your Flu Shot Here

Allagan County Health Department



Drive Thru (drive up and stay in your car)

Tues, Sept 29, 1:30-3:30pm

Wed, Oct 21, 9:30-11:30am

Thurs, Nov 12, 1:30-3:30pm

Vaccines Available

This year Ascension Borgess is recommending the quadrivalent high dose vaccine for those individuals who are 65 years of age or older.



Flu	Pneumonia
High Dose Quadrivalent (65 years and up)	Pneumovax 23 (19 years and up)
Flu Quadrivalent (6 months and up)	Pevnar 13 (19 years and up)
FluMist Nasal Spray (2-17 years)	

Masks/face coverings and social distancing are required.



Ascension Borgess COVID-19 guidelines will be followed. Each patient will undergo screening (temperature and questionnaire screening), be required to wear a mask and practice social distancing. Our staff will also undergo the screening process, wear a mask, practice hand washing procedures and cleaning/sanitizing supplies/tables/chairs.

All Medicare Part B plans and most commercial insurances are accepted. We are not able to accept any Medicaid or Medicaid HMO insurances. Anyone with Medicaid or Medicaid HMO insurance should contact their primary care physician for an immunization.

For anyone without insurance, we accept cash  or check . We are unable to accept credit or debit cards.

Best Practices for Organizations

Celebrating the Holidays During COVID-19

Tips for Holiday Gatherings

Holiday gatherings for Michiganders will be different this year due to COVID-19. Your family doesn't have to miss out on being together during the holidays, either virtual or in-person. Here are some tips so you can get the most out of your holiday gatherings and reduce the risk of spreading COVID-19.



Traveling for the Holidays During COVID-19

- ▶ To ensure families do not miss out on being together during the holidays, the Michigan Department of Health and Human Services (MDHHS) has issued guidance on how to travel and gather safely during the holidays.

Holiday Alternatives

- ▶ A short appetizer hour, outdoors
- ▶ Communicate virtually and eat at the same time
- ▶ If together:
 - ▶ Wear masks, except when eating
 - ▶ Keep tables and households spread out

MDHHS EPIDEMIC ORDER OCT. 29

MDHHS has issued orders under a law first enacted by the Michigan Legislature after the Spanish Flu of 1918 specifically to deal with epidemics. Note that the Supreme Court struck down a different, broader law.

Under MDHHS's epidemic order:



1 **Masks** must be worn over nose and mouth in gatherings of two or more people, including stores, offices, schools and events. Businesses cannot admit people without masks, with few exceptions.



4 **Organized sports** require masks (except for swimming) and have gathering limits.



2 **Capacity** limits apply to indoor and outdoor gatherings, including business, social and recreational settings. **They're stricter inside.**



5 **Employees** who can work from home must do so.



3 **Restaurants and bars** must limit capacity for gatherings, **may only seat six people per table**, may only serve alcohol to parties who are seated, and must keep tables six feet apart.



6 **Contact tracing:** Many businesses, **including bars and restaurants**, must collect phone numbers from their customers so they can be contacted in case they are exposed to someone who is ill.

All regions are in Phase 4 of reopening. The same rules now apply to all of Michigan.

SOCIAL GATHERING GUIDANCE OCT. 29

When socializing with friends or family:

Get together outside whenever possible. Risks are up to 20 times higher inside.

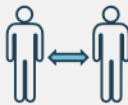
If you do get together inside, include no more than two households and never more than 10 people.

If you feel sick, don't go.

Follow these rules whenever you can:



Wear a mask – only take it off when you eat or drink, then put it back on.



Stay six feet apart.



Limit time together indoors – more time = more risk.



Keep voices down – shouting or cheering can increase COVID-19 in the air by up to 30 times.



Wash hands regularly and do not share utensils.

After a gathering, monitor yourself for symptoms of COVID-19. If anyone in the group feels sick, get tested.

COVID-19 MIOsha EMERGENCY RULES

The rules implement workplace safeguards for all businesses and specific requirements for industries, including manufacturing, construction, retail, health care, sports and exercise facilities and restaurants and bars. These rules take effect on October 14, 2020 and shall remain in effect for six months.

EMPLOYER REQUIREMENTS



Establish Exposure Determination for Employees

- The employer should evaluate routine and anticipated tasks to determine anticipated employee exposure to COVID-19.
- The employer should categorize jobs into the following risk categories:
 - **Lower exposure risk** – do not require contact with public or other workers.
 - **Medium exposure risk** – require frequent and/or close contact (ex. within six feet) with people who may be infected with SARS-CoV-2, but who are not known or suspected COVID-19 patients. Workers in this category have contact with the general public and coworkers.
 - **High exposure risk** – high potential for exposure to known sources of COVID-19, these could include healthcare professionals, law enforcement, nursing home employees, medical transport or mortuary workers.
 - **Very high exposure risk** – high potential for exposure to known or suspected sources of COVID-19 during specific medical, postmortem or laboratory procedures. Workers in this category include healthcare, dental and morgue workers performing aerosol-generating procedures.



Create a COVID-19 Preparedness and Response Plan

- The employer should develop and implement a written plan to prevent employee exposure to COVID-19.
- The plan should include exposure determination and detail the measures the employer will implement to reduce employee exposure, including any:
 - **Engineering controls** – barriers between the worker and exposure to the virus.
 - **Administrative controls** – policies, procedures and practices such as staggered work schedule, teleworking and increase social distancing measures.

- **Hand hygiene and environmental surface disinfection** – regularly clean and disinfect surfaces and equipment.
- **Personal protective equipment** – employees in frequent or prolonged close contact with known or suspected cases of COVID-19 must be provided with and wear, at a minimum, an N95 respirator.
- **Health surveillance** – screening protocols to identify known or suspected COVID-19 cases at the start of work shifts, employees should report any signs or symptoms of COVID-19.
- **Training** – employers should provide COVID-19 exposure prevention training to employees, including steps to report signs and symptoms of COVID-19.



Establish Workplace Procedures

- Identify a workplace COVID-19 coordinator.
- Examine and update policies like telework.
- Mandate face coverings as required.
- Train employees on new procedures and policies.
- Employee health screening procedures – prior to work.



Workplace Procedures - Cleaning

- The employer should routinely clean and disinfect all areas such as offices, common areas, bathrooms, shared electronic equipment and frequently touched surfaces.
- If a sick employee is suspected or confirmed to have COVID-19, perform enhanced cleaning and disinfection of the workplace.



Workplace Procedures - Sick Employees

- Require employees to report when they receive a positive test or are experiencing symptoms of COVID-19.
- Require employees to self-isolate. Employees should notify supervisors and stay home. Do not allow employees to return until home isolation criteria is met (Follow CDC Guidance) and inform other employees of possible workplace exposure (ADA compliant – keep confidentiality).



Employee Training

- Training should cover new policies and procedures like screening procedures, telework duties and employee reporting policy. Be sure to train on new controls like personal protective equipment (PPE) requirements and cleaning of workspace.

Core Mitigation Strategies



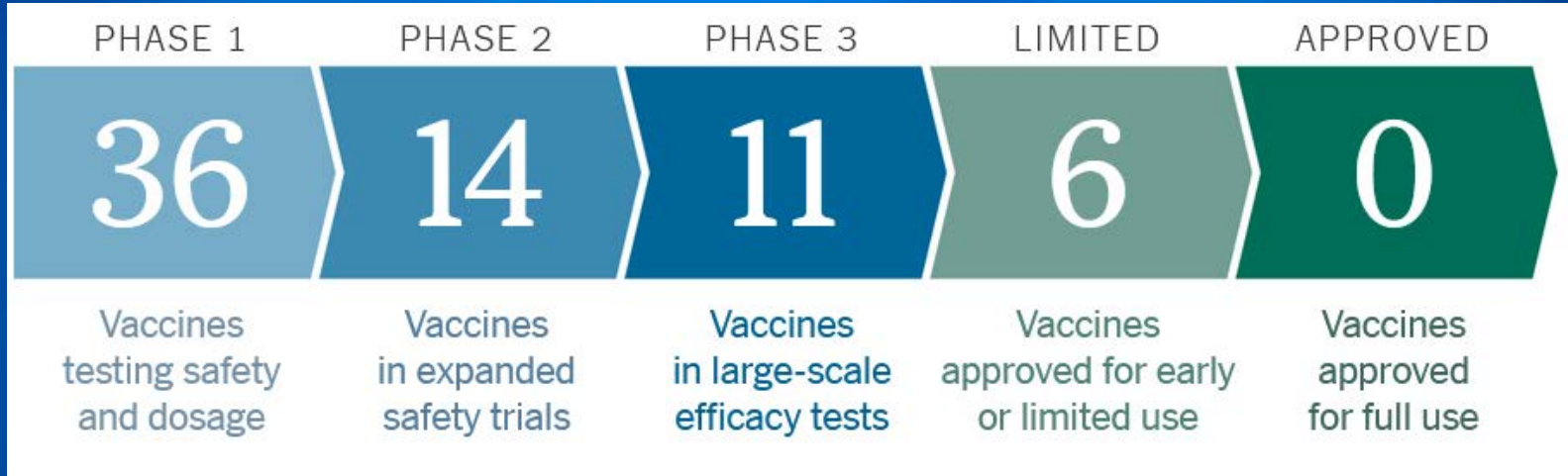
- Proper mask use
- Social Distancing
- Frequent Handwashing
- Staying Home when Sick



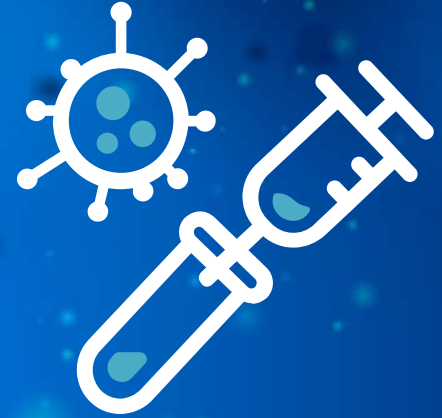
Mask Use

- ▶ Masks have shown to work at slowing disease spread by about 70%
 - ▶ Face masks block an individual's respiratory droplets from landing in the mouths or noses of people who are nearby or possibly being inhaled into the lungs.
- ▶ Sources: [Howard, J., Huang, A, et al. 2020](#); [Wang, Y., Tian, H., et al. 2020](#); Centers for Disease Control and Prevention; [Davies, A., Thompson, K. et al. 2013](#).
- ▶ Specifically with pediatric COVID-19 patients, data showed that children can carry high levels of virus in their upper airways, particularly early in an acute SARS-CoV-2 infection, yet they display relatively mild or no symptoms ([Yonker, L., Neilan, A. et al., 2020](#)).
 - ▶ This suggests that children can be superspreaders to COVID-19

Community Vaccination and/or Herd Immunity



ACHD Hotline: (269) 686-4546



Email: COVID-19@allegancounty.org



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Department