



Back to School 2021-2022 With COVID-19

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CMDHD/MMDHD/DHD#10

This meeting is for School and Health Department Staff

We have limited time to cover all our topics.
The slides and recordings will be available on
our websites within 1-3 days.

<https://www.dhd10.org/coronavirus/>

<https://www.mmdhd.org/novel-coronavirus/>

<https://www.cmdhd.org/novel-coronavirus>

If you have questions, please send them to:

For Roscommon, Osceola, Clare, Gladwin,
Arenac, Isabella Counties:

info@cmdhd.org

For Missaukee, Crawford, Kalkaska, Wexford,
Lake, Mason, Manistee, Oceana,
Newaygo, Mecosta Counties:

info@dhd10.org

For Montcalm, Gratiot, Clinton Counties:

<https://www.mmdhd.org/contact/>



Please make sure the information shared today is passed along to others who may need it, such as school COVID-19 liaisons, school secretaries, school nurses, etc.

Thank you!

Last week we sent out

- ▶ “Management of COVID-19 Cases and Close Contacts for K-12 Schools”
- ▶ “COVID-19 School Communication Guide: CMDHD/MMDHD/DHD#10”
- ▶ “Reporting Positive Employees/Students Contact Tracing Form”
- ▶ If you did not get these or ever need to find them, they are on our websites
 - <https://www.cmdhd.org/novelschools>
 - <https://www.mmdhd.org/covid-schools/>
 - <https://www.dhd10.org/coronavirus/school-guidance/>

Public Health (Federal, State, and Local) Advise ALL K-12 Schools to Adopt Policies that:

- ▶ Promote vaccination for eligible students, staff, and families.
- ▶ Require universal masking for all students, staff, and visitors regardless of community transmission rate or vaccination status.
- ▶ Strive to maintain at least 3 feet of physical distance between students and at least 6 feet between students and educators, and between educators/staff who are not fully vaccinated.
- ▶ Incorporate COVID-19 testing into their safer school prevention plans.
- ▶ Improve ventilation indoors and on buses.
- ▶ Educate and promote proper handwashing and respiratory etiquette.
- ▶ Send and keep sick staff and students home.
- ▶ Perform/cooperate with contact tracing and cooperate with enforcing recommended quarantine.
- ▶ Ensure proper cleaning and disinfection.

Due to the worsening COVID-19 situation:

- ▶ We (CMDHD, MMDHD, DHD#10) **advise/instruct** you to follow the public health recommendation that schools should mandate universal masking for students, staff, teachers and visitors.
 - ▶ CDC recommends universal indoor masking for all teachers, staff, students, and visitors (age 2 and older), regardless of vaccination status.
 - ▶ This prevention strategy is crucial to allowing students to maintain in-person learning
 - ▶ Mask use has been proven to substantially reduce transmission in school settings
- ▶ If you are not willing to do this: AT LEAST make masks RECOMMENDED (vs. “optional”), make masks available, and ensure anyone wearing a mask is not bullied/singled out

Risks of COVID-19 Spread in Schools

- ▶ Recent study used a computational model to estimate the number of new infections during 1 semester under different scenarios of mask usage, routine testing, and levels of incoming protection.
- ▶ They reported that
 - ▶ the Delta variant is very infectious; kids under 12 years old are not yet eligible for vaccines and therefore remain unprotected
 - ▶ Without masks or testing, up to 90% of susceptible students may become infected by the end of the semester (if only 30% have incoming protection in the form of vaccination or prior infection)
 - ▶ Masks and testing, in combination, can prevent 40-70% of new infections (or more with high-quality, well-fitting masks)
 - ▶ Universal masking can reduce student infections by 26-78%
 - ▶ Biweekly testing along with masking reduces infections by another 50%.

Zhang, Yiwei, et al. "COVID-19 Projections for K12 Schools in Fall 2021: Significant Transmission without Interventions." medRxiv (2021).
medrxiv.org/content/10.1101/2021.08.10.21261726v1.full-text

See excellent review at: <https://covsim.hosted-wordpress.oit.ncsu.edu/school-level-modeling-results/>



Modeling: Masks can substantially reduce transmission in school settings

If 1 infectious child attends a class of 25 students, how long does it take for there to be a >50% chance of transmission occurring?



Estimates from the [COVID-19 Indoor Safety Guideline](#), based on [Bazant and Bush, A guideline to limit indoor airborne transmission of COVID-19, PNAS 2021](#). Simulations assume: delta strain, normal talking (not singing/etc.), with child age group for elementary and average between adult and child age groups for high school. Vaccine coverage was assumed to be 0% for elementary and 33% for high school, based on age-specific coverage rates as of 8/6/21. We assumed 95% mask fit/compliance for 'Complete Masking' and 75% for 'Imperfect Masking'.

Low SARS-CoV-2 Transmission in Elementary Schools — Salt Lake County, Utah, December 3, 2020–January 31, 2021

Weekly / March 26, 2021 / 70(12);442–448

- Layered strategy: high adherence to masking + classroom cohorting and other measures—but classroom seats were a median of 3 ft apart
- “In a high community transmission setting, low school-associated transmission was observed with a 0.7% secondary attack rate.”

Pilot Investigation of SARS-CoV-2 Secondary Transmission in Kindergarten Through Grade 12 Schools Implementing Mitigation Strategies — St. Louis County and City of Springfield, Missouri, December 2020

Layered prevention strategies including masking

Secondary transmission in only 2 of 102 close contacts tested

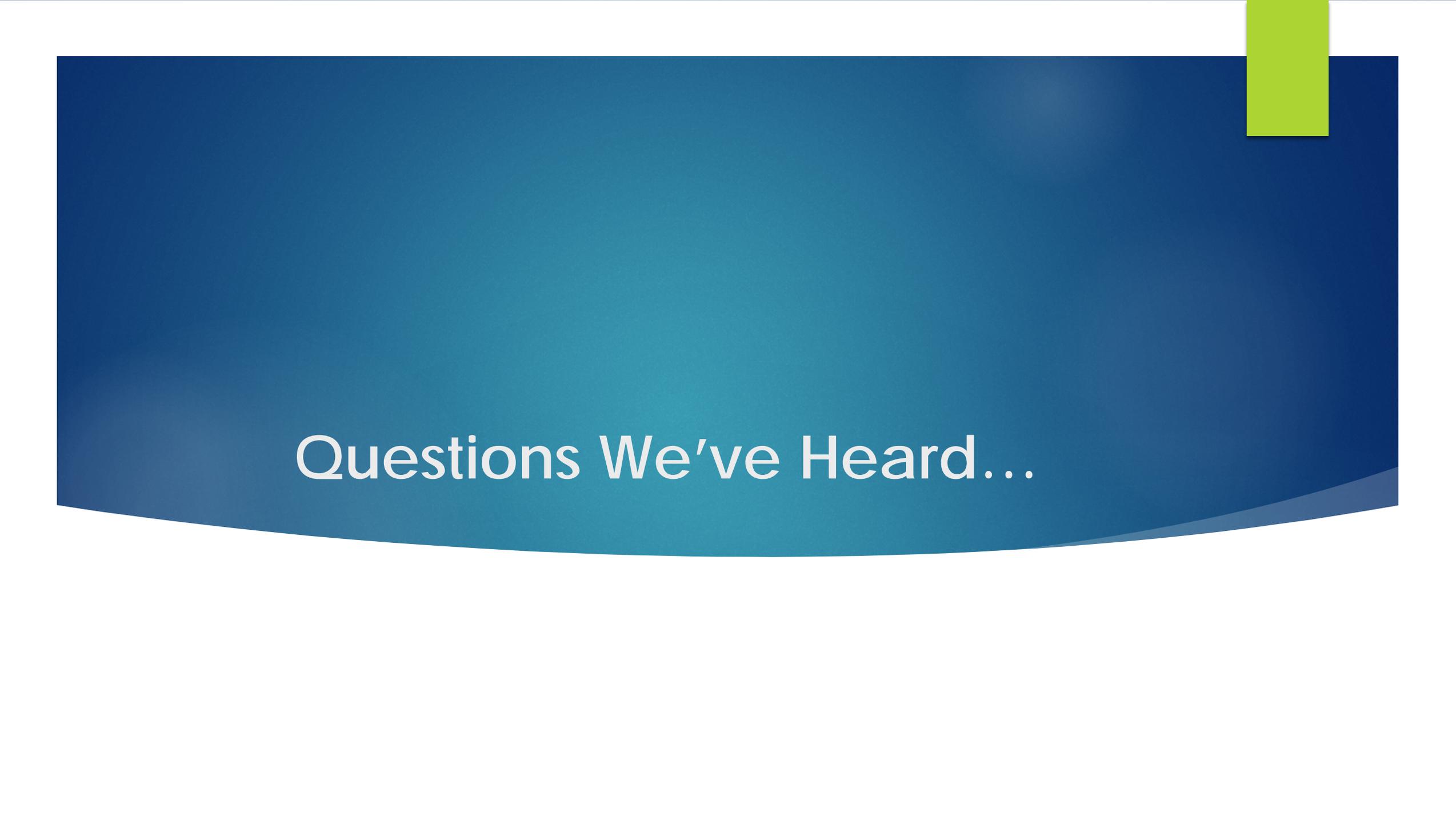
Weekly / March 26, 2021 / 70(12);449–455

Clusters of SARS-CoV-2 Infection Among Elementary School Educators and Students in One School District — Georgia, December 2020–January 2021

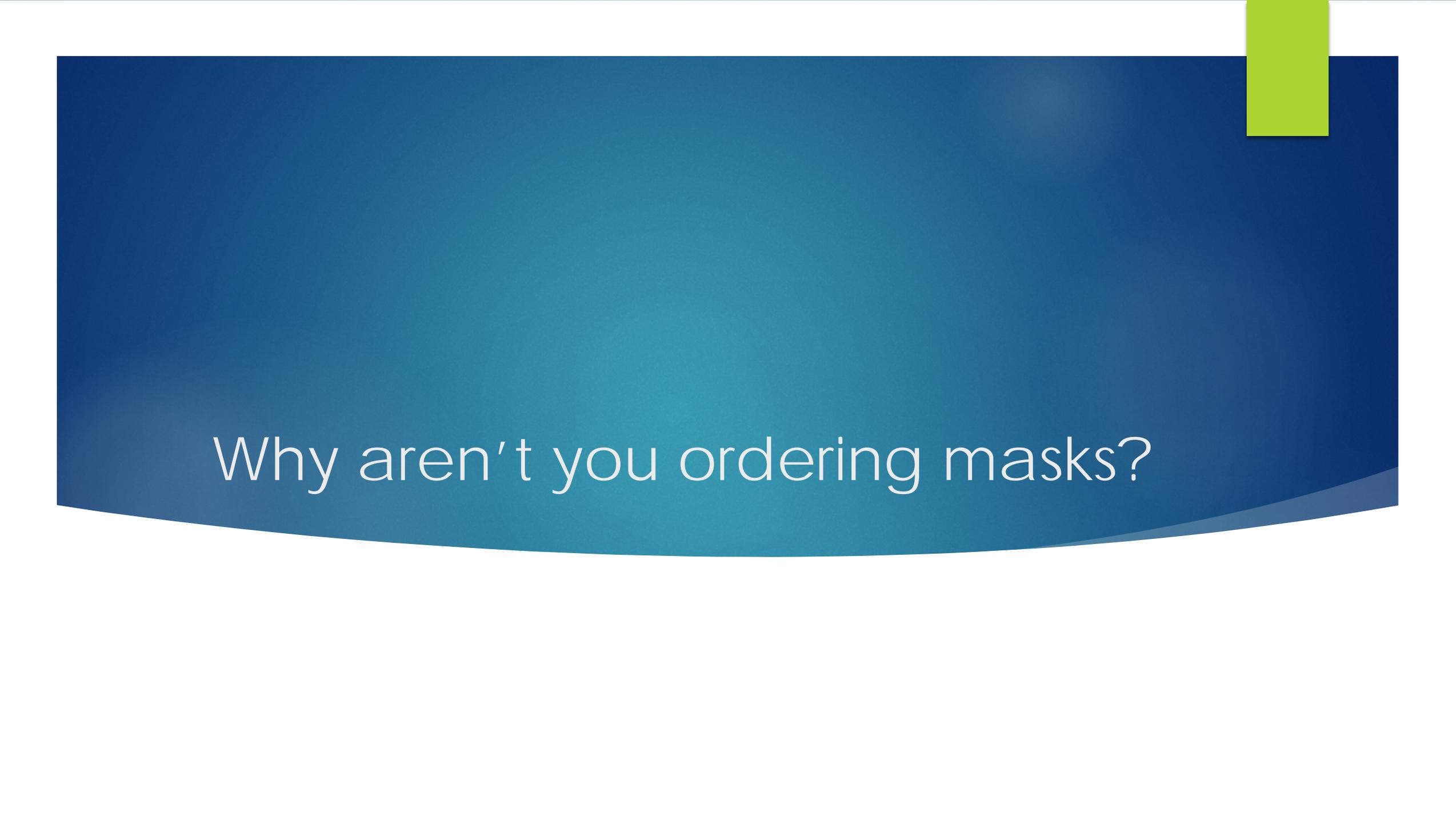
Weekly / February 26, 2021 / 70(8);289–292 **Five of the nine transmission clusters involved inadequate mask use by students**

Reviews of the Effectiveness of Masking

- ▶ Masks & Face Coverings for the Public, Infectious Disease Society of America (IDSA) <https://www.idsociety.org/covid-19-real-time-learning-network/infection-prevention/masks-and-face-coverings-for-the-public/>
- ▶ Update Alert: Masks for Prevention of Respiratory Virus Infections, Including SARS-CoV-2, in Health Care and Community Settings, Annals of Internal Medicine <https://www.acpjournals.org/doi/10.7326/l20-0948>
- ▶ Update Alert 2: Masks for Prevention of Respiratory Virus Infections, Including SARS-CoV-2, in Health Care and Community Settings, Annals of Internal Medicine <https://www.acpjournals.org/doi/10.7326/l20-1067>
- ▶ Update Alert 3: Masks for Prevention of Respiratory Virus Infections, Including SARS-CoV-2, in Health Care and Community Settings, Annals of Internal Medicine <https://www.acpjournals.org/doi/10.7326/l20-1292>
- ▶ Update Alert 4: Masks for Prevention of Respiratory Virus Infections, Including SARS-CoV-2, in Health Care and Community Settings, Annals of Internal Medicine <https://www.acpjournals.org/doi/10.7326/l20-1429>
- ▶ Update Alert 5: Masks for Prevention of Respiratory Virus Infections, Including SARS-CoV-2, in Health Care and Community Settings, Annals of Internal Medicine <https://www.acpjournals.org/doi/10.7326/L21-0116>
- ▶ Update Alert 6: Masks for Prevention of Respiratory Virus Infections, Including SARS-CoV-2, in Health Care and Community Settings, Annals of Internal Medicine <https://www.acpjournals.org/doi/10.7326/L21-0393>



Questions We've Heard...



Why aren't you ordering masks?

My Explanation for Why Are We Not Making a Public Health Order currently...

Here are our tools available to us to enforce any order; they require cooperation of others (law enforcement/prosecutors/judges) to enforce them and use legal/criminal power (i.e., not our preference and does not typically happen...):

- ▶ MCL 764.15(1): An individual may be arrested if a violation occurs in the presence of a police officer or (since the penalty is punishable by imprisonment for more than 92 days) if a police officer has reasonable cause to believe the individual has violated a rule or order.
- ▶ 333.1299 Violation as misdemeanor; prosecution.
 - (1) A person who violates a provision of this code for which a penalty is not otherwise provided is guilty of a misdemeanor.
 - (2) A prosecuting attorney having jurisdiction and the attorney general knowing of a violation of this code, a rule promulgated under this code, or a local health department regulation the violation of which is punishable by a criminal penalty may prosecute the violator.
- ▶ A local health officer may also go to court to request an injunction:
- ▶ 333.2465 Injunctive action; liability for damages.
 - (1) Notwithstanding the existence and pursuit of any other remedy, a local health officer, without posting bond, may maintain injunctive action to restrain, prevent, or correct a violation of a law, rule, or order which the officer has the duty to enforce, or to restrain, prevent, or correct an activity or condition which the officer believes adversely affects the public health.

Preferable solution...

- ▶ Schools make their own rules based on public health recommendations that they can then enforce in their own way
 - ▶ Like how you enforce the recommendation in the "[Managing Communicable Diseases in School](#)" manual
- ▶ Not the best examples, but I assume this is like other things that you get recommendations on but not ordered to do like:
 - ▶ Cell phone rules
 - ▶ Dress code rules
 - ▶ Certain aspects of building safety

Sample Mask Rules for School

_____ Schools require that **all** students, teachers, staff, coaches, volunteers, and visitors in the K-12 buildings consistently and properly wear a mask covering both nose and mouth while inside any enclosed building or structure of their institution or as part of a school sponsored functions. This requirement is regardless of COVID-19 vaccination status or prior illness with COVID-19.

Teachers or other staff working with children who are hard of hearing or have neurodevelopmental disorders who benefit from facial cues can use masks that include a clear panel (while fitting snugly around the wearer's face). A face shield can not be used in place of a face mask.

Slit masks are permitted only while students are playing wind or brass instruments. When instruments are not being played, students should wear appropriate cloth face coverings.

This requirement does not apply to the following Persons:

1. Persons in the act of eating or drinking.
2. Persons outdoors so long as they are not engaged in activities involving direct physical contact.
3. Persons under the age of two years.
 - a. For Persons 2 through 4, only a good faith effort need be made to ensure mask use.
4. Students of any age attending school with a neurodevelopmental disorder that causes mask use to be disruptive to their learning or otherwise difficult, although supervised masking is encouraged.
5. Persons who have a current medical reason confirmed in writing from a Medical Doctor (MD), Doctor of Osteopathic Medicine (DO), Nurse Practitioner (NP), or Physician Assistant (PA) currently licensed to practice medicine in the State of Michigan in a specialty trained to treat the condition in question.

Question about Masks on Buses

See <https://www.cdc.gov/coronavirus/2019-ncov/travelers/face-masks-public-transportation.html>

On January 29, 2021, CDC issued an [Order](#) that required face masks to be worn by all people while on public transportation (which included all passengers and all personnel operating conveyances) traveling into, within, or out of the United States and U.S. territories.

...

Are masks required on school buses?

Yes, passengers and drivers must wear a mask on school buses, including on buses operated by public and private school systems, subject to the exclusions and exemptions in CDC's Order. Operators of school buses should refer to the Department of Education's [COVID-19 Handbook pdf icon\[PDF - 27 pages\]](#) for additional guidance.

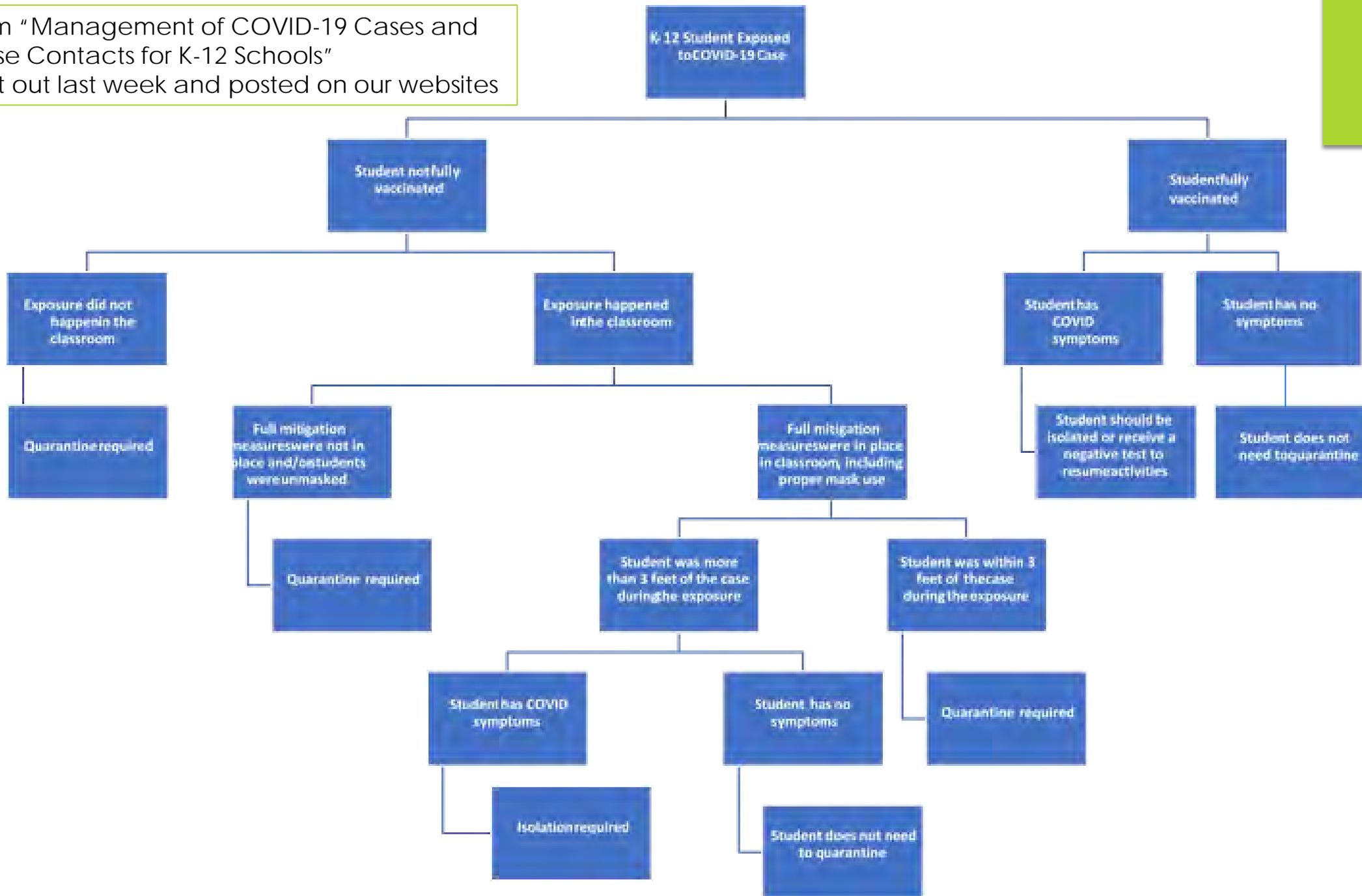
A driver does not need to wear a mask if they are the only person on the bus.

Questions About Quarantine

Reminder: If everyone is wearing masks as they should and staying at least 3 ft apart most of the time, then quarantine should rarely be needed

Otherwise: if unmasked and unvaccinated: if w/i 6 feet of each other for >15 min. total over a 24-hr. period, need to quarantine at least 10 days

From "Management of COVID-19 Cases and Close Contacts for K-12 Schools"
Sent out last week and posted on our websites



Quarantine Enforcement

- ▶ Under the Revised School Code, **public schools have a responsibility to provide “for the safety and welfare of pupils** while at school or a school sponsored activity or while *en route* to or from school or a school sponsored activity” ([MCL 380.11a](#)).”
 - ▶ Every medical and public health organization recommends quarantine of close contact of COVID-19 as an evidence-based method to stop the spread of COVID-19
 - ▶ When a close contact is identified, public health is advising them to quarantine for at least 10 days
 - ▶ **To protect the safety and welfare of those at your school, you need to enforce the quarantine recommendation**
- ▶ Your legal authority to do this is further supported by the [Michigan Administrative Code](#) R 325.175 (2):
 - ▶ When a school official reasonably suspects that a student has a communicable disease, the official may exclude the student for a period sufficient to obtain a determination by a physician or local health officer as to the presence of a communicable disease.
 - ▶ Just because it says “may” doesn’t mean it is your option; this rule just give you the legal authority to exclude the student

Enforcing Quarantine and Isolation

- ▶ **Question:** What do we do if someone that should be in quarantine or isolation shows up to school?
- ▶ **Answer:**
 - ▶ What would you do if someone came to school today whose healthcare provider said they couldn't come to school for another 3 days due to a contagious illness?
 - ▶ What would you do if a student who had a concussion wanted to go to football practice and he hadn't been cleared by a healthcare provider yet?
 - ▶ What do you do if someone was exposed to whooping cough and the health department says they can't return until they finish either 5 days of antibiotics or a 21-day quarantine?
 - ▶ What would you do if someone that was suspended showed up?

DO THE SAME THING AS THAT- and have them masked and isolated away from others while waiting to return home.

Quarantine and Vaccination/Prior Illness

- ▶ No quarantine is required if the close contact is fully vaccinated at the time they were exposed to COVID-19 or was diagnosed with COVID-19 within 90 days prior to their exposure to COVID-19, and remain free of symptoms of COVID-19
- ▶ **Public Act 339** states that an employee who has close contact with an individual who tests positive for COVID-19 shall not report to work until 1 of the following conditions is met:
 - ▶ (a) The quarantine period has passed since the employee last had close contact with the individual.
 - ▶ (b) The employee is advised by a health care provider or public health professional that they have completed their period of quarantine.
- ▶ A Public health professional is officially advising you now (Dr. Morse) that **an employee that is fully vaccinated at the time they were exposed to COVID-19 or was diagnosed with COVID-19 within 90 days prior to their exposure to COVID-19, and remain free of symptoms of COVID-19, can report to work and do not need to quarantine.**

Question about water fountains

- ▶ Water fountains are allowed since we aren't as worried about COVID-19 on objects anymore based on the evidence.
- ▶ Be sure to flush them well and any other faucets that are used for drinking that have not been used over the summer
 - ▶ See https://www.michigan.gov/egle/0,9429,7-135-3313_3675_3691-474608--,00.html for more info.

Reminder about MCIR:

- ▶ MCIR/SIRS is designed for your authorized users who agreed to use it only for authorized state business
- ▶ That business is to validate and report only school/childcare required vaccines (K, 7th, and new students).
- ▶ Access is not to be used look up anyone that they are not required to report on and are to be used only for the vaccines that are required.
- ▶ They should not be looking up anyone's COVID-19 vaccination status including staff.
- ▶ They are not to share their user ID/password with anyone else
- ▶ As of August 19th, 2021, anyone 18 and older will be able to locate their immunization record in MCIR
- ▶ The immunization record from MCIR will appear as a .pdf document which can be downloaded, saved, or printed.
- ▶ The portal can be found online at www.michigan.gov/immunize or at Michigan.gov/Milmmms Portal and is available on computers or smart devices.
- ▶ As the portal is only available for those 18 years or older, parents won't be able to download their children's immunization records.
 - ▶ Parents may contact their child's physician's office or local health department to get a copy of the child's immunization records.



Status of Illness in Children in US

8/12 Children and COVID19: State Data Report A joint report from the American Academy of Pediatrics and the Children's Hospital Association

<https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/children-and-covid-19-state-level-data-report/>

▶ Cumulative Number of Child COVID19 Cases

- ▶ 4,413,547 **total** child cases reported, and **children represented 14.4% of all cases**
 - ▶ **MICHIGAN: 16.6% (above national average)**
- ▶ Overall rate: **5,864 cases per 100,000 children** in the population
 - ▶ **MICHIGAN: 7054 per 100,000 children (above national average)**

▶ Change in Child COVID19 Cases

- ▶ 121,427 child cases were reported **from 8 /5/21 to 8/12/21 and children represented 18.0% of the weekly reported cases**
- ▶ Over **two weeks, 7/29/21-8/12/21, there was a 5% increase** in the cumulated number of child COVID 19 cases

▶ Testing (11 states reported-Michigan not included)

- ▶ Among states reporting, children made up between 10.9-20.6% of total tests, and between 4.7%-17.7% of children tested were positive

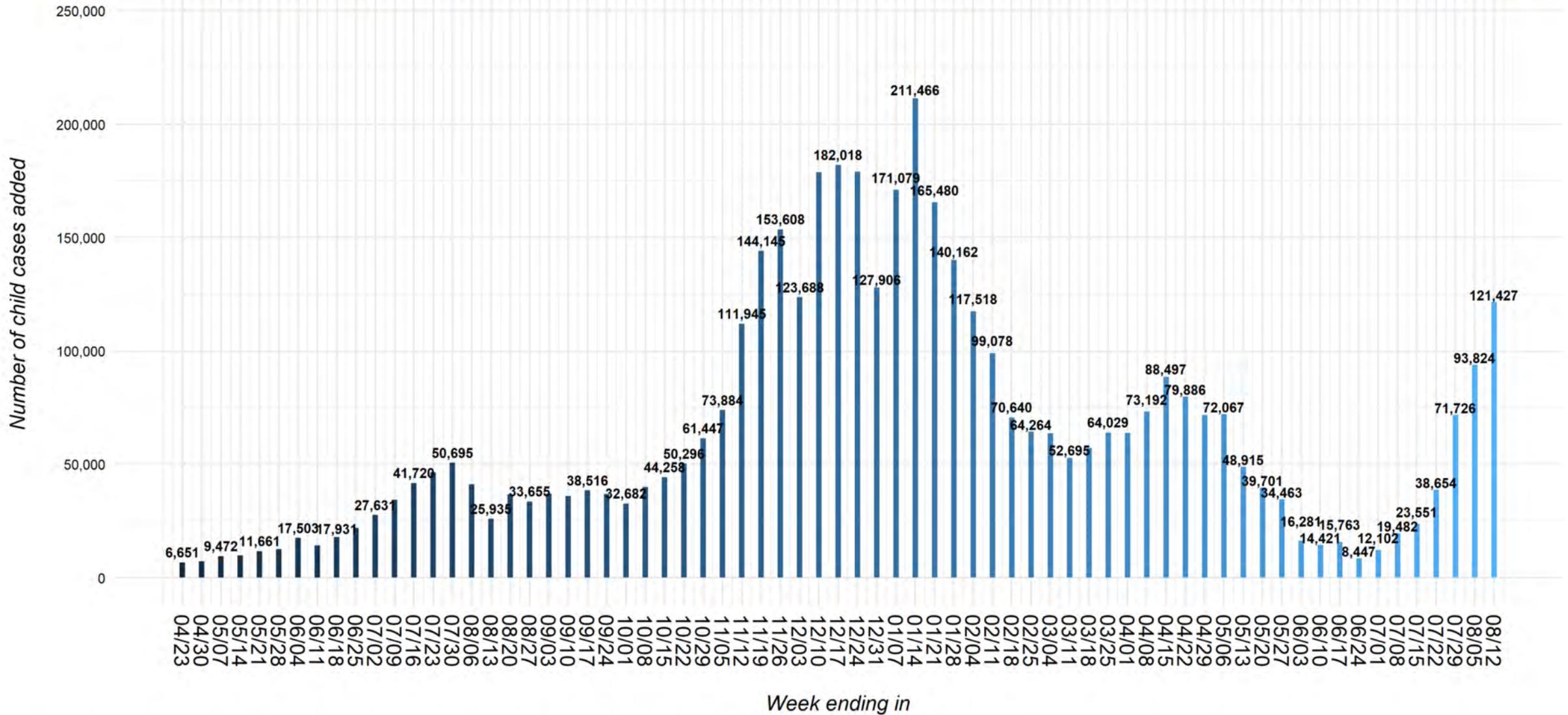
▶ Hospitalizations (23 states and NYC reported-Michigan not included)

- ▶ Among states reporting, **children ranged from 1.6%-3.5% of their total cumulated hospitalizations**; 0.2%-1.9% of all their child COVID 19 cases resulted in hospitalization

▶ Mortality (43 states, NYC, PR and GU reported-Michigan not included)

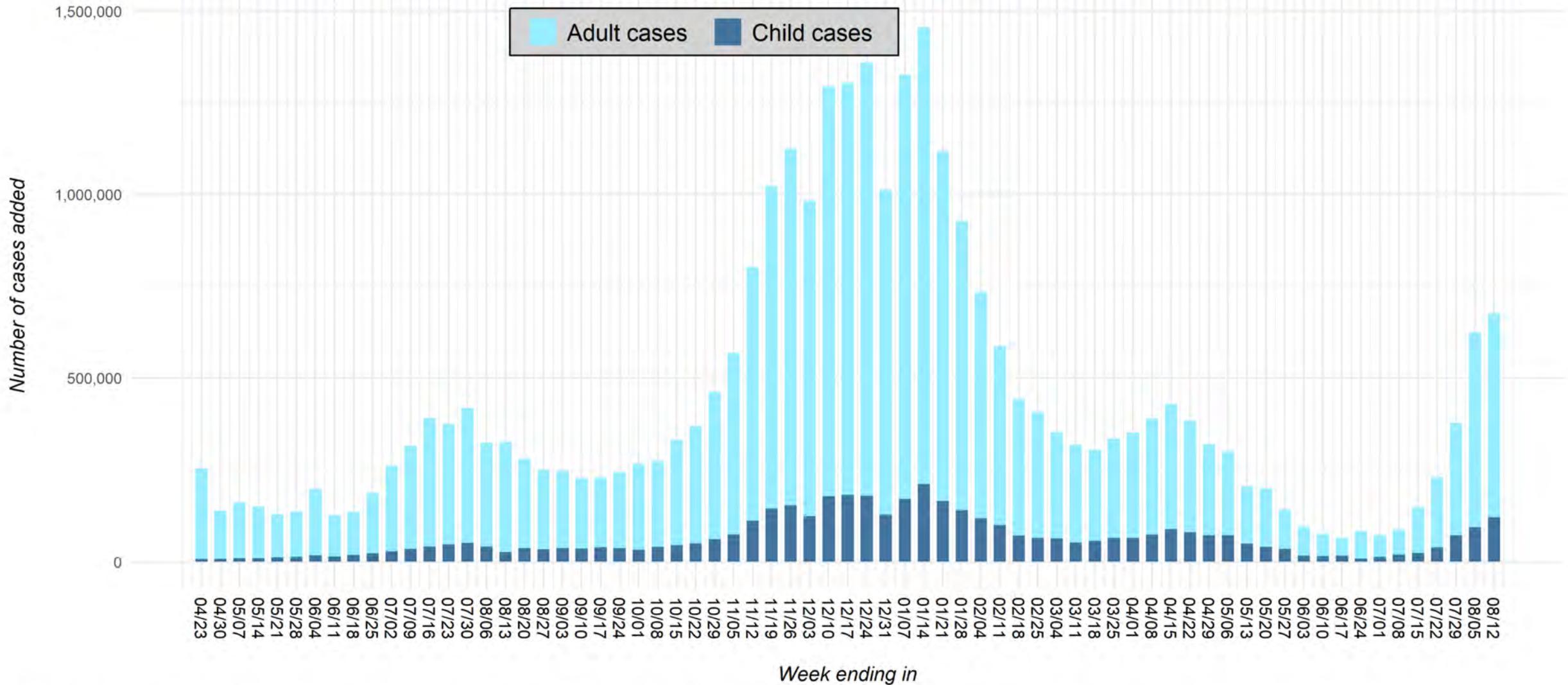
- ▶ Among states reporting, **children were up to 0.25% of all COVID 19 deaths**, and 7 states reported zero child deaths
- ▶ In states reporting, up to 0.03% of all child COVID 19 cases resulted in death

Fig 6. United States: Number of Child COVID-19 Cases Added in Past Week*



* Note: 4 states changed their definition of child cases: AL as of 8/13/20, HI as of 8/27/20, RI as of 9/10/20, MO as of 10/1/20; TX reported age for only a small proportion of total cases each week (eg, 3-20%)
 As of 6/30/21, NE COVID-19 dashboard is no longer available; NE cumulative cases through 6/24/21
 Due to available data and changes made to dashboard, AL cumulative cases through 7/29/21
 Due to available data and calculations required to obtain MA child cases, weekly estimates fluctuate (eg, on 8/5/21, there were 1,463 fewer cases)
 Due to available data and changes made to dashboard, WV cumulative cases through 8/5/21
 See detail in Appendix: Data from 49 states, NYC, DC, PR and GU
 All data reported by state/local health departments are preliminary and subject to change; Analysis by American Academy of Pediatrics and Children's Hospital Association

Fig 7. United States: Number of COVID-19 Cases Added in Past Week for Children and Adults*



* Note: 4 states changed their definition of child cases: AL as of 8/13/20, HI as of 8/27/20, RI as of 9/10/20, MO as of 10/1/20; TX reported age for only a small proportion of total cases each week (eg, 3-20%)
 As of 6/30/21, NE COVID-19 dashboard is no longer available; NE cumulative cases through 6/24/21
 Due to available data and changes made to dashboard, AL cumulative cases through 7/29/21
 Due to available data and changes made to dashboard, definition of LA total cumulative cases changed on 8/5/21
 Due to available data and calculations required to obtain MA child cases, weekly estimates fluctuate (eg, on 8/5/21, there were 1,463 fewer cases)
 Due to available data and changes made to dashboard, WV cumulative cases through 8/5/21
 See detail in Appendix: Data from 49 states, NYC, DC, PR and GU
 All data reported by state/local health departments are preliminary and subject to change; Analysis by American Academy of Pediatrics and Children's Hospital Association

New Admissions of Patients with Confirmed COVID-19 per 100,000 Population by Age Group, United States

Aug 01, 2020 - Aug 14, 2021



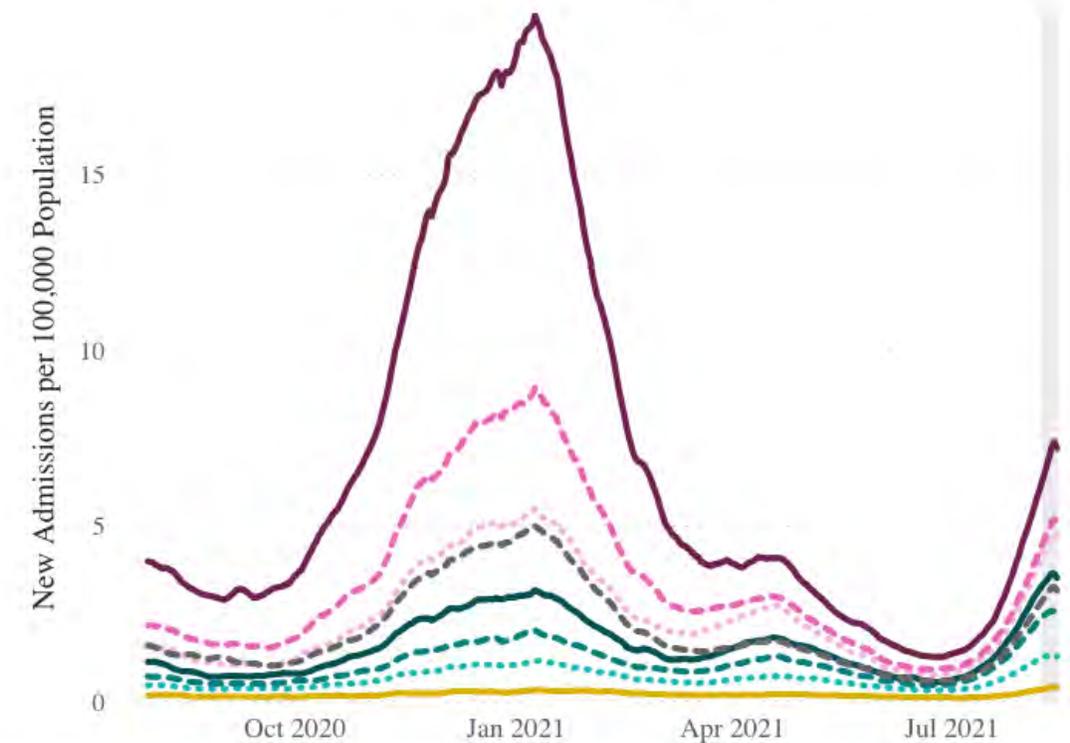
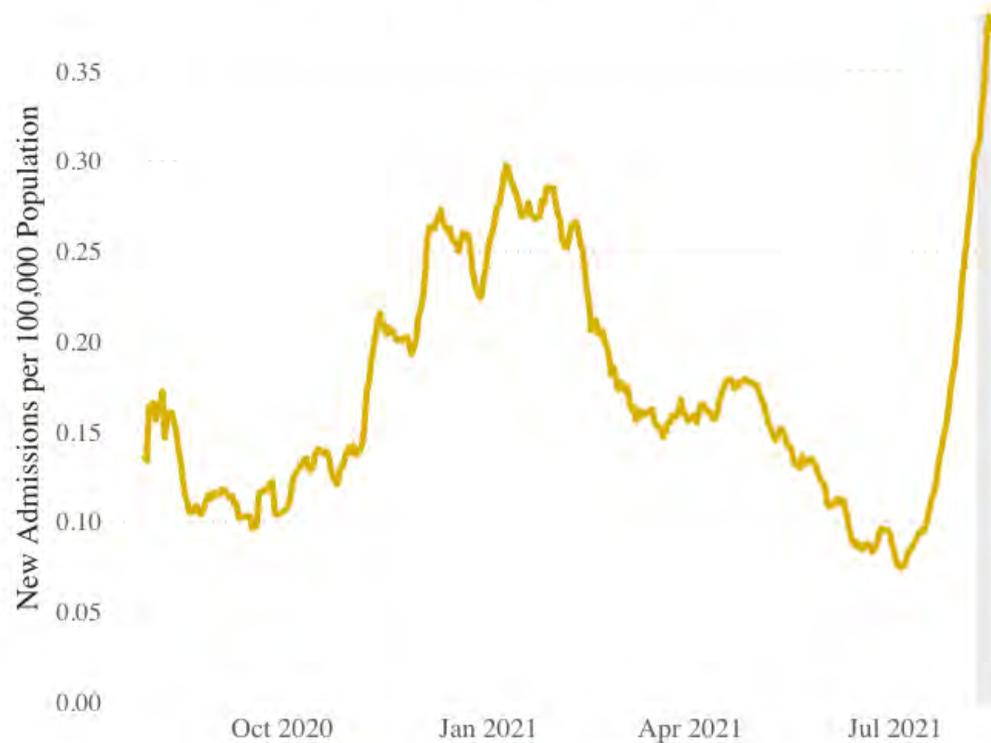
By Jurisdiction and Age Group | By Jurisdiction

Select a Jurisdiction
United States

Select an Age Group
0 - 17 Years

United States | 0 - 17 Years

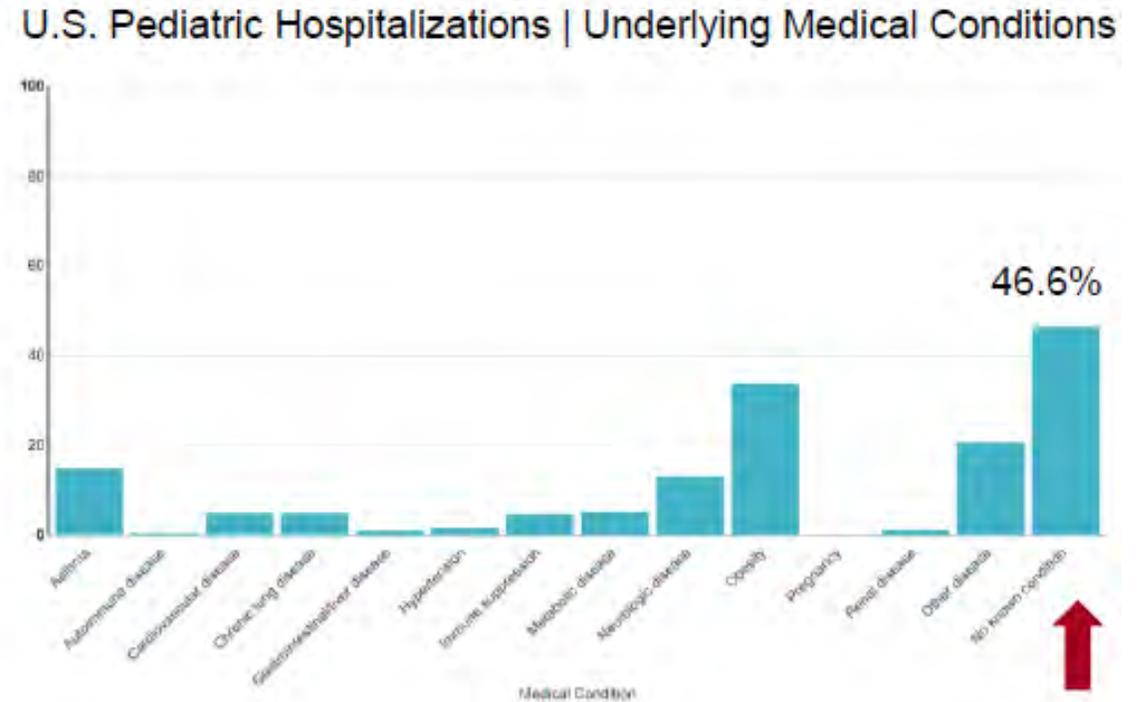
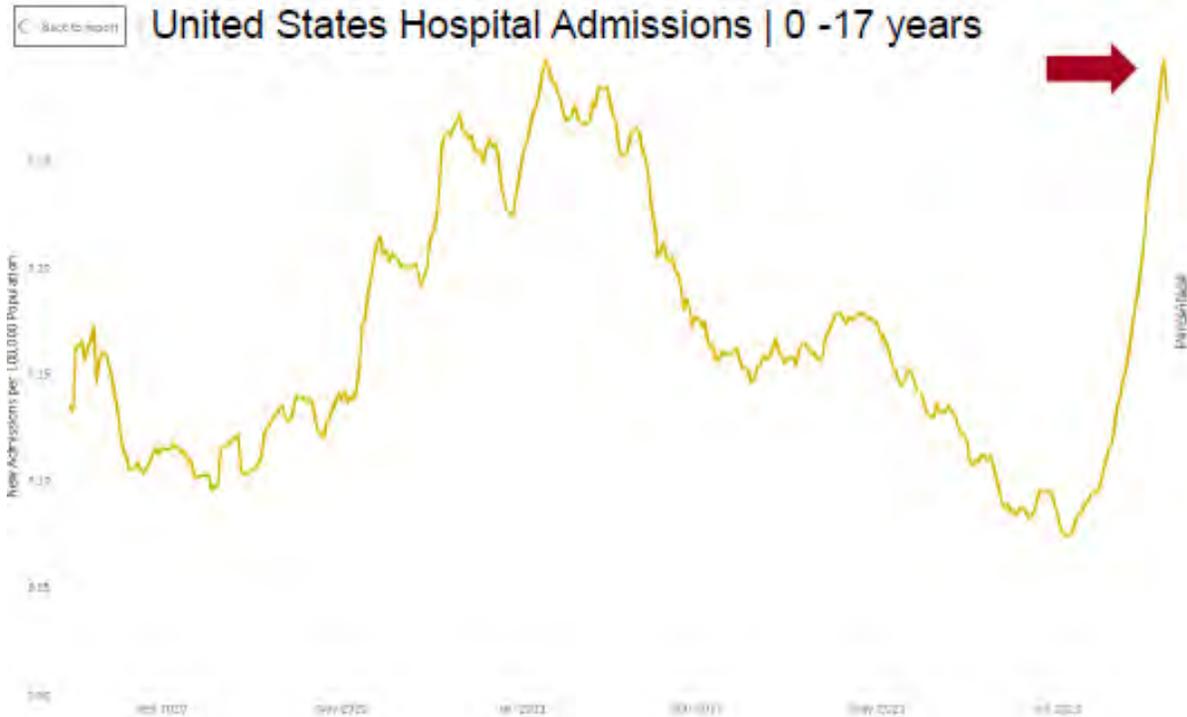
United States | All Age Groups



Age Group — 0 - 17 Years — 18 - 29 Years — 30 - 39 Years — 40 - 49 Years — 50 - 59 Years — 60 - 69 Years — 70+ Years — All Ages

SARS-CoV-2 can Negatively Impact Children Directly and Indirectly

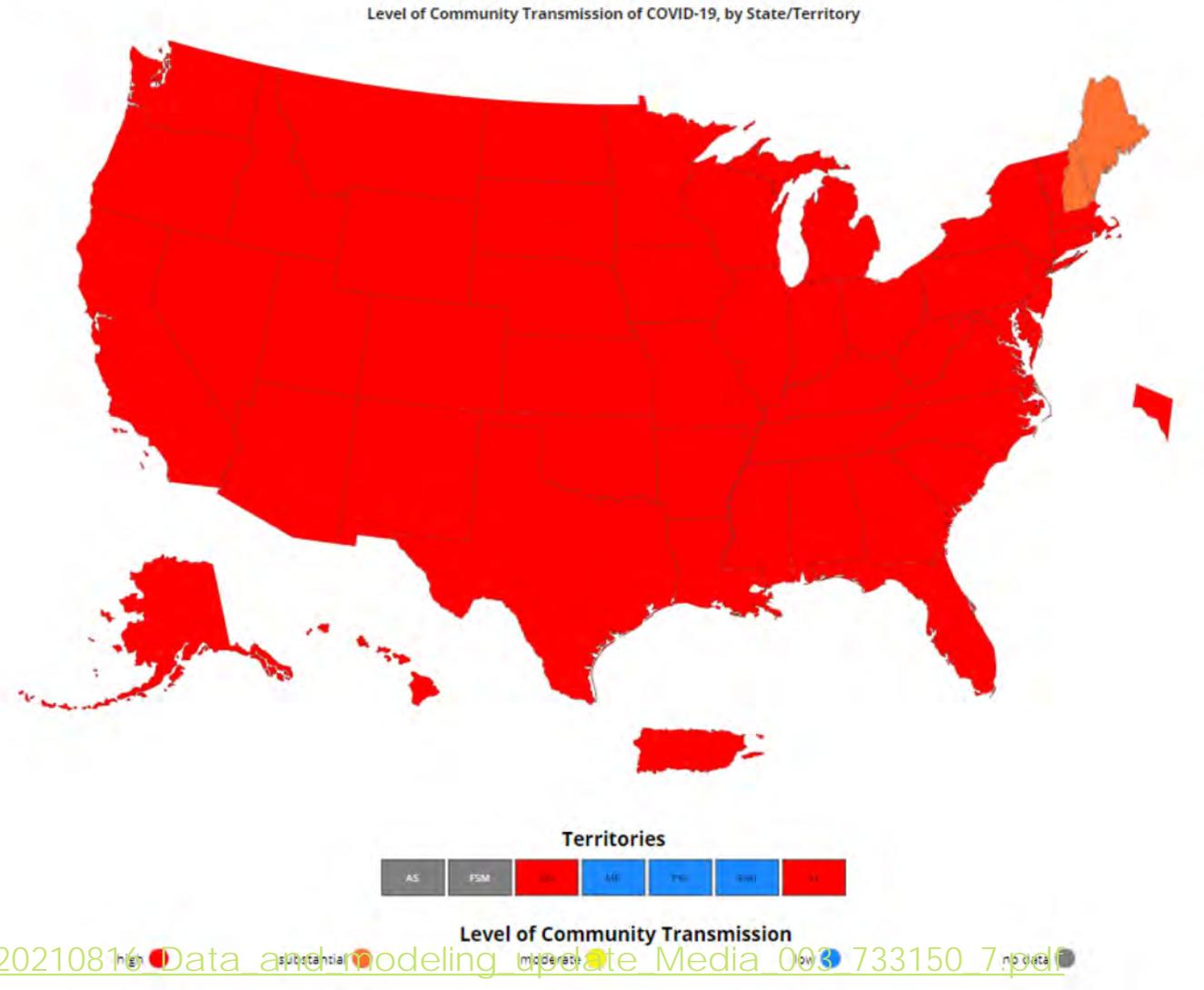
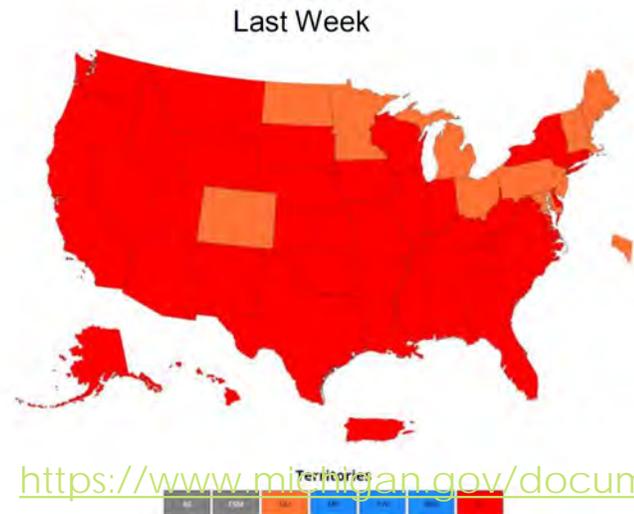
- Children can experience severe health outcomes from COVID-19 including MIS-C and Hospitalization
 - Hospitalizations among children nationwide is higher than it's ever been*
 - Nearly half of children hospitalized have no reported underlying conditions†



Sources: * [CDC COVID Data Tracker > New Hospital Admissions](#); † [COVIDNET](#)

Nearly all States and Territories are at High CDC Transmission Level

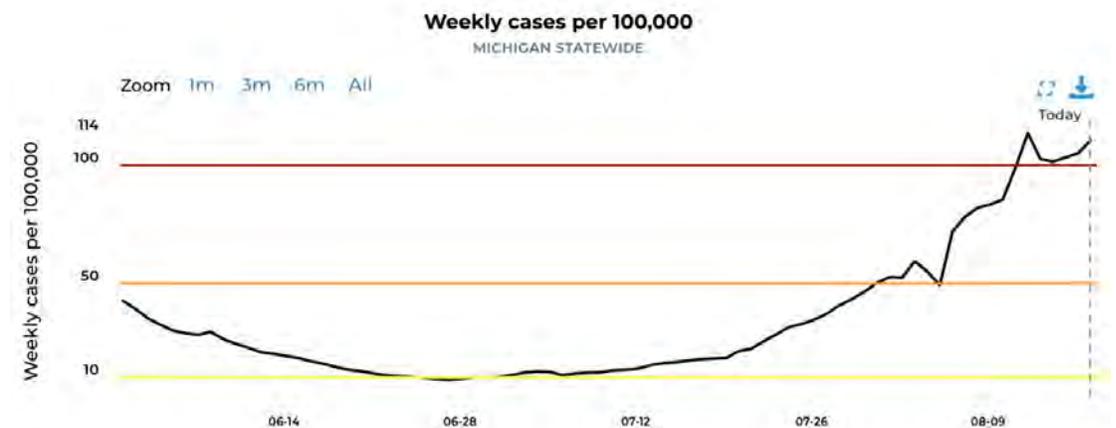
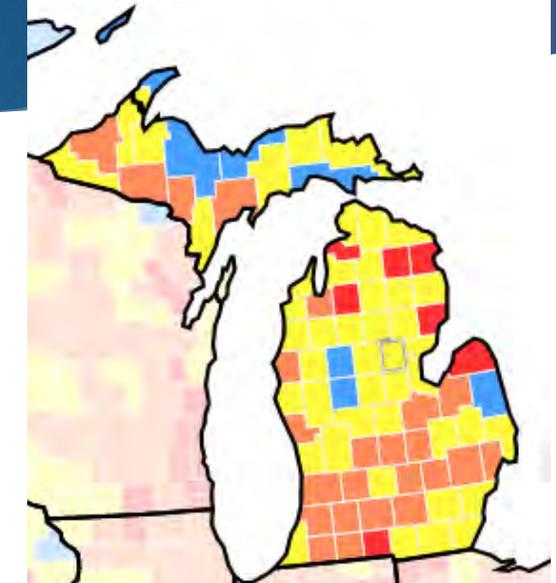
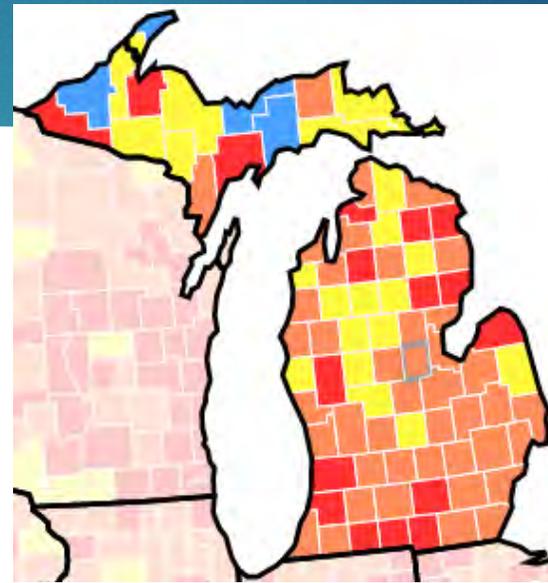
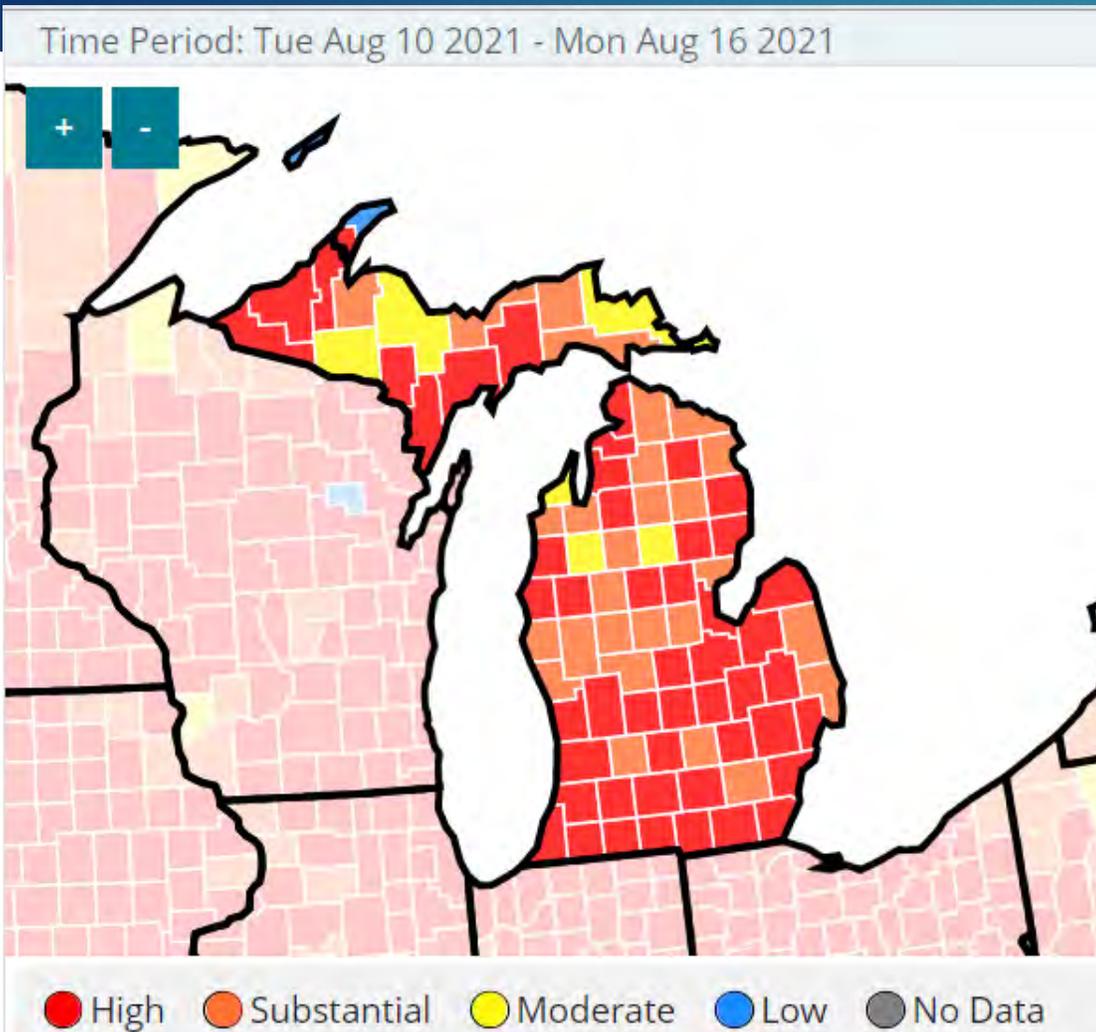
- 2 jurisdictions have substantial transmission (orange states); down 12 from 7 days ago
- 52 jurisdictions have high transmission (red states); up 12 from 7 days ago
- CDC recommends masking when indoor public spaces; regardless of vaccination status



August 18

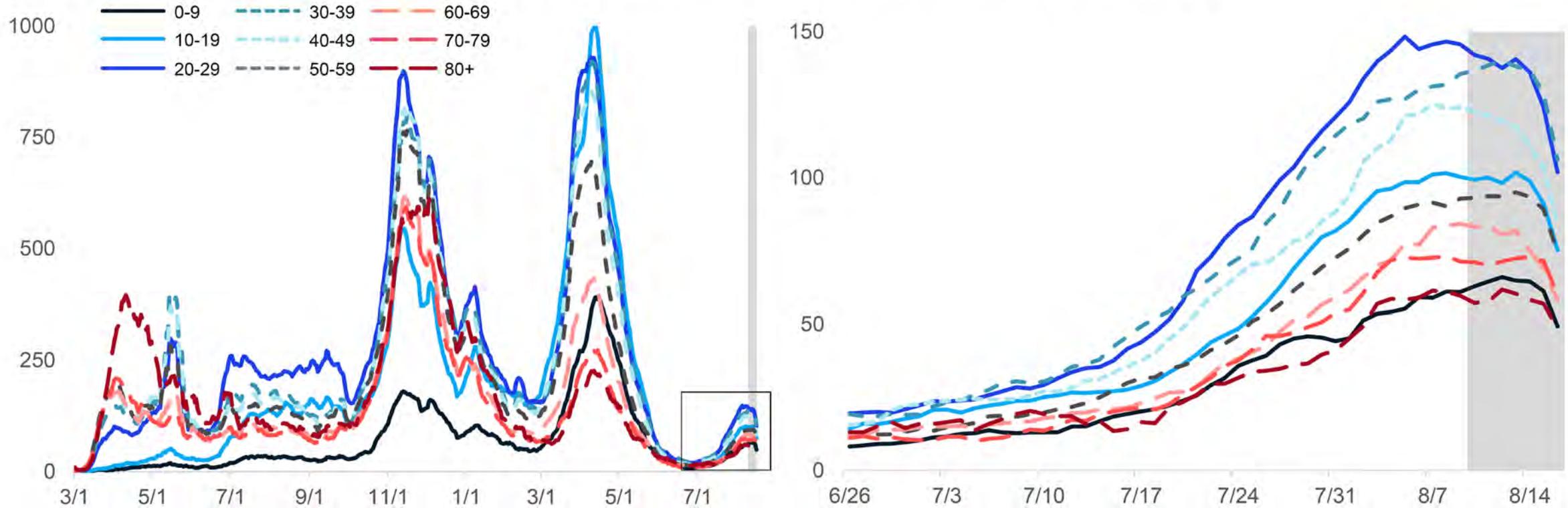
August 8

August 1



Case Rate Trends are Increasing for All Age Groups

Daily new confirmed and probable cases per million by age group (7-day rolling average)



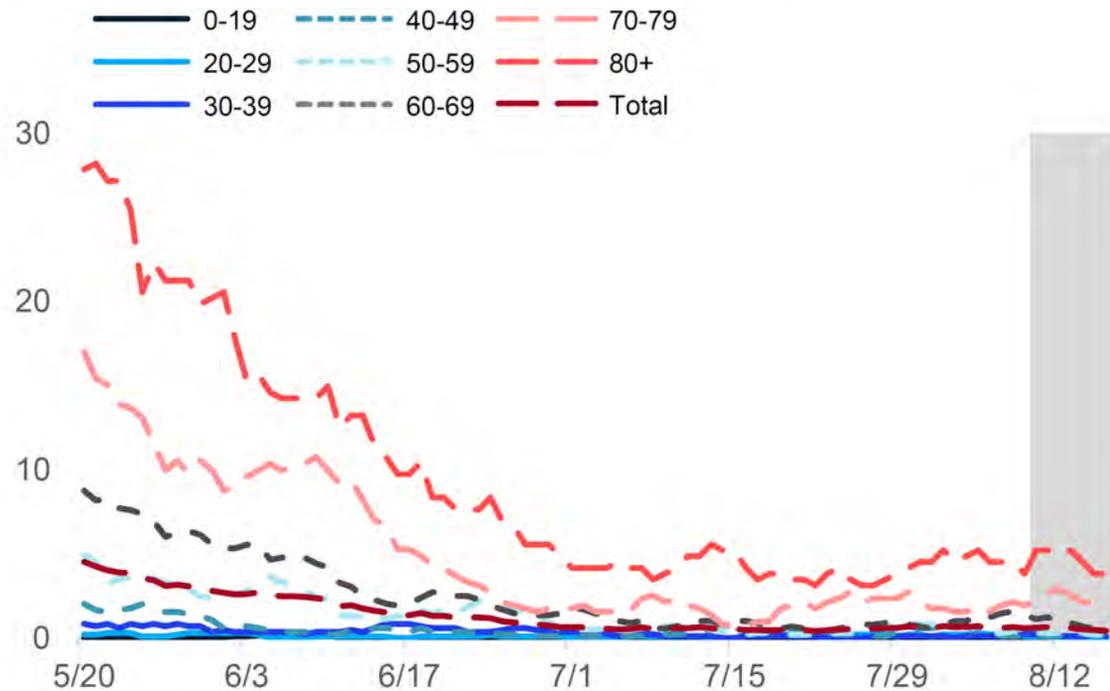
- Case rate trends for all age groups are increasing
- Case rates for all age groups are between 60 and 145 cases per million (through 8/9)
- Case rate trends are highest for 20-29-year-olds followed by 30-39, 40-49, and 10-19

Note: Case information sourced from MDHHS and reflects date of onset of symptoms
Source: MDHHS - Michigan Disease Surveillance System

https://www.michigan.gov/documents/coronavirus/20210816_Data_and_modeling_update_Media_003_733150_7.pdf

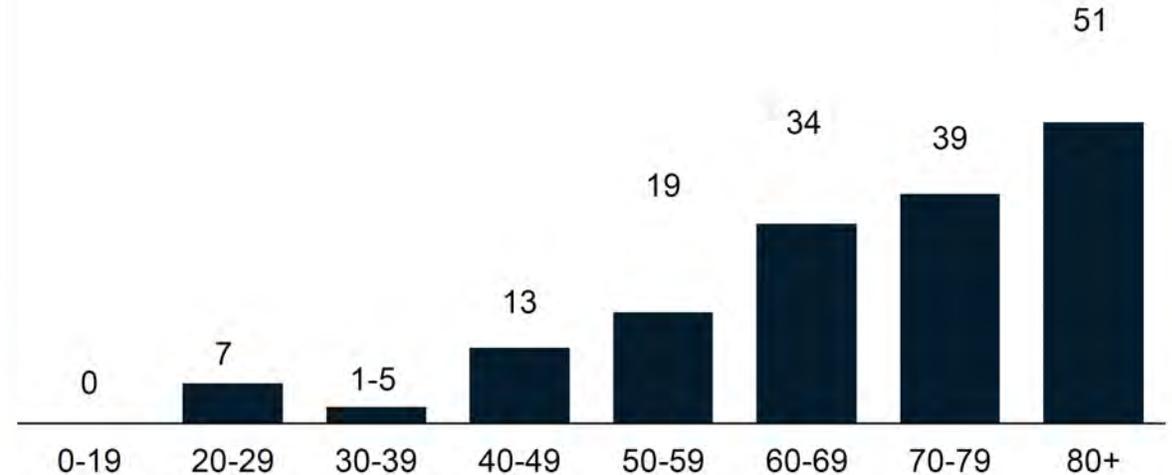
Average and total new deaths, by age group

Daily confirmed and probable deaths per million by age group (7 day rolling average)



Total confirmed and probable deaths by age group (past 30 days, ending 8/9/2021)

- 26% of deaths below age sixty



- Overall trends for daily average deaths are increasing since last week
- Through 8/9, the 7-day avg. death rate is below 1.0 daily deaths per million people for those under the age of 70

Note: Death information sourced from MDHHS and reflects date of death of confirmed and probable cases.

Source: MDHHS - Michigan Disease Surveillance System

Review of Data

<https://www.mistartmap.info/>

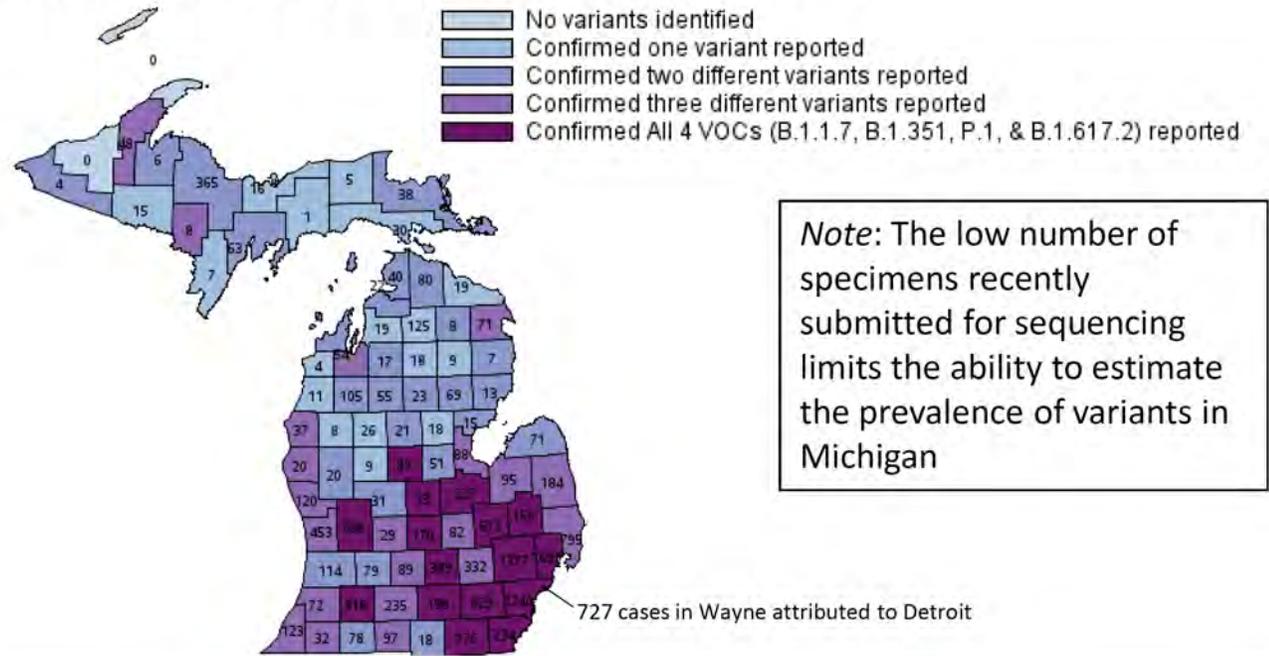
Identified COVID-19 Cases Caused by All Variants of Concern (VOC) in US and Michigan

Variants Circulating in United States, Jul 18 – Jul 31 (NOWCAST)

USA				
WHO label	Lineage #	Type	%Total	95%PI
Alpha	B.1.1.7	VOC	0.9%	0.2-2.0%
Beta	B.1.351	VOC	0.0%	0.0-0.2%
Gamma	P.1	VOC	0.5%	0.0-1.2%
Delta	B.1.617.2	VOC	83.4%	79.7-87.1%
	AY.3	VOC	13.4%	10.2-16.9%
	AY.2	VOC	0.5%	0.0-1.2%
	AY.1	VOC	0.1%	0.0-0.2%
Eta	B.1.525	VOI	0.0%	0.0-0.2%
Iota	B.1.526	VOI	0.1%	0.0-0.5%
	B.1.621		0.6%	0.0-1.5%
	B.1.621.1		0.2%	0.0-0.7%
	B.1.628		0.2%	0.0-0.7%
	Other*		0.1%	0.0-0.5%
	A.2.5		0.0%	0.0-0.2%
	B.1.626		0.0%	0.0-0.2%
	B.1.429	VOI	0.0%	0.0-0.2%
	B.1.427	VOI	0.0%	0.0-0.2%

* Enumerated lineages are VOI/VOC or are circulating >1% in at least one HHS region during at least one two week period; remaining lineages are aggregated as "Other".
 ** These data include Nowcast estimates, which are modeled projections that may differ from weighted estimates generated at later dates.
 # Sublineages of P.1 and B.1.351 (P.1.1, P.1.2, B.1.351.2, B.1.351.3) are aggregated with the parent lineage and included in parent lineage's proportion. AY.3.1 is aggregated with its parent lineage AY.3.

Variants of Concern in Michigan, Aug 16



Note: The low number of specimens recently submitted for sequencing limits the ability to estimate the prevalence of variants in Michigan

Variant	MI Reported Cases ¹	# of Counties	% Specimens in last 4 wks
B.1.1.7 (alpha)	13,652*	81	<1%
B.1.351 (beta)	85	24	<1%
P.1 (gamma)	329	35	<1%
B.1.617.2 (delta)	856 (↑506)	58 (↑8)	99%

* 534 cases within MDO, 137 cases with county not yet determined

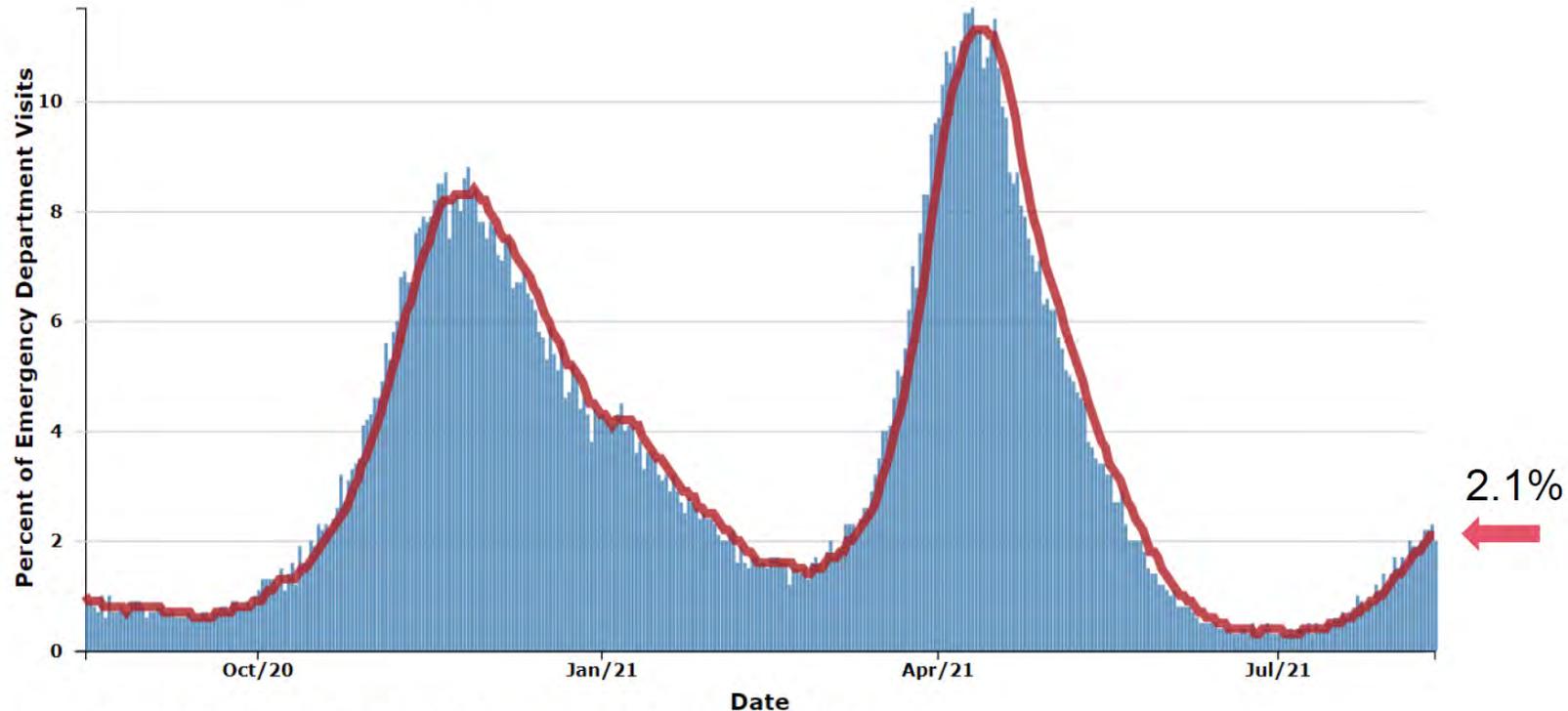
Data last updated Aug 16, 2021

Source: <https://covid.cdc.gov/covid-data-tracker/#variant-proportions> and MDSS

https://www.michigan.gov/documents/coronavirus/20210816_Data_and_modeling_updates_for_Michigan_733150-7.pdf

Michigan Trends in Emergency Department (ED) Visits for COVID-19-Like Illness (CLI) saw the largest increase in over 3 months

Percentage of Emergency Department visits with Diagnosed COVID-19 in Michigan, All Ages

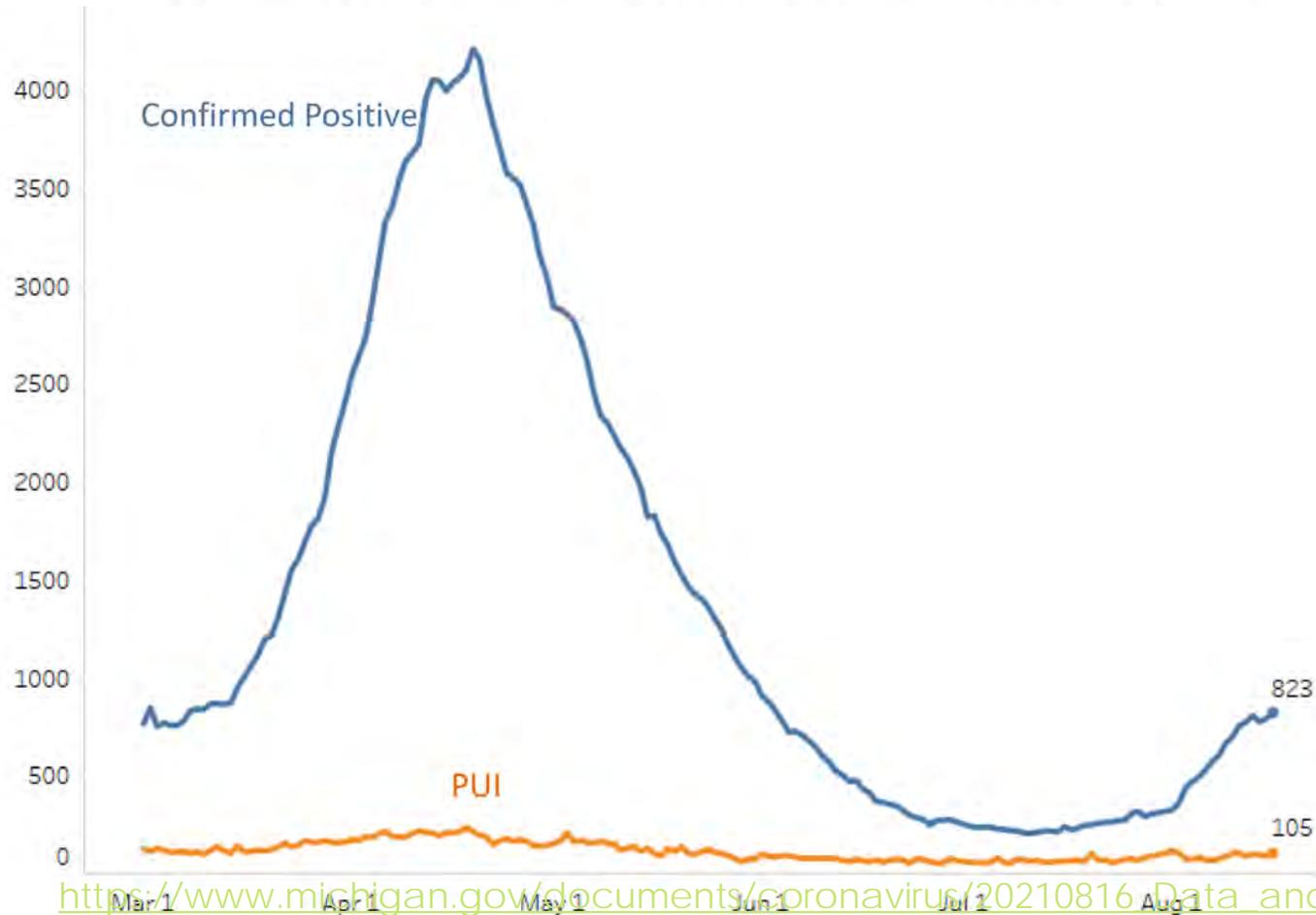


- Trends for ED visits have increased to 2.1% since last week (up from 1.6% week prior)
- Trends vary by age groups with all age groups seeing an increase
- Over the past week, those 40-49 years have seen the highest number of avg. daily ED CLI visits, but those between 25 and 49 are all above the state average

https://www.michigan.gov/documents/coronavirus/20210816_Data_and_modeling_update_Media_003_733150_7.pdf

Statewide Hospitalization Trends: Total COVID+ Census

Hospitalization Trends 3/1/2021 – 8/16/2021
Confirmed Positive & Persons Under Investigation (PUI)



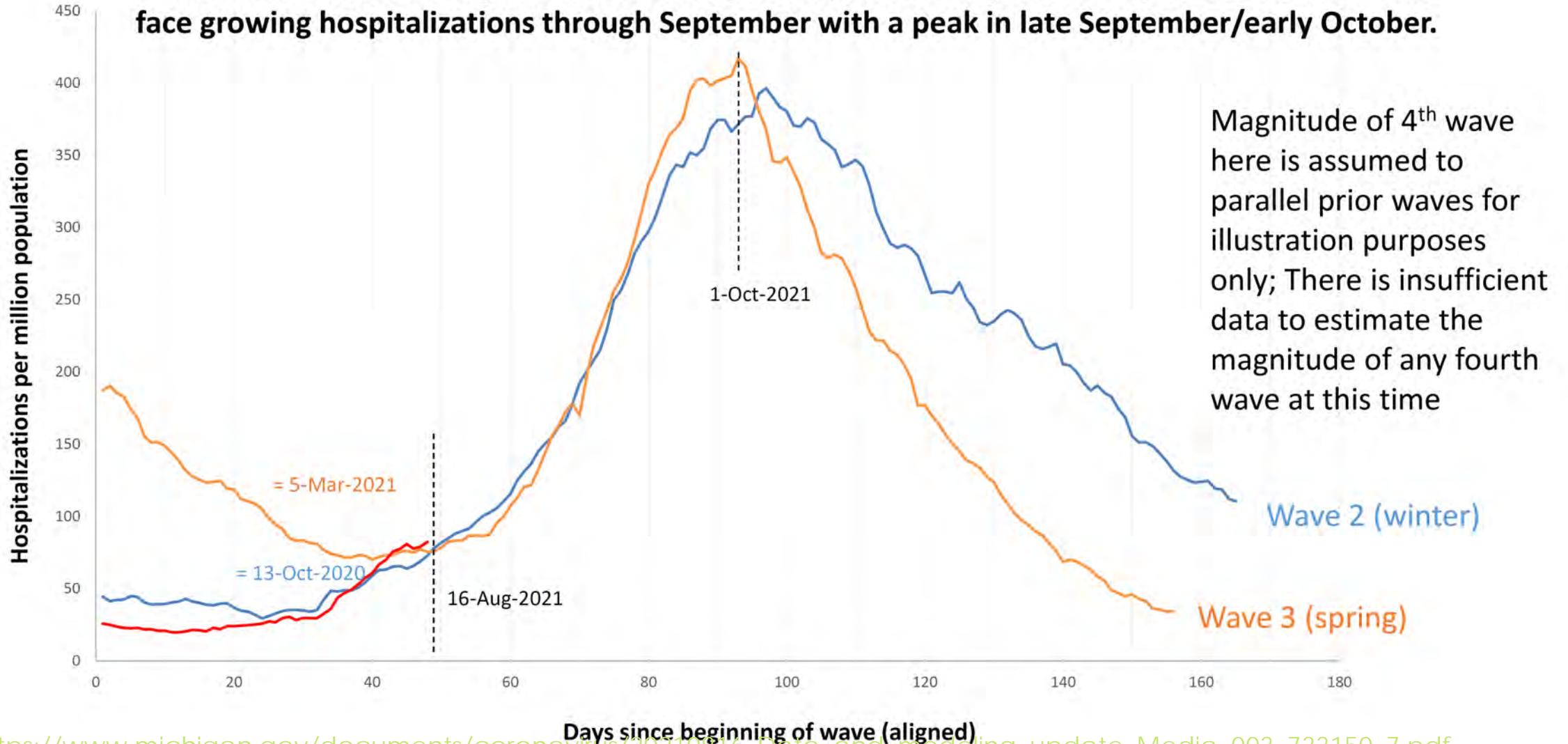
COVID+ census in hospitals has increased 23% from last week (previous week was up 52%). The rate of growth in hospitalizations has slowed from last week.

Hospitalized COVID Positive Long Term Trend (beginning March 2020)



What if Scenarios: Hospitalizations if we follow Wave 2 or 3

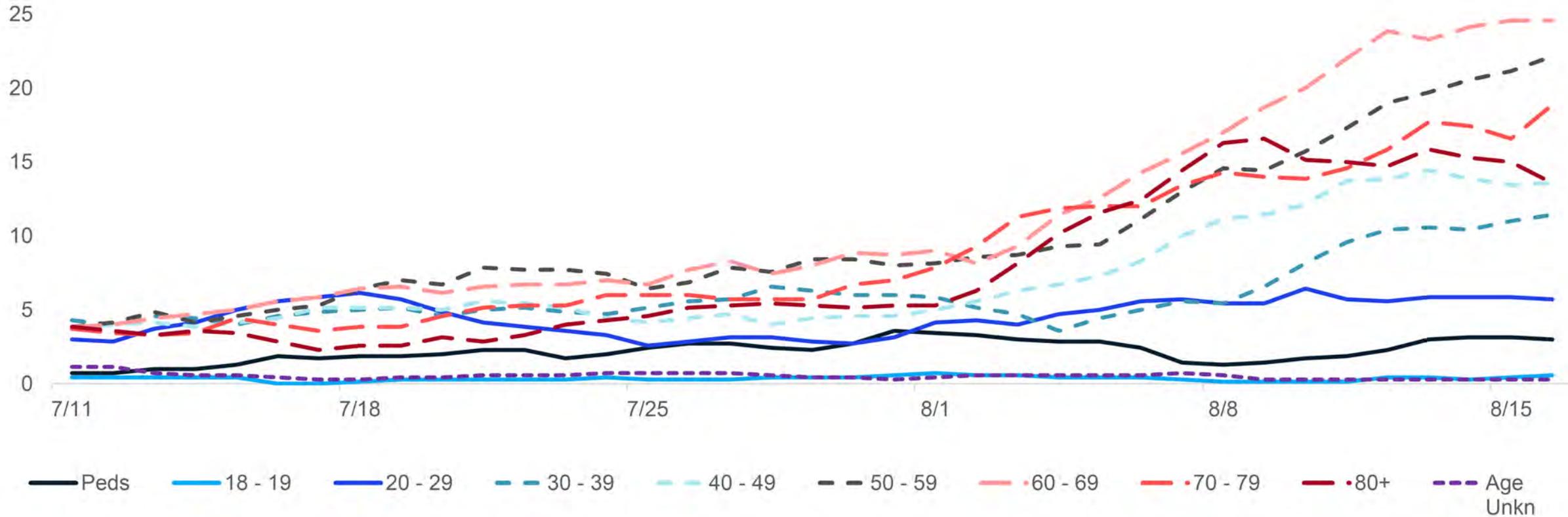
If this wave continues to grow and follows growth patterns of prior Michigan waves, we would face growing hospitalizations through September with a peak in late September/early October.



Magnitude of 4th wave here is assumed to parallel prior waves for illustration purposes only; There is insufficient data to estimate the magnitude of any fourth wave at this time

https://www.michigan.gov/documents/coronavirus/20210816_Data_and_modeling_update_Media_003_733150_7.pdf

Average Hospital Admissions Are Increase for all Age Groups



Source: CHECC & EM Resource

- Trends for daily average hospital admissions have increased 28% since last week (vs. 68% increase prior week)
- This week, all age groups under 80 have experienced increases in daily hospital admissions
- Over the past week, those 60-69 years have seen the highest number of avg. daily hospital admissions (25 admissions)

https://www.michigan.gov/documents/coronavirus/00310816_Data_and_modeling_update_Media_003_73310257.pdf

County	Number of Delta Cases As of 8/17/21
District Health Department #10	
Crawford	1
Kalkaska	1
Mason	3
Mecosta	1
Missaukee	3
Newaygo	1
Oceana	2
Wexford	2
Central Michigan District Health Department	
Arenac	1
Clare	9
Gladwin	1
Isabella	5
Roscommon	1
Mid-Michigan District Health Department	
Clinton	8
Gratiot	3
Montcalm	3

Identified COVID-19 Delta Variants by County

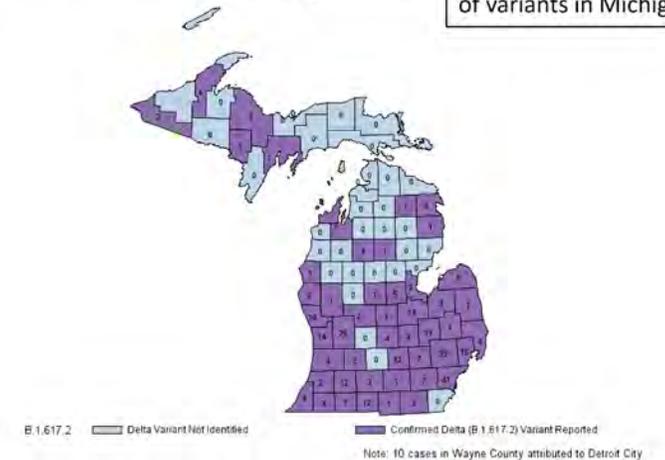
This week (Aug 16, 2021)*

Delta (B.1.617.2) Variant by County
Aug 16



Last week (Aug 9, 2021)

Delta (B.1.617.2) Variant by County
Aug 9



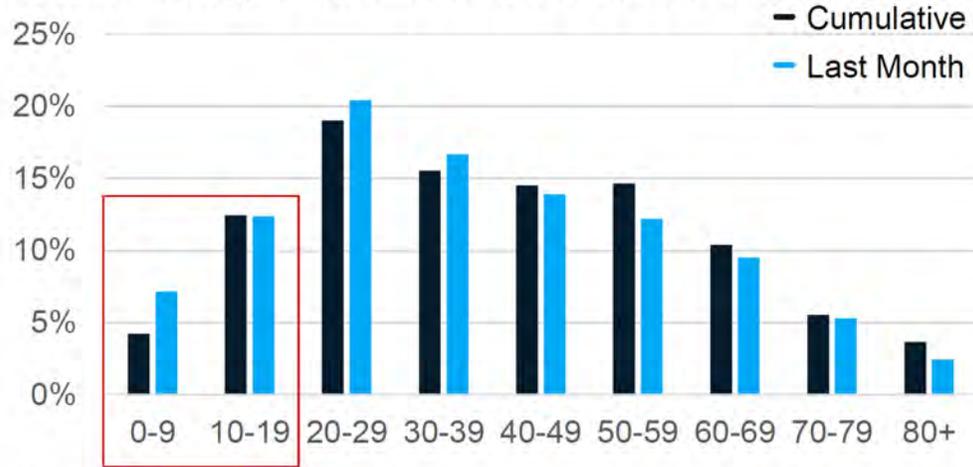
Note: The low number of specimens recently submitted for sequencing limits the ability to estimate the prevalence of variants in Michigan

Data last updated Aug 16, 2021
Source: MDSS

* Delta found in wastewater surveillance samples

Delta will increase transmission in Children: SARS-CoV-2 can Negatively Impact Children Directly and Indirectly

- Children can get infected with SARS-CoV-2: proportion of kids getting sick with COVID-19 is increasing



- Children can transmit the virus to others and can be sources for outbreaks

Characteristics of COVID-19 Cases and Outbreaks at Child Care Facilities — District of Columbia, July–December 2020

Weekly / May 21, 2021 / 68(19):1023–1025

Christine Kim, PhD^{1*}; S. Nesbitt, MD³ ([View author details](#))

SARS-CoV-2 Transmission and Infection Among Attendees of an Overnight Camp — Georgia, June 2020

Weekly / August 7, 2020 / 69(31):1023–1025

On July 31, 2020, this report was posted online as an MMWR Early Release.

Christine M. Szablewski, DVM^{1,2}; Karen T. Chang, PhD^{2,3}; Marie M. Brown, MPH¹; Victoria T. Chu, MD^{2,3}; Anna R. Yousef, MD^{2,3}; Ndubuisi Anyalechi, MD¹; Peter A. Aryee,

Sources: Case data: MDSS; Kim C, et al. Characteristics of COVID-19 Cases and Outbreaks at Child Care Facilities — District of Columbia, July–December 2020. MMWR Morb Mortal Wkly Rep 2021;70; Szablewski CM, et al. SARS-CoV-2 Transmission and Infection Among Attendees of an Overnight Camp — Georgia, June 2020. MMWR Morb Mortal Wkly Rep 2020;69

SARS-CoV-2 can Negatively Impact Children Directly and Indirectly

- **Missed in person school negatively impacts children and can occur from statewide lockdowns or large uncontrolled outbreaks within schools**
 - Remote learning disproportionately affects minorities and lower income children

Association of Children's Mode of School Instruction with Child and Parent Experiences and Well-Being During the COVID-19 Pandemic — COVID Experiences Survey, United States, October 8–November 13, 2020

Weekly / March 19, 2021 / 70(11);369-376

Jorge V. Verlenden, PhD^{1,2}; Sanjana Pampati, MPH^{1,3}; Catherine N. Rasberry, PhD^{1,2}; Nicole Liddon, PhD¹; Marci Hertz, MS^{1,2}; Greta Kilmer, MS¹; Melissa Heim Viox, MPH⁴;

- **Children can experience severe outcomes from COVID-19 including MIS-C, Hospitalization, and Death**
 - A JAMA study reported MIS-C incidence was 5.1 persons per 1,000,000 person-months and 316 persons per 1,000,000 SARS-CoV-2 infections in persons younger than 21 years
 - Incidence was higher among Black, Hispanic or Latino, and Asian or Pacific Islander persons compared with White persons and in younger persons compared with older persons

SARS-CoV-2 can Negatively Impact Children Directly and Indirectly

- While many school-aged children fully recover from COVID-19, **1 in 20 can experience symptoms last longer than four weeks and 1 in 50 can experience symptoms for more than 8 weeks**

Illness duration and symptom profile in symptomatic UK school-aged children tested for SARS-CoV-2

Erika Molteni, Carole H Sudre*, Liane S Canas, Sunil S Bhopal, Robert C Hughes, Michela Antonelli, Benjamin Murray, Kerstin Kläser, Eric Kerfoot,*

- Children experience many **Indirect Impacts** when there is uncontrolled spread of SARS-CoV-2
 - Loss of loved ones/caregivers: more than 136,000 children in the US lost a primary or secondary care giver ([orphanhood-report.pdf \(cdc.gov\)](#))
 - Adverse outcome to mental and physical health
 - Interferences with developmental milestones

Potential COVID-19 Vaccination Breakthrough Cases

Michigan Data (1/1/21 through 8/4/21):

After 4.9 million fully vaccinated in Michigan:

- ▶ Michigan Data (1/1/21 through 8/10/21):
- ▶ 12,121 cases met criteria based on a positive test 14 or more days after being fully vaccinated
 - ▶ Less than 1% of people who were fully vaccinated met this case definition
- ▶ Includes 247 deaths (217 in persons ages 65 years or older)
- ▶ 711 cases were hospitalized

COVID-19 in Michigan: Cases by Vaccination Status, January 15 – July 21

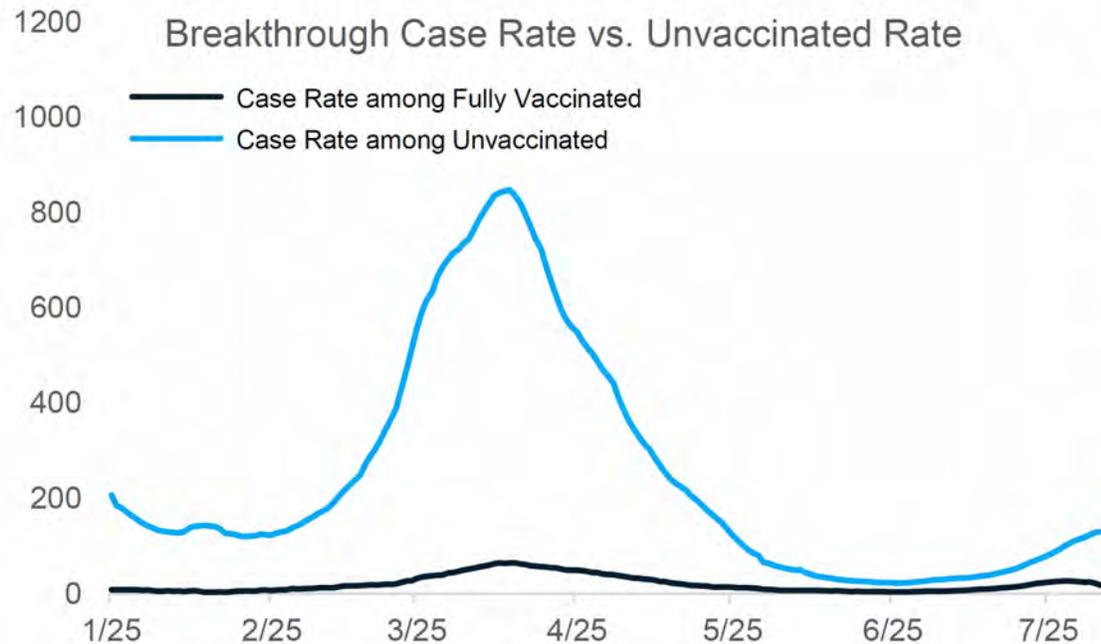
Fully Vaccinated People (4,600,873)		
Cases	Hospitalization	Deaths
Percent of Cases In People Not Fully Vaccinated (384,929 / 393,631) 97.8%	Percent of Hospitalizations In People Not Fully Vaccinated (10,915 / 11,494) 95.0%	Percent of Deaths In People Not Fully Vaccinated (4,628 / 4,864) 95.1%
384,929 Total Cases Not Fully Vaccinated	10,915 Total Hospitalized Not Fully Vaccinated	4,628 Total Deaths Not Fully Vaccinated
Total Breakthrough Cases 8,702	Total Breakthrough Hospitalizations 579	Total Breakthrough Deaths 236
0.189% Percent of Fully Vaccinated People who Developed COVID-19 (8,702 / 4,600,873)	0.013% Percent of Fully Vaccinated People Who Were Hospitalized for COVID-19 (579 / 4,600,873)	0.005% Percent of Fully Vaccinated People Who Died of COVID-19 (236 / 4,600,873)
2.2% Percent of Cases Who Were Fully Vaccinated (8,702 / 393,631)	5.0% Percent of Hospitalizations Who Were Fully Vaccinated (579 / 11,494)	4.9% Percent of Deaths Who Were Fully Vaccinated (236 / 4,864)
Total Cases: 393,631	Total Hospitalizations: 11,494	Total Deaths: 4,864

Michigan Disease Surveillance System may underestimate the frequency of COVID-19 hospitalizations:

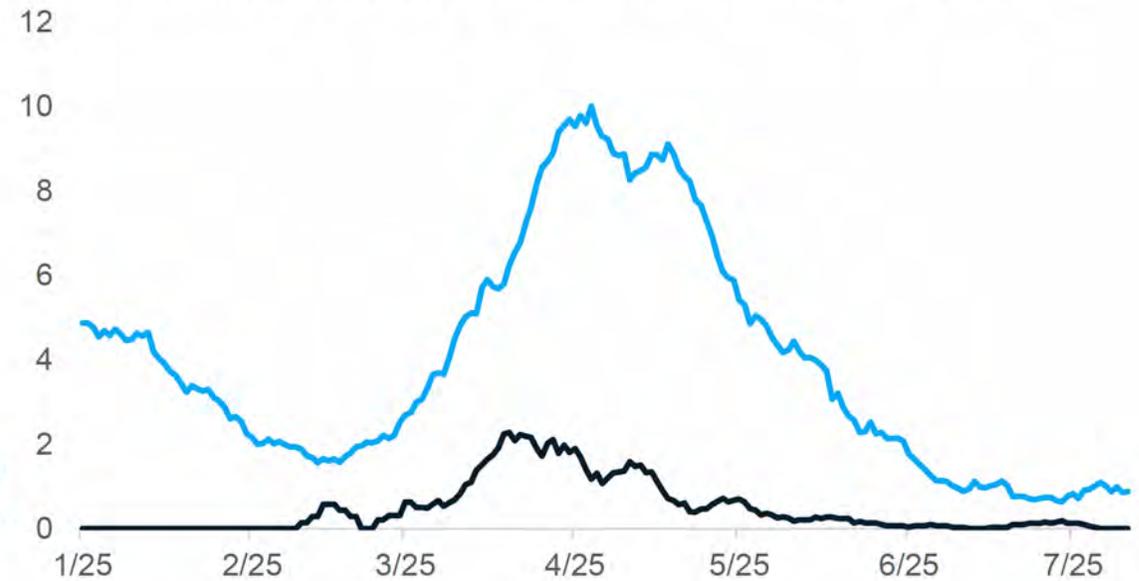
- Case investigation and follow-up is more difficult for individuals who get vaccinated (e.g., they are too ill to speak to investigators, don't answer their phone, or otherwise).
- These hospitalizations include individuals who are hospitalized for issues other than COVID-19 (the same as breakthrough COVID-19).
- Individuals who get hospitalization will lag after infection and may occur after case investigation.

Potential COVID-19 Vaccination Breakthrough Cases

Breakthrough Case Rate vs. Unvaccinated Rate



Breakthrough Death Rate vs. Unvaccinated Death Rate



- Trends over time show that both the case rate and death rate among the vaccinated (aka breakthrough infections and deaths) are lower than the unvaccinated rate in Michigan
- The *proportion* of breakthrough cases and deaths among all cases and deaths has shown some increases as more people become fully vaccinated
 - However, the risk of infection and death remains significantly lower among the unvaccinated
 - This principle indicates that the absolute number or the proportion of absolute number of breakthrough alone is not sufficient to measure, especially as more people become vaccinated. Instead, proportion among appropriate denominator is preferred.

Potential COVID-19 Vaccination Breakthrough Cases

- ▶ As of April 30, 2021, approximately 101 million persons in the United States had been fully vaccinated against COVID-19.

In US From January 1 to April 30:

- ▶ A total of 10,262 SARS-CoV-2 vaccine breakthrough infections had been reported
- ▶ Average patient age was 58 years 2,725 (27%) vaccine breakthrough infections were asymptomatic, 995 (10%) patients were known to be hospitalized, and 160 (2%) patients died.
- ▶ Among the 995 hospitalized patients, 289 (29%) were asymptomatic or hospitalized for a reason unrelated to COVID-19.
- ▶ The median age of patients who died was 82 years; 28 (18%) decedents were asymptomatic or died from a cause unrelated to COVID-19.
- ▶ Sequence data were available from 555 (5%) reported cases,
 - ▶ 356 (64%) of which were identified as SARS-CoV-2 variants of concern, including B.1.1.7 (199; 56%), B.1.429 (88; 25%), B.1.427 (28; 8%), P.1 (28; 8%), and B.1.351 (13; 4%)

- As of May 1, 2021, CDC transitioned from monitoring all reported vaccine breakthrough cases to focus on identifying and investigating only hospitalized or fatal cases due to any cause.

As of August 9, 2021, more than 166 million people in the United States had been fully vaccinated against COVID-19.

Hospitalized or fatal vaccine breakthrough cases reported to CDC	8,054	
Female	3,856	(48%)
People aged ≥65 years	5,928	(74%)
Asymptomatic infections	1,400	(17%)
Hospitalizations*	7,608	(94%)
Deaths†	1,587	(20%)

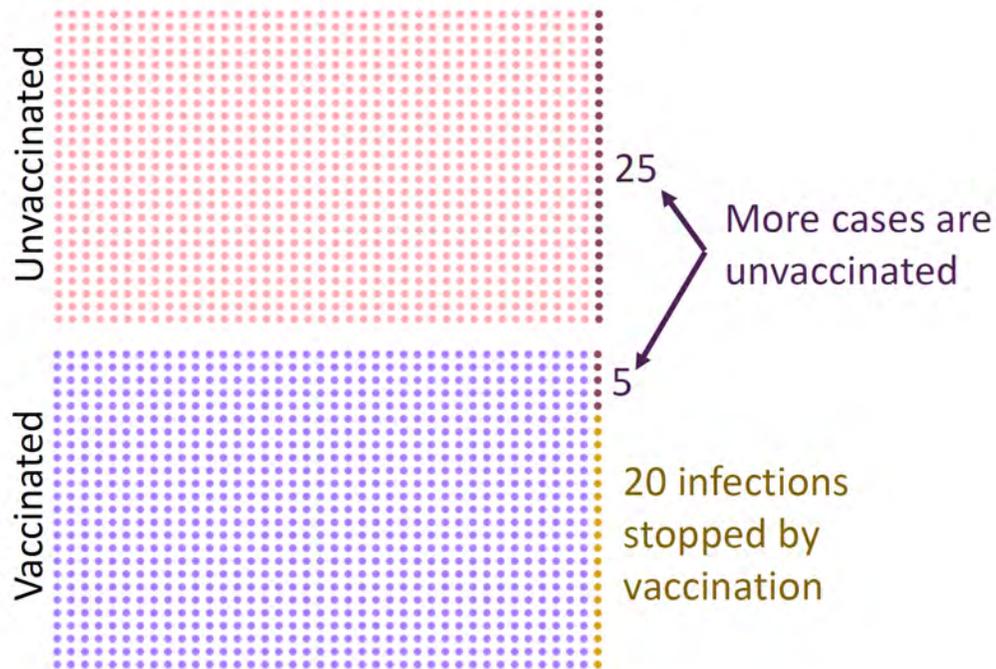
*1,883 (25%) of 7,608 hospitalizations reported as asymptomatic or not related to COVID-19.

†341 (21%) of 1,587 fatal cases reported as asymptomatic or not related to COVID-19.

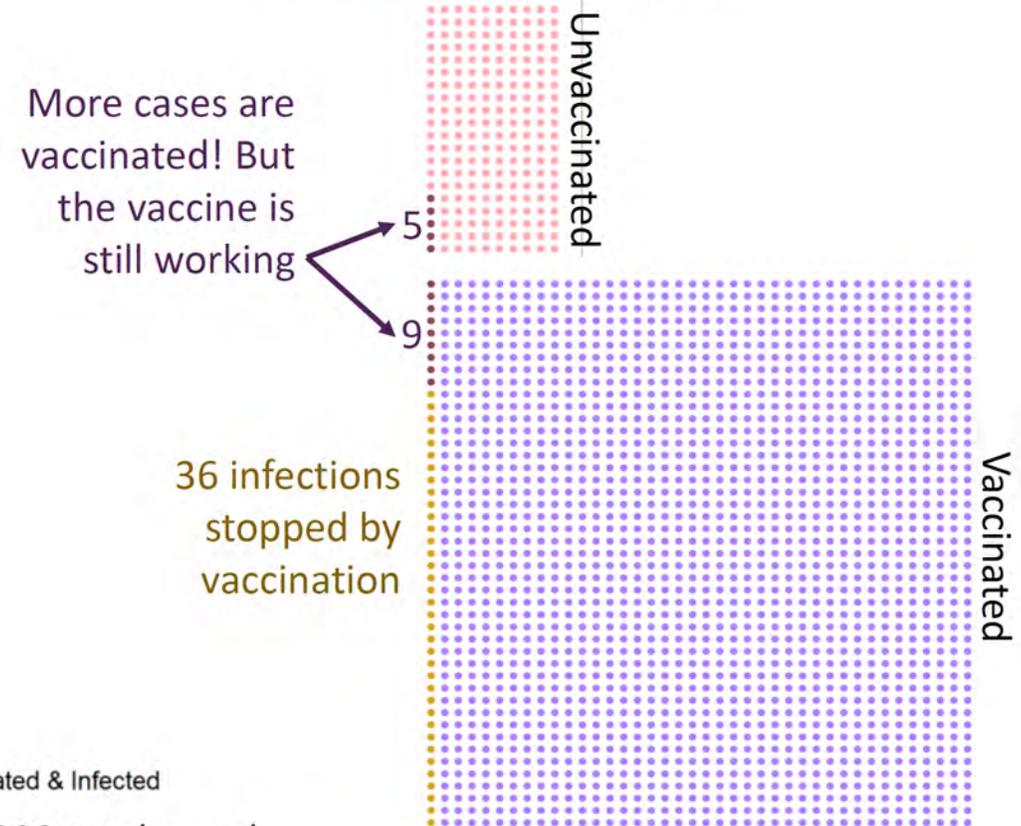
Understanding breakthrough cases: When more people are vaccinated, more cases will come from the vaccinated population—even if the vaccine is working



Scenario 1: 50% Vaccinated



Scenario 2: 90% Vaccinated



● Unvaccinated ● Unvaccinated & Infected ● Prevented Infection ● Vaccinated ● Vaccinated & Infected

Both Scenarios: Vaccine reduces disease by 80%, 2.5% infection level, 2000 total people

https://www.michigan.gov/documents/coronavirus/20210816_Data_and_modeling_update_Media_003_733150_7.pdf

Vaccine Efficacy Questions

Are symptoms different?

- ▶ Evaluation of over 2,000 post-vaccination infections in the UK between December and May
- ▶ Post-vaccination:
 - ▶ Most symptoms were less frequent except sneezing
 - ▶ Need for hospital assessment was less
 - ▶ Severity of symptoms was lower
 - ▶ Prolonged illness was lower

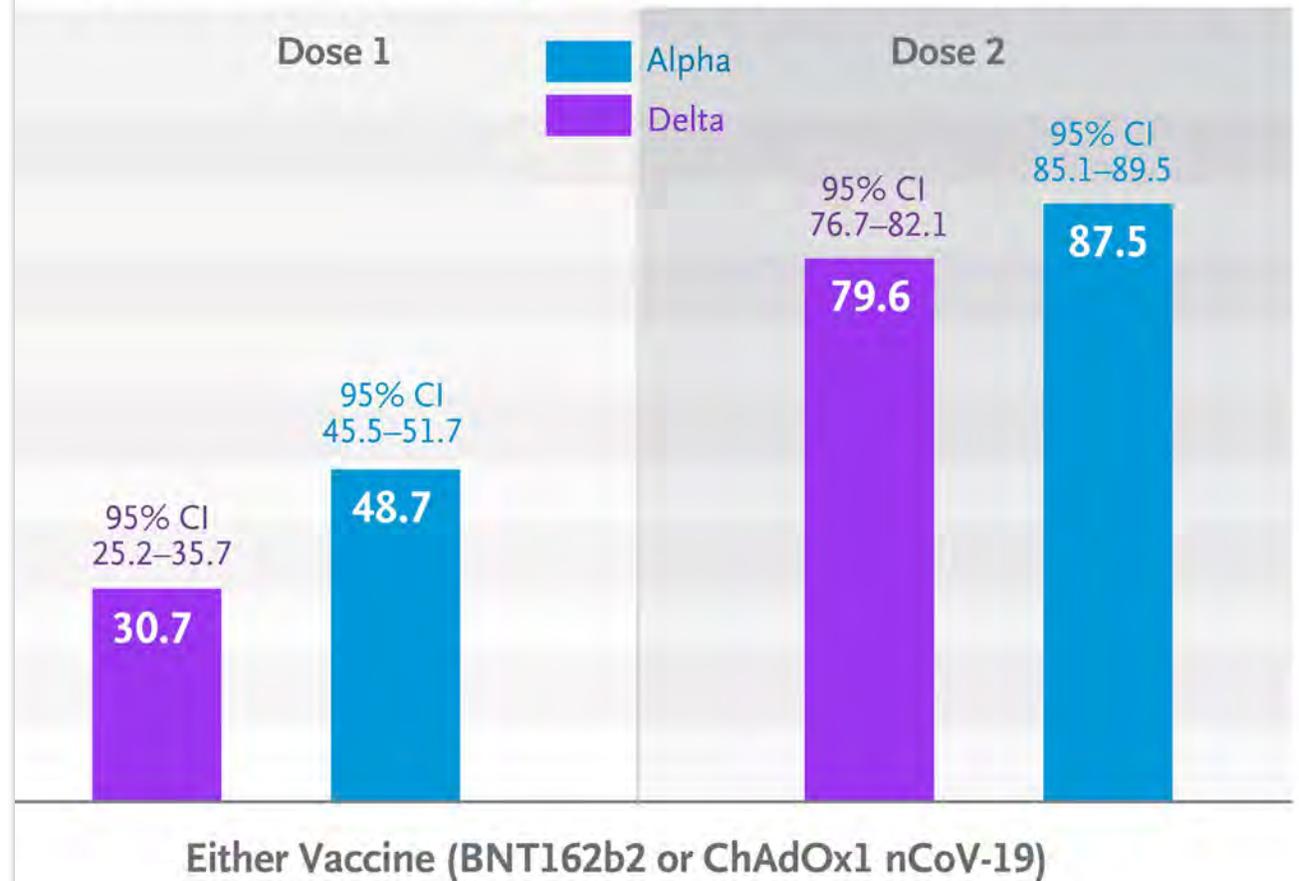
Antonelli, Michela, et al. "Post-vaccination SARS-CoV-2 infection: risk factors and illness profile in a prospective, observational community-based case-control study." medRxiv (2021).

<https://www.medrxiv.org/content/10.1101/2021.05.24.21257738v2.full.pdf>

Effectiveness of BNT162b2 (Pfizer–BioNTech) and ChAdOx1 nCoV-19 (AstraZeneca) against Delta and Alpha Variants, UK

Lopez Bernal, Jamie, et al. "Effectiveness of Covid-19 vaccines against the B. 1.617. 2 (delta) variant." New England Journal of Medicine (2021).

Vaccine Effectiveness against the Delta and Alpha Variants



Rosenberg ES, Holtgrave DR, Dorabawila V, et al. New COVID-19 Cases and Hospitalizations Among Adults, by Vaccination Status — New York, May 3–July 25, 2021. MMWR Morb Mortal Wkly Rep. ePub: 18 August 2021. DOI: <http://dx.doi.org/10.15585/mmwr.mm7034e1>

- ▶ Current COVID-19 vaccines were highly effective against hospitalization (vaccine effectiveness, VE >90%) for fully vaccinated New York residents, even during a period during which prevalence of the Delta variant increased from <2% to >80% in the U.S. region that includes New York
- ▶ However, during the assessed period, rates of new cases increased among both unvaccinated and fully vaccinated adults
- ▶ VE against new infection declined from 91.7% to 79.8%.
- ▶ To reduce new COVID-19 cases and hospitalizations, these findings support the implementation of a layered approach centered on vaccination, as well as other prevention strategies.
- ▶ Consistent with those observed in other countries.
 - ▶ Israel has reported 90% VE for the Pfizer-BioNTech vaccine against hospitalization; however, a decline in VE against new diagnosed infections occurred during June 20–July 17 (decreasing to <65%)
 - ▶ Another study in the United Kingdom found higher VE against infection with the Delta variant for Pfizer-BioNTech (88%), which was lower than VE against the B.1.1.7 (Alpha) variant (94%)
- ▶ The factors driving the apparent changes in VE are uncertain.
 - ▶ Increased Delta variant viral load might underpin its increased transmissibility and could potentially lead to reduced vaccine-induced protection from infection
 - ▶ Variations from clinical trial findings could be because the trials were conducted during a period before the emergence of new variants and when nonpharmaceutical intervention strategies (e.g., wearing masks and physically distancing) were more stringently implemented, potentially lessening the amount of virus to which persons were exposed.

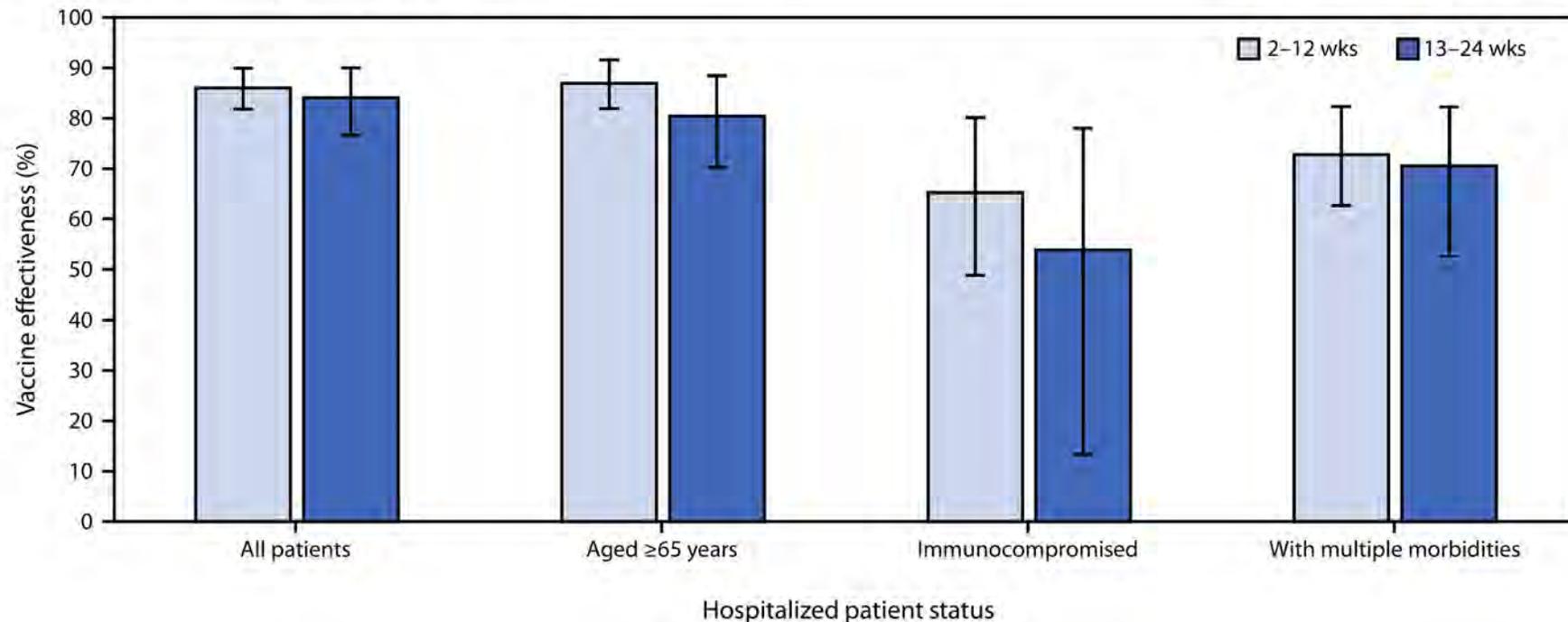
Nanduri S, Pilishvili T, Derado G, et al. Effectiveness of Pfizer-BioNTech and Moderna Vaccines in Preventing SARS-CoV-2 Infection Among Nursing Home Residents Before and During Widespread Circulation of the SARS-CoV-2 B.1.617.2 (Delta) Variant — National Healthcare Safety Network, March 1–August 1, 2021. MMWR Morb Mortal Wkly Rep. ePub: 18 August 2021. DOI: <http://dx.doi.org/10.15585/mmwr.mm7034e3>

- ▶ Analysis of nursing home COVID-19 data indicated a significant decline in effectiveness of full mRNA COVID-19 vaccination against laboratory-confirmed SARS-CoV-2 infection, from 74.7% during the pre-Delta period (March 1–May 9, 2021) to 53.1% during the period when the Delta variant predominated in the United States.
- ▶ This study could not differentiate the independent impact of the Delta variant from other factors, such as potential waning of vaccine-induced immunity.
- ▶ Because nursing home residents might remain at some risk for SARS-CoV-2 infection despite vaccination, multipronged COVID-19 prevention strategies, including infection control, testing, and vaccination of nursing home staff members, residents, and visitors are critical.

Tenforde MW, Self WH, Naioti EA, et al. Sustained Effectiveness of Pfizer-BioNTech and Moderna Vaccines Against COVID-19 Associated Hospitalizations Among Adults — United States, March–July 2021. MMWR Morb Mortal Wkly Rep. ePub: 18 August 2021. DOI: <http://dx.doi.org/10.15585/mmwr.mm7034e2>

- ▶ mRNA vaccine effectiveness against COVID-19–associated hospitalizations was sustained over 24 weeks

FIGURE 2. Sustained vaccine effectiveness* against COVID-19 among hospitalized adults, by patient status^{†,§} and interval since vaccination — 21 medical centers in 18 states,[¶] March–July 2021

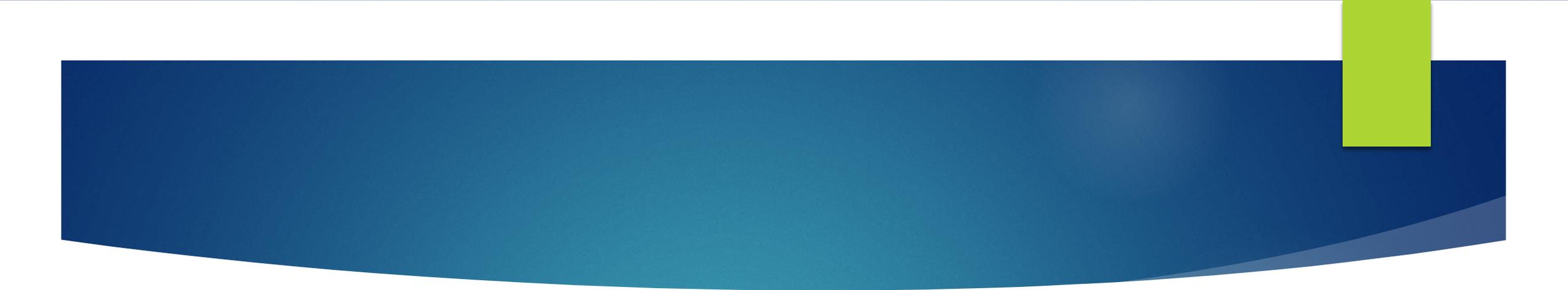


When will vaccines be available for kids under 12?

- ▶ On Tuesday, a group of more than 100 House lawmakers sent a letter to the FDA asking for an update on its timeline on authorizing COVID-19 vaccines for children, given the current "alarming" situation.
 - ▶ Peter Marks, a top FDA official, said earlier this month that data on vaccines for children ages 5-11 could come "early in the fall," but that "it will take a few weeks at least to review them."
 - ▶ He also noted, speaking at an event hosted by the COVID-19 Vaccine Education and Equity Project, that the agency may have to take more time and consult advisory committees if there are safety questions.

When will vaccine have full approval?

- ▶ Pfizer filed for full approval in May, followed by Moderna in June.
 - ▶ FDA reviews typically take months.
- ▶ Latest news is that FDA is expected to approve Pfizer's coronavirus vaccine by early September
 - ▶ The sharp rise in Covid-19 infections driven by the Delta variant spurred the agency to speed its work.
- ▶ No medical professional doubts they won't be approved

- 
- ▶ Recommendations for Safer School Operations during COVID-19
https://www.michigan.gov/documents/coronavirus/COVID-19_Guidance_for_Operating_Schools_Safely_728838_7.pdf
 - ▶ Guidance for Band, Choir and Orchestra Programs at Educational Institutions During COVID-19
https://www.michigan.gov/documents/coronavirus/Guidance_for_Band_Choir_and_Orchestra_Programs_at_Educational_Institutions_During_COVID-19_Updated_10-22_716933_7.pdf
 - ▶ MI Safe Schools Testing Program https://www.michigan.gov/coronavirus/0,9753,7-406-98178_104699_104700_105077---,00.html
 - ▶ MDHHS Quarantine Period Guidance https://www.michigan.gov/documents/mdhhs/MDHHS-Quarantine_Period_Guidance_726293_7.pdf
 - ▶ <https://www.cmdhd.org/novelschools>
 - ▶ <https://www.mmdhd.org/covid-schools/>
 - ▶ <https://www.dhd10.org/coronavirus/school-guidance/>

THANKS FOR
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ANY
QUESTIONS?

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