



# COVID-19 and Schools:

## Public health updates and considerations for returning to in-person learning

Presentation to the AAPS Board of Education

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# Tonight's Presentation

- ▶ Emerging research on pediatric COVID-19
- ▶ Ongoing challenges for school districts
- ▶ Considerations for moving to hybrid learning model
- ▶ Staff and student protocols for keeping schools open
- ▶ Closing thoughts and Q & A

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# Emerging research on children and COVID-19

# ▶ Surge in pediatric COVID-19 cases

- ▶ U.S.: 97,078 new child cases reported in last 2 weeks of July, a 40% increase in pediatric cases
- ▶ Washtenaw County: 50% of new cases from July 25 – Aug 7 were in people <30 years old
- ▶ Multiple outbreaks in Detroit region due to teen parties

[Children and COVID-19: State Data Report](#), A joint report from the American Academy of Pediatrics and the Children's Hospital Association, 7/30/2020

Washtenaw County 2-Week Snapshot <https://www.washtenaw.org/3108/Cases>

# What we know/don't know about children and COVID-19

- ▶ In general, children are asymptomatic or experience mild symptoms of COVID-19, but in rare cases some do get very sick.
  - ▶ *Latino/Hispanic and Black children have been disproportionately impacted by Multisystem Inflammatory Syndrome in Children (MISC).*
- ▶ While children do transmit to others, more evidence is needed on the frequency and extent of that transmission. Recent studies suggest that ability to transmit varies by age.

[CDC Morbidity and Mortality Weekly Report MWR, 8/7/2020](#)

*What do we know about children and Coronavirus transmission?* [KFF Issue Brief 7/29/20](#)

# Children as asymptomatic carriers of COVID-19 virus

## ADULTS

- ▶ 30-40% of infected adults never develop symptoms
- ▶ Asymptomatic adults carry just as much of the virus in their nose, throat, and lungs, strongly suggesting that they can spread the virus without knowing it

- ▶ Georgia overnight camp outbreak (260 cases): asymptomatic transmission was common
  - ▶ Among 136 cases with available symptom data, 36 (26%) patients reported no symptoms;
- ▶ French hospital study to find asymptomatic pediatric cases: 45% (10) of 22 positive pediatric patients were asymptomatic. Study size was 438, roughly one of our elementary schools.
- ▶ More research needed on pediatric transmission potential

MMWR 2020;69:1023–1025. <https://www.cdc.gov/mmwr/volumes/69/wr/mm6931e1.htm>

Systematic SARS-CoV-2 screening at hospital admission in children: a French prospective multicenter study, *Clinical Infectious Diseases*, <https://doi.org/10.1093/cid/ciaa1044>

# Why is asymptomatic infection in children important to school districts?

**Some school mitigation measures become ineffective or less effective**

Prescreening at home

Staying home when sick

Isolation of sick children at school

Classroom dismissals and school closures

**Personal-level prevention becomes even more critical**

Physical distancing

Face coverings (masks)

Hand washing/sanitizing

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# Ongoing challenges for school districts

...and how AAPS is addressing them





...Whether it's a primary school, secondary school, or even college, the three things needed to open safely are being able to **test**, to **trace**, and to **isolate**.

*Rick Lange, MD*

*President, Texas Tech University Health Sciences Center*

*August 7, 2020*



Retrieved 8/11/2020 from <https://globalepidemics.org/july-6-2020-state-testing-targets/>

# AAPS testing and contact tracing: where we stand now

## Testing

- Michigan has higher levels of diagnostic testing than many other states
- Local testing is available but **turnaround times for results** continue to vary widely
- Ideally we would have at least bi-weekly surveillance testing of all students and staff

## Contact Tracing

- **Efficacy directly impacted by test result turnaround times**
- Varies county to county
- Schools required to collaborate with local health departments on tracing

## Isolation and Quarantine

- **May be delayed due to test result turnaround times**
- Varies county to county
- School tracing efforts include notification of potential isolation/quarantine

# What happened with our 4 (known) COVID-19 cases this summer

3 out of 4 cases were in individuals who live in Region 1, the Detroit region  
The AAPS community goes beyond Washtenaw County

AAPS internal notification protocols worked

In some cases, contact tracing was delayed by test result turnaround times

People were very willing to cooperate and concerned for others  
Reminder that anyone can get this virus!

All 4 recovered, and no further spread occurred

# Classroom Indoor Air Quality (IAQ)

- ▶ Indoor environments are most concerning for coronavirus transmission
- ▶ Complexities of Asymptomatic individuals and aerosol emissions
- ▶ The special challenges of classrooms – density & time within classroom space



Zhang, J. *Integrating IAQ control strategies to reduce the risk of asymptomatic SARS CoV-2 infections in classrooms and open plan offices*, *Science and Technology for the Built Environment*, (26) 2020.

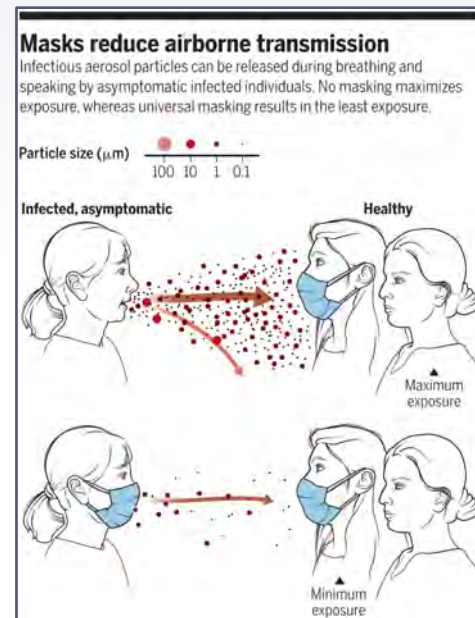
AUGUST 12, 2020

BOE COVID-19 HEALTH UPDATE

# Making classroom air safer

...the #1 method is source control













- ▶ Preventing transmission from asymptomatic virus carriers
  - ▶ Masks provide a critical barrier, reducing the number of infectious viruses in exhaled breath, especially of asymptomatic people and those with mild symptoms
  - ▶ Masks reduce an individual's emission rate
  - ▶ Universal face masking is essential to reopening schools



Prather, K. et al. Reducing transmission of SARS-CoV-2, Science, 26 June 2020 : 1422-1424,  
<https://Science.Sciencemag.Org/Content/368/6498/1422>

# CDC: Masks as Source Control

The CDC recommends all people 2 years of age and older wear a mask in public settings and when around people who don't live in your household, especially when other social distancing measures are difficult to maintain.

Chance of Transmission	Asymptomatic COVID-19 Carrier	Uninfected Person
HIGHEST		
HIGH		
MEDIUM		
LOW		
LOWEST		
PRACTICALLY NONE		

Goal for in-person learning



# K-12 students and masks

- ▶ Masks may also serve as PPE
- ▶ CDC recommends teaching students how to use cloth face coverings before returning to school – can practice at home
- ▶ Mask breaks, e.g. for meals
- ▶ Cloth face coverings should not be placed on:
  - ▶ Children younger than 2 years old
  - ▶ Anyone who has trouble breathing or is unconscious
  - ▶ Anyone who is incapacitated or otherwise unable to remove the cloth face covering without assistance



At a pre-K graduation ceremony in Jersey City, N.J., Credit: Seth Wenig/Associated Press, June 2020.



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# Considerations for beginning a transition to hybrid (in-person) learning

# MI Safe Start Plan - Metrics

...must be complemented with an understanding of the on-the-ground contextual realities.

## A. Is the epidemic growing, flattening, or declining?

Evidence analyzed includes:

- **The number of new cases per million:** low levels of new cases can suggest limited continued transmission; high levels of new cases can suggest continued transmission activity.
- **Trends in new daily cases:** sustained decreases may suggest that there has not been new takeoff of the disease; increases would provide concern that there has been new takeoff.
- **% positive tests:** if testing levels are high, a low proportion of positive tests is further evidence of declining spread, and also suggests that we have a good understanding of the state of the epidemic. If there is a high proportion of positive tests, it could suggest further disease spread, or that we have a poor understanding of the true extent of the epidemic.

Additional metrics from MISafeStart Plan

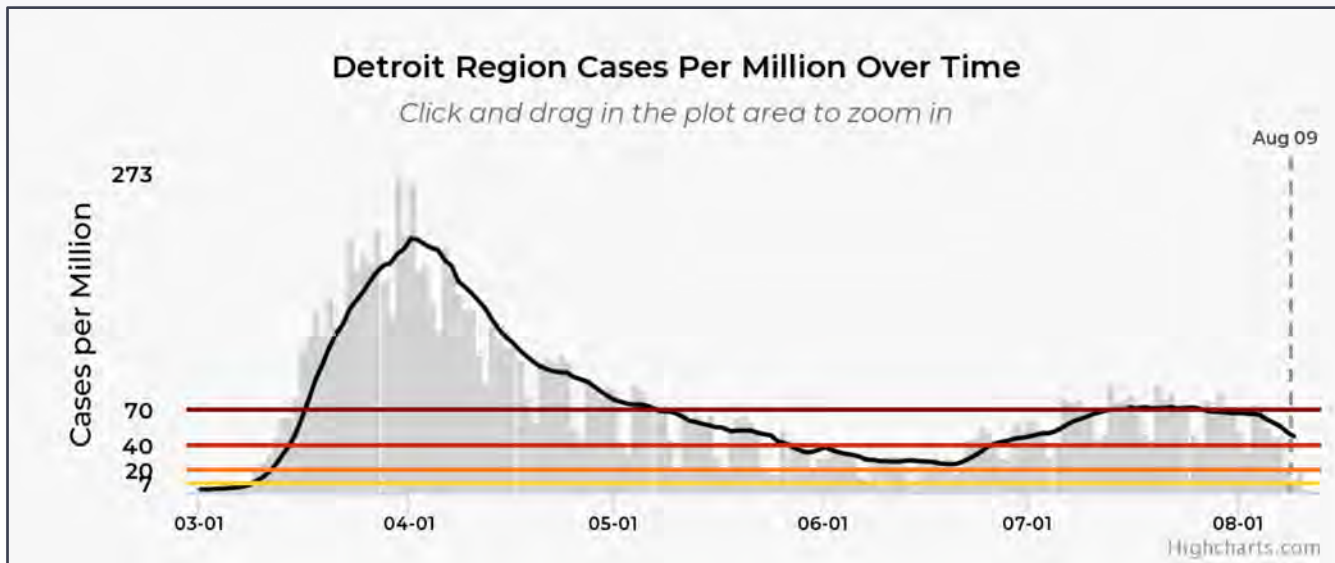
- Hospital capacity
- PPE availability
- Testing and contact tracing

 Must also pay close attention to trends for each metric

[https://www.michigan.gov/documents/whitmer/MI\\_SAFE\\_START\\_PLAN\\_689875\\_7.pdf](https://www.michigan.gov/documents/whitmer/MI_SAFE_START_PLAN_689875_7.pdf)

# MI Safe Start Map

Region 2S: Detroit Area  
“Med-High Risk” as of 8/9/20



Data retrieved from <https://www.mistartmap.info/> on 8/11/2020

**Table 1: School Re-Openings: Country Comparisons on Key Metrics Compared to Current U.S. Data**

	Date of reopening	Daily Cases	Daily Cases Per Million Population	Positivity Rate (%)
		(7-day averages)		
<b>United States</b>	—	<b>65,750.4</b>	<b>198.6</b>	<b>8.3</b>
Belgium	5/18/2020	291.3	25.1	2.1
Denmark	4/15/2020	205.7	35.5	6.2
France	5/11/2020	1,110.9	17.0	1.1
Germany	5/4/2020	1,140.3	13.6	2.4
Greece	6/1/2020	5.6	0.5	0.1
Israel	5/3/2020	126.7	14.6	1.4
Japan	4/24/2020	439	3.5	8.7
South Korea	6/8/2020	44.4	0.9	0.3
New Zealand	5/14/2020	1.1	0.2	0
Norway	4/20/2020	93.3	17.2	3.8
Switzerland	5/11/2020	57.1	6.6	1.3
Taiwan	2/25/2020	1.1	0.0	0.2
Vietnam	5/18/2020	4.6	0.0	0

NOTES: U.S. estimates calculated based on most recent data. France positivity rate from May 24. Vietnam positivity rate from April 29. Data represent 7-day average, as of re-opening date (unless other date noted).

SOURCES: COVID-19 data from: "Coronavirus Pandemic (COVID-19)". Published online at [OurWorldInData.org](https://ourworldindata.org). Retrieved on July 28, 2020.

School reopening dates from: University of Washington, [Summary of School Re-Opening Models and Implementation Approaches During the COVID 19 Pandemic](#), July 6, 2020.



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<b>Detroit Region</b>	-	<b>250.9</b>	<b>47.9</b>	<b>4.1%</b>
<b>Washtenaw County</b>	-	<b>12.6</b>	<b>34.4</b>	<b>1.9%</b>

7 day average  
8/9/2020



Detroit region and Washtenaw County data retrieved from <https://www.mistartmap.info/> on 8/11/2020

# Other considerations

- ▶ Availability of PPE for staff and students
- ▶ Availability of treatments and vaccines
- ▶ Current local outbreaks involving young people
- ▶ New research or guidance from state or federal sources

# Summary of considerations

## *\* “Low Risk” status on MI Safe Start Map*

Additional considerations for returning to in-person learning:

- ▶ Local outbreaks involving young people
- ▶ New research on impact on children or guidance from state or federal sources
- ▶ Other new information that comes to light

\* Currently at a medium-high risk

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# Staff and student protocols needed to keep schools open



# Critical public health protocols for students and staff

...to keep everyone safe and avoid a cycle of opening and closing schools

## Prescreening

- ✓ Before coming to school, answer a list of symptom questions and indicate other exposure risks
- ✓ Follow protocol if symptomatic
- ✓ Staying home when sick

## Case Notification

- ✓ Immediately report a positive test result

## Isolation & Quarantine

- ✓ Follow Washtenaw County Health Dept protocol for isolation or quarantine

## Personal protections

- ✓ Universal face coverings
- ✓ Social distancing
- ✓ Hand hygiene

# Closing Thoughts

- ▶ Hopeful signs for treatments and vaccine
- ▶ U of M students trickling back to campus
- ▶ We must remain vigilant in our prevention efforts

## AAPS Commitments

- We will err on the side of caution to protect students and staff
- We will continue to pay attention to new research and guidance
- We will continue to partner with health authorities

# THANK YOU!

## Q&A

**WHEN IT COMES TO MASKS, HUMANS HAVE IT EASY...**



**OUR NOSES ARE CLOSE TO OUR MOUTHS...**



**FOR SOME ANIMALS, IT WOULDN'T BE SO EASY.**



**HAMMERHEAD SHARK**



[jhsph.edu/covid-19](https://jhsph.edu/covid-19)

**ELEPHANT**



(ALWAYS COVER YOUR TRUNK!)

[jhsph.edu/covid-19](https://jhsph.edu/covid-19)

**CATERPILLAR**



(SERIOUSLY, GOOGLE "HOW DO CATERPILLARS BREATHE")

[jhsph.edu/covid-19](https://jhsph.edu/covid-19)

