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COVID-19 and Schools:
Health Considerations for Fall 2020

Presentation to the AAPS Board of Education
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Executive Director, Community Division / Student & School Health
July 22, 2020

Tonight's presentation

1. **Current research on the health impact and transmission of COVID-19**
   - Children and adults
   - How COVID-19 spreads, with classroom example
   - Other countries' experiences returning to school
2. **Considerations for returning to in-person learning**
   - Metrics for decision-making on returning to in-person school
   - Challenges for school districts
3. **AAPS approach to protecting staff and students**
   - Sneak preview of next week's *AAPS Return to School Plan*
4. **Closing thoughts and thank you**

Current research on the health impact and transmission of COVID-19

School is Critical for Children's Wellbeing

- The pandemic has highlighted how important schools are, particularly for students from poverty
- Schools provide access to many other services beyond the classroom
- Risks of being at home long term include food insecurity/hunger, abuse and neglect, isolation and mental health issues, reduced physical activity, drop out

COVID-19 in Adults and Children

Racial disparities in cases and deaths are a reality at the national, state, and local levels – for both children and adults.

Adults

- Majority of cases have been in adults
- Higher risk populations
- More likely to be hospitalized and need ICU care than children
- Respiratory and vascular effects; some could be long term
- African American adults at higher risk for contracting COVID-19, severe consequences and death

Children

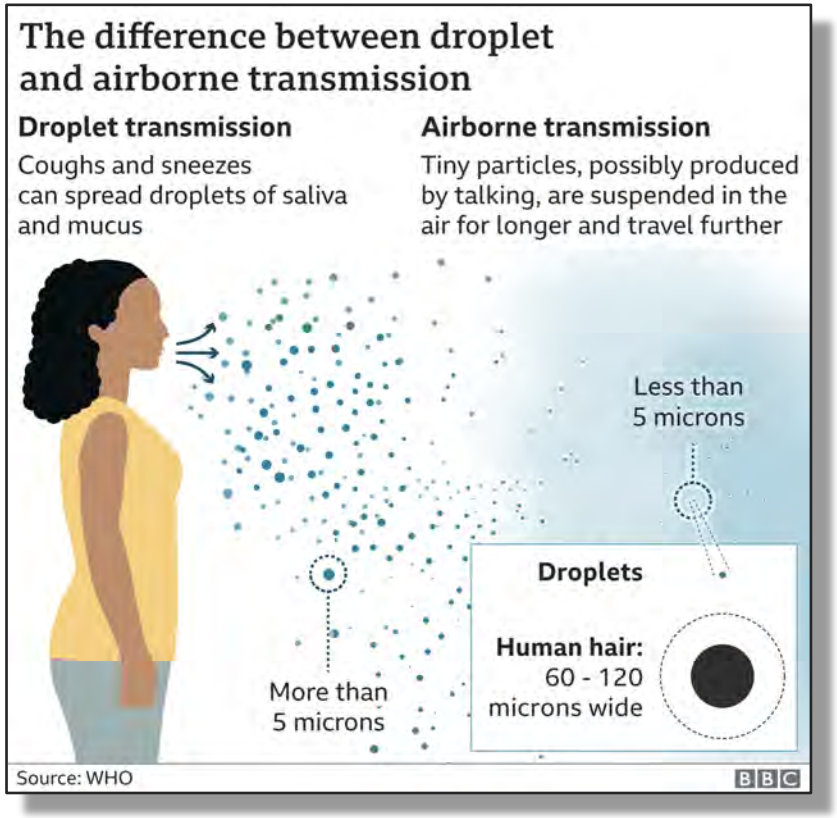
- More likely to be asymptomatic
- Don't know if children are less susceptible
- Typically milder illness and less likely to be hospitalized and need ICU care
- Multisystem Inflammatory Disease in Children (MIS-C) – rare but serious disease
- 71% of MIS-C cases have been in Hispanic/Latino (38%) and Black (33%) children

COVID19 in Pediatrics, Harvard Medical School Continuing Medical Education Webinar, 6/25/2020

CDC: 71% of MIS-C patients Hispanic or Black, AAP News, 7/16/2020 , https://www.aappublications.org/news/2020/07/16/miscdata071620

How the Virus Spreads - Droplets

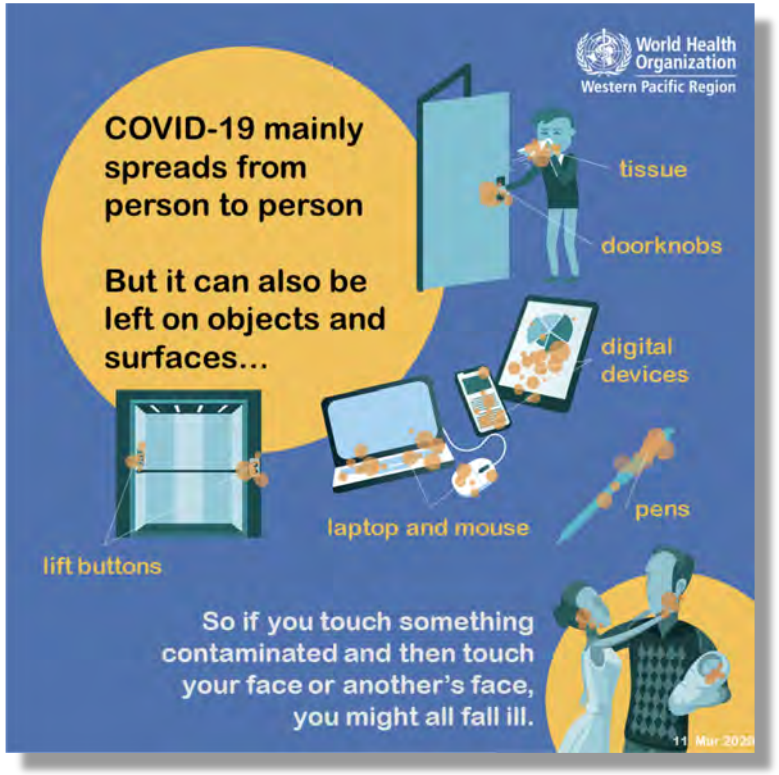
- Droplets and aerosols
- Aerosol emission and “super-emission” increases during human speech as voice becomes louder
- Perfect recipe for transmission = droplets and aerosols are trapped indoors with poor ventilation and people not wearing masks.
- Still many unknowns, e.g. how much virus is needed for transmission



Understanding and Controlling SARS-CoV2 Transmission, Webinar presentation by Donald Milton, Professor, Univ of Maryland School of Public Health, 6/22/2020

How the Virus Spreads - Surfaces

- CDC: It may be possible that a person can get COVID-19 by touching a surface or object that has the virus on it and then touching their own mouth, nose, or possibly their eyes.
- CDC: This is **not thought to be the main way the virus spreads**, but we are still learning more about how this virus spreads.
- It's unclear how long COVID-19 remains viable on surfaces—ranging from a few minutes to hours to potentially days depending on the temperature, humidity and surface type.

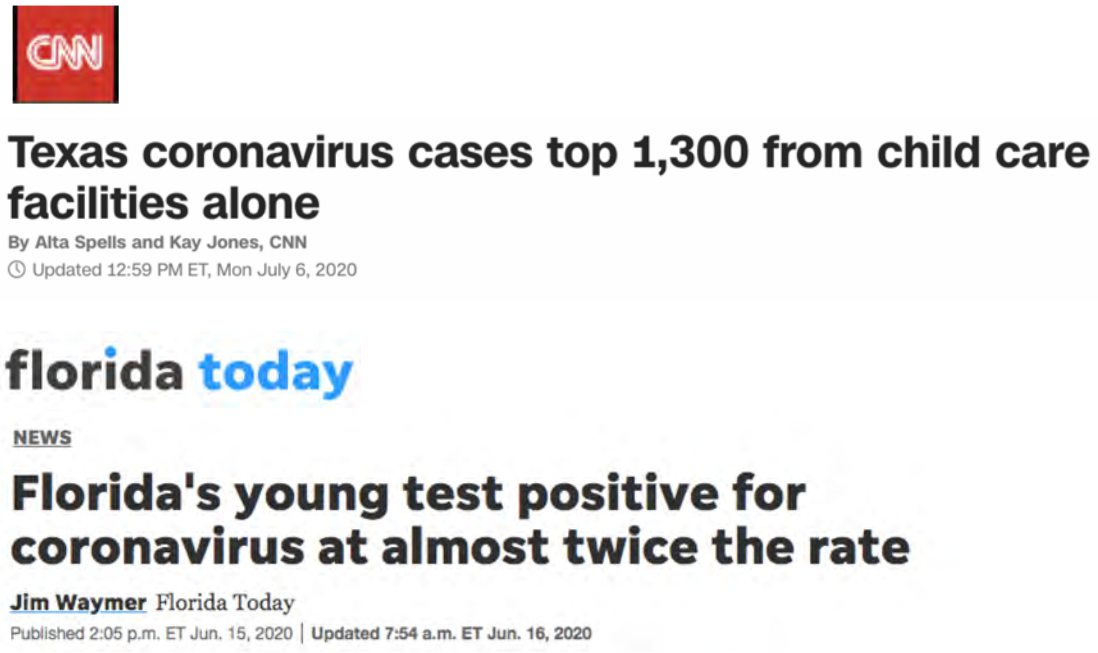


How COVID-19 Spreads, CDC website retrieved 7/21/2020 https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/how-covid-spreads.html
COVID-19 Expert Reality Check, Johns Hopkins Bloomberg School of Public Health, 7/6/2020, https://www.globalhealthnow.org/2020-02/coronavirus-expert-reality-check#roberts

How much do children spread the virus?

- New research on children suggests those under 10 transmit to others much less often; those 10-19 spread the virus at least as well as adults
- Speculation that small children exhale less air or because they exhale it closer to the ground
- More research needed!

Recent Headlines



CNN

Texas coronavirus cases top 1,300 from child care facilities alone

By Alta Spells and Kay Jones, CNN

Updated 12:59 PM ET, Mon July 6, 2020

florida today

NEWS

Florida's young test positive for coronavirus at almost twice the rate

Jim Waymer Florida Today

Published 2:05 p.m. ET Jun. 15, 2020 | Updated 7:54 a.m. ET Jun. 16, 2020

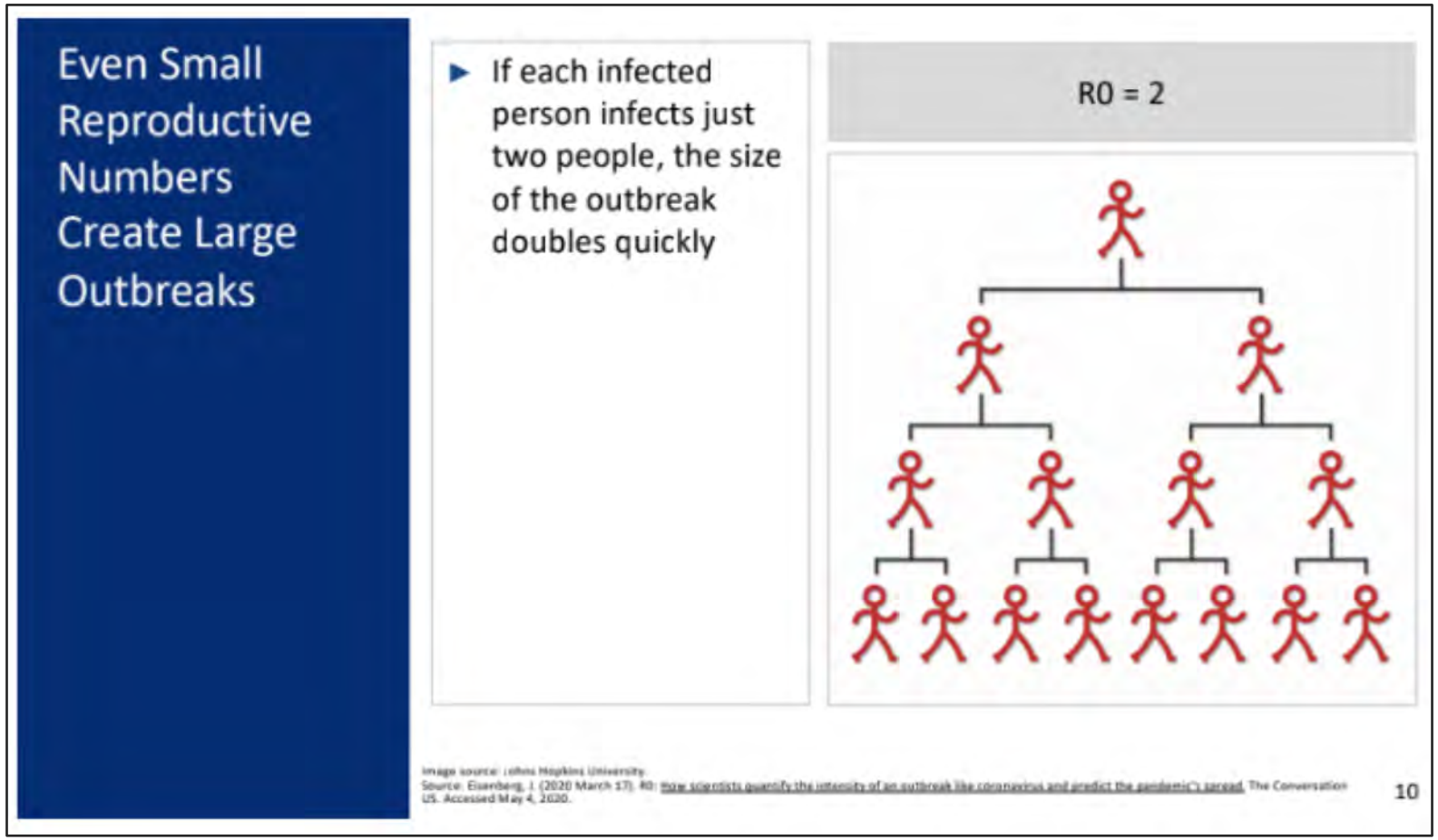
Contact Tracing during Coronavirus Disease Outbreak, South Korea, 2020, Emerg Infect Dis. 2020 Oct. https://wwwnc.cdc.gov/eid/article/26/10/20-1315_article
Older Children Spread the Coronavirus Just as Much as Adults, Large Study Finds, NY Times, 7/18/2020 https://nyti.ms/3jpd7cb

How infectious in COVID-19?

SARS-CoV-19 has an R (reproductive) number of 2-3

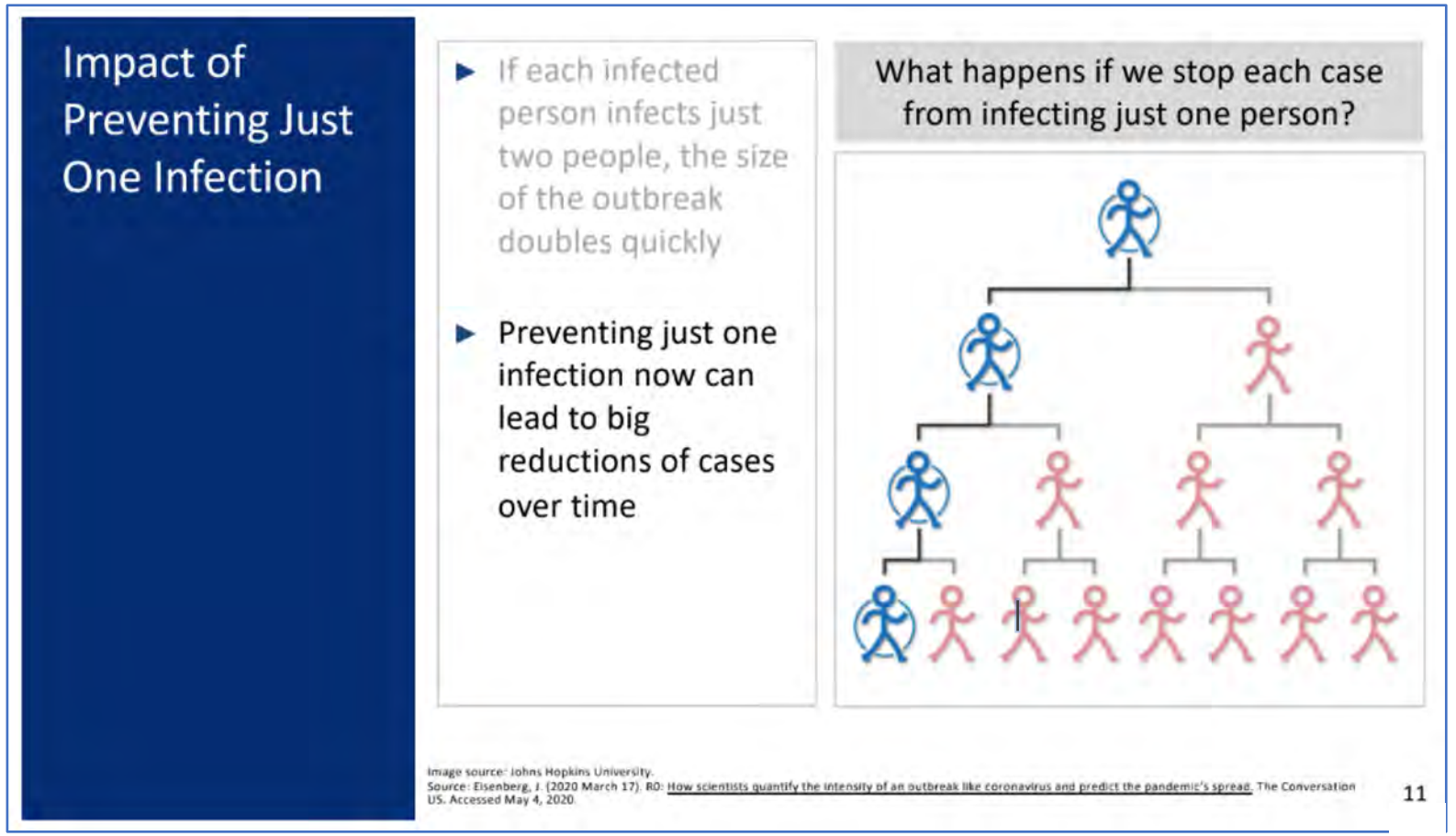
R = the # of people one infectious person will infect if everyone that person has contact with is susceptible

The higher the reproductive number, the more people will be infected



COVID-19 Contact Tracing, Johns Hopkins Bloomberg School of Public Health, available on Coursera

Impact of Preventing Just One Infection



COVID-19 Contact Tracing Class, Johns Hopkins Bloomberg School of Public Health, available on Coursera

Timeline of Infection:
Incubation and Infectious Periods

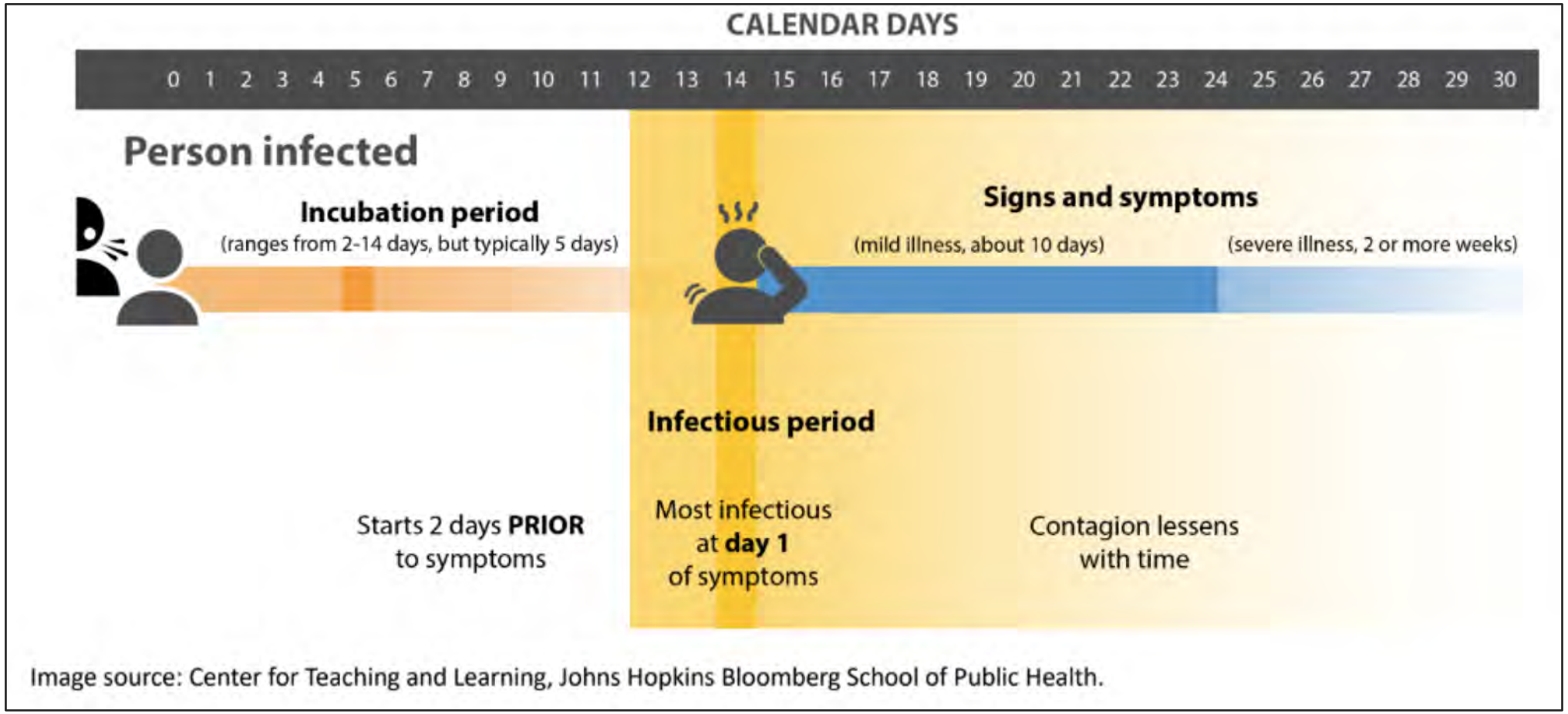
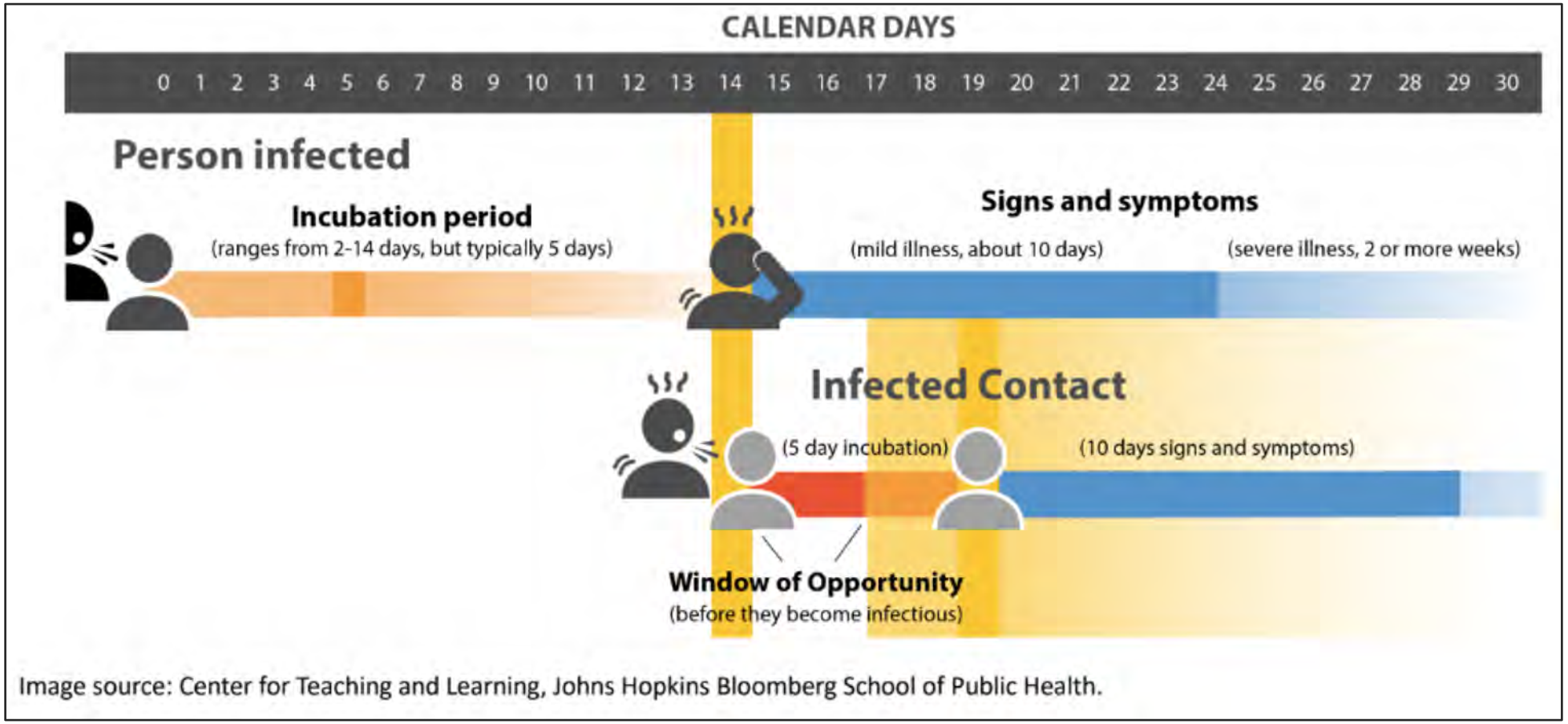


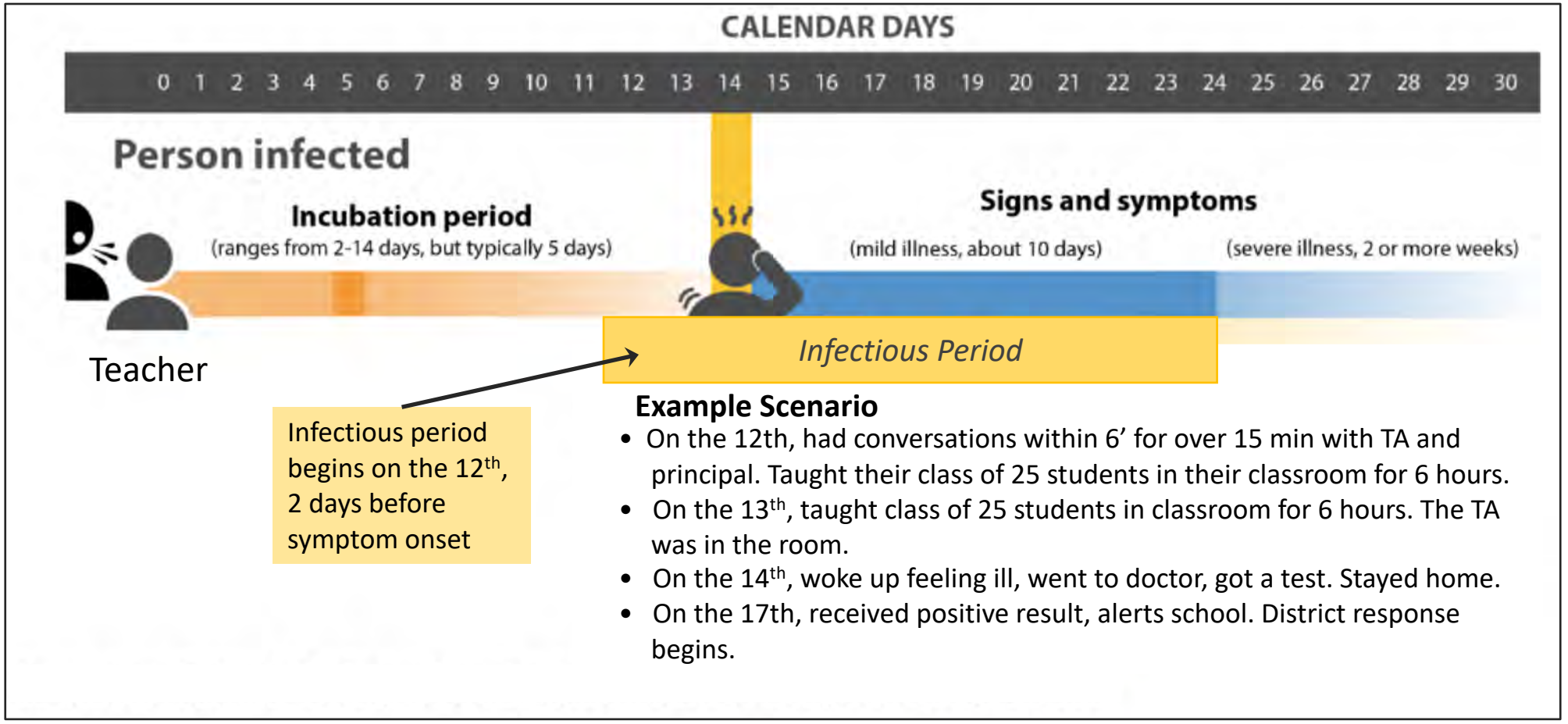
Image source: Center for Teaching and Learning, Johns Hopkins Bloomberg School of Public Health.

Timeline of Infection:
Window of Opportunity to Stop Transmission



COVID-19 Contact Tracing, Johns Hopkins Bloomberg School of Public Health, available on Coursera

Example: Case in a Classroom
Scenario with an Infected Elementary Teacher

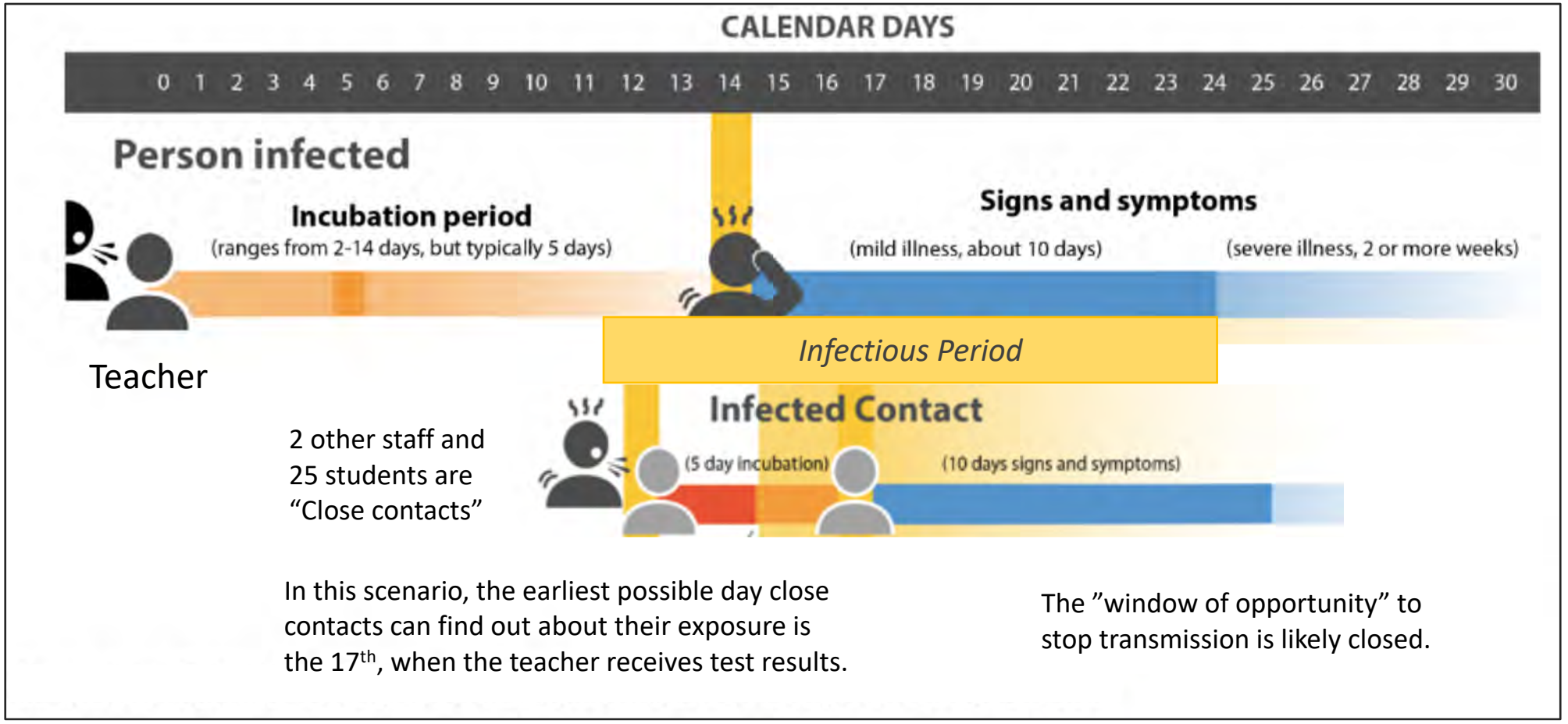


Example Scenario

- On the 12th, had conversations within 6' for over 15 min with TA and principal. Taught their class of 25 students in their classroom for 6 hours.
- On the 13th, taught class of 25 students in classroom for 6 hours. The TA was in the room.
- On the 14th, woke up feeling ill, went to doctor, got a test. Stayed home.
- On the 17th, received positive result, alerts school. District response begins.

Modified image from *COVID-19 Contact Tracing*, Johns Hopkins Bloomberg School of Public Health, available on Coursera

Example: Case in a Classroom
Stopping the Spread



In this scenario, the earliest possible day close contacts can find out about their exposure is the 17th, when the teacher receives test results.

The "window of opportunity" to stop transmission is likely closed.

Modified image from *COVID-19 Contact Tracing*, Johns Hopkins School of Public Health, available on Coursera

What We Can Learn from Other Countries

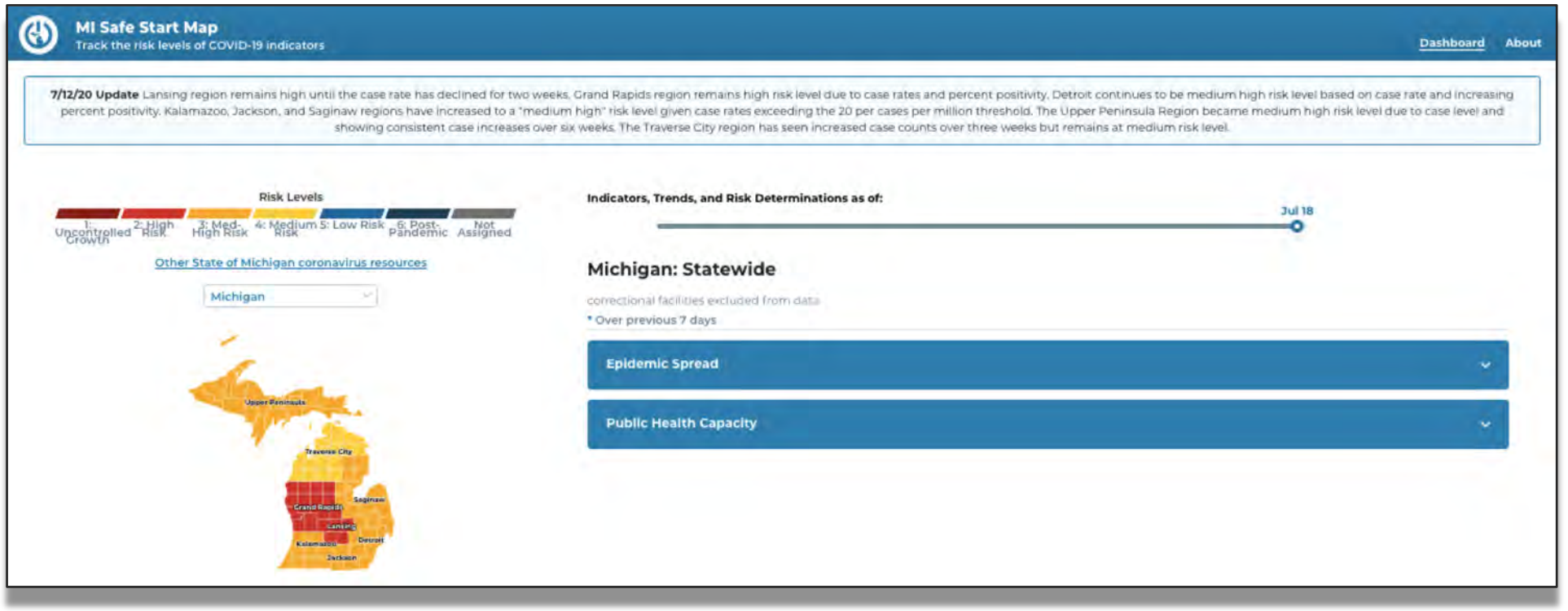
- Mixed international evidence of whether returning to school creates more outbreaks
- Evidence from other countries does show that reopening schools is safer when there is low community spread
- Avoid "apple to apples" comparisons between U.S. and other countries' school systems because contexts can differ greatly:
  - Government policies and penalties for not following protocols
  - Culture that is more or less cooperative/compliant
  - Availability of rapid testing
  - Schools' physical plant: size of classrooms and common areas; ventilation
- Scientists are watching closely to see practices that could work and pitfalls to avoid

CDC's Latest Guidance for Schools, presentation by Erin K. Sauber-Schatz PhD, MPH, during American School Health Assoc. "Return to Learning" Webinar, 7/13/2020

Considerations for Returning to In-Person Learning

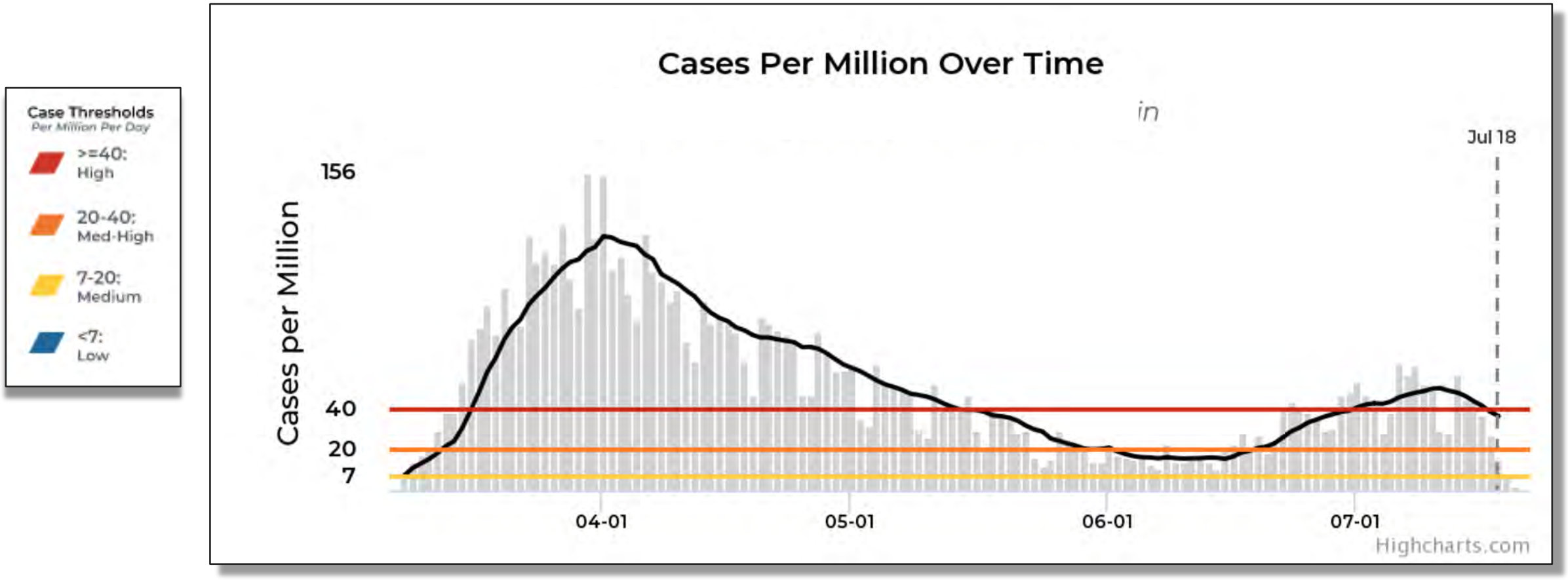
State Level Monitoring

Washtenaw County = Med-High Risk



Retrieved 7/21/2020 https://www.mistartmap.info/

State Level Monitoring



Retrieved 7/21/2020 https://www.mistartmap.info/

Local Level Monitoring

Youth represent a small percentage (4%) of cases in Washtenaw County, but schools have been closed since March

Recent outbreak originated at Saline party; majority of the cases were people ages 15-25.

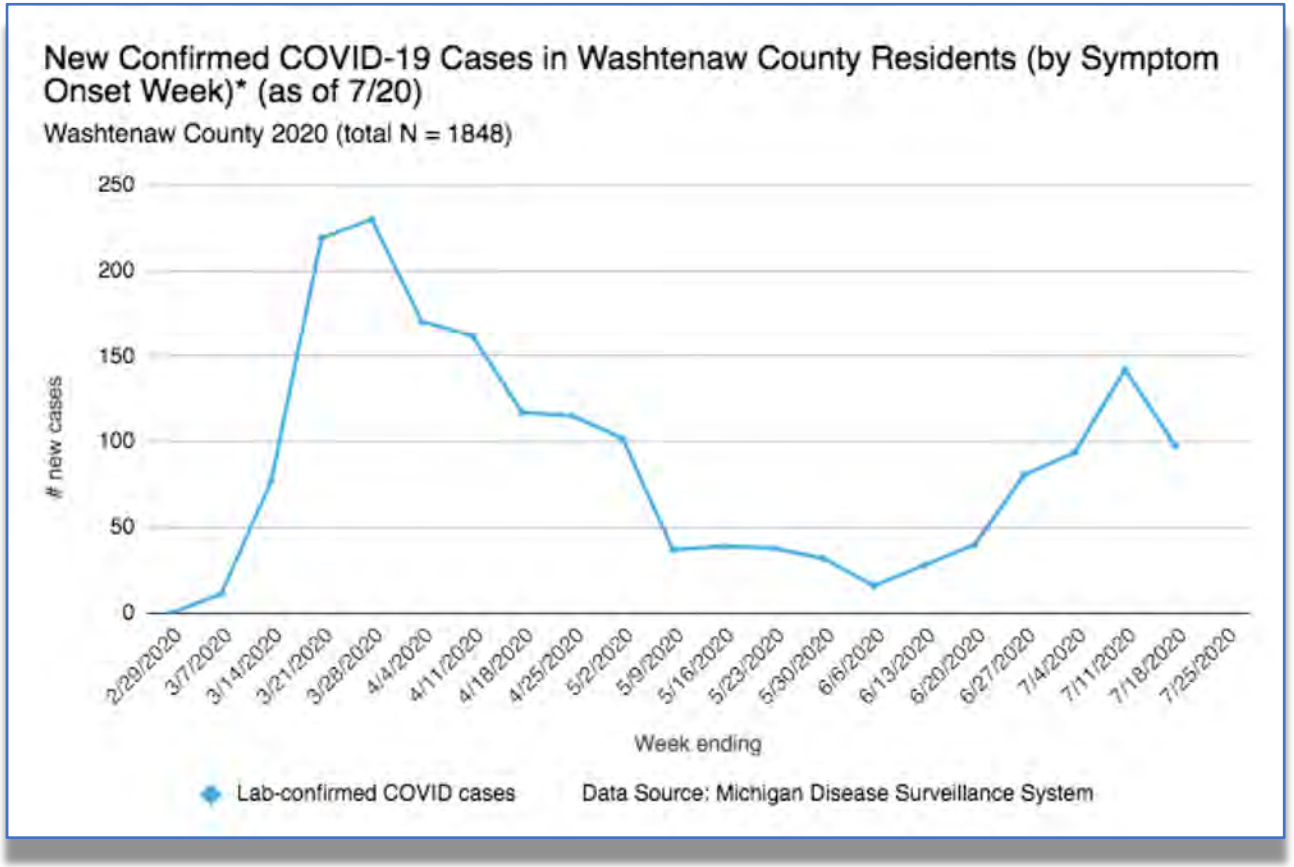


Chart retrieved from Washtenaw County Health Department website, 7/21/2020, https://www.washtenaw.org/3108/Cases
"Saline House Party Leads to 43 New Coronavirus Cases", Saline Patch, 7/13/2020 https://patch.com/michigan/saline/saline-house-party-leads-43-new-coronavirus-cases-officials

University of Michigan – Potential Impact

- August 24 – 31, staggered arrival for incoming first year students
- August 31, “public health informed” fall term begins on U of M campus and ends November 20.
- U of M plan is for layered public health protocols, including in-house testing and contact tracing, required face coverings, and physical distancing
- It will take several weeks to determine impact on community levels of COVID-19

In 2019, there were 31,266 undergraduates and 16,824 graduate students.

Students came from all 50 states, 80 Michigan counties, and 39 countries.

U of M Fall Announcement https://campusblueprint.umich.edu/fall-announcement
U of M Facts and Figures https://umich.edu/facts-figures/

The COVID-19 Testing Process We Need

Rapid testing (<1 day turnaround) is free and widely available to all for frequent testing

→

- Immediate isolation
- Infected person shares contact info.

→

Within 48 hours: contact tracing and quarantine for all close contacts

→

Virus spread from infected person is contained to the extent possible

The COVID-19 Testing Process We Have

Testing is available through health care provider and at limited community locations (with restrictions).

Testing turnaround 1-14+ days

→

- Isolation delayed by testing turnaround time
- Infected person may not cooperate with contact tracers to share contacts.

→

Within a few days or longer, contact tracing and quarantine.

Some close contacts are missed or do not answer call and don't quarantine.

→

Virus spread from infected person only somewhat contained. More positive cases show extent of spread.

COVID-19 Testing, retrieved from Washtenaw County Health Dept website, 7/21/2020. https://www.washtenaw.org/3158/Testing
As Michigan COVID cases soar, infected residents won't cooperate with tracers, Bridge Magazine, 7/15/2020, https://www.bridgemi.com/michigan-health-watch/michigan-covid-cases-soar-infected-residents-wont-cooperate-tracers

Required School District Involvement in COVID-19 Reporting and Contact Tracing

MI Safe Schools: Michigan's 2020-2021 Return to School Roadmap

"Responding to Positive Tests Among Staff and Students

REQUIRED

All schools, public and private, must cooperate with the local public health department if a confirmed case of COVID-19 is identified, and in particular, must collect the contact information for any close contacts of the affected individual from two days before he or she showed symptoms to the time when he or she was last present at the school."

https://www.michigan.gov/documents/whitmer/MI_Safe_Schools_Roadmap_FINAL_695392_7.pdf

Michigan Executive Order 2020-145: Safeguards to Protect Michigan's Workers from COVID-19

"When an employee is identified with a confirmed case of COVID-19:

- Immediately notify the local public health department, and
- Within 24 hours, notify any co-workers, contractors, or suppliers who may have come into contact with the person with a confirmed case of COVID-19."

https://www.michigan.gov/whitmer/0,9309,7-387-90499_90705-534168--,00.html

7/29 BOE meeting

Michigan Executive Order 2020-142: COVID-19 Return to School Plan

AAPS approach to protecting staff and students

“Stacking” best practices to help Michiganders safely return to work

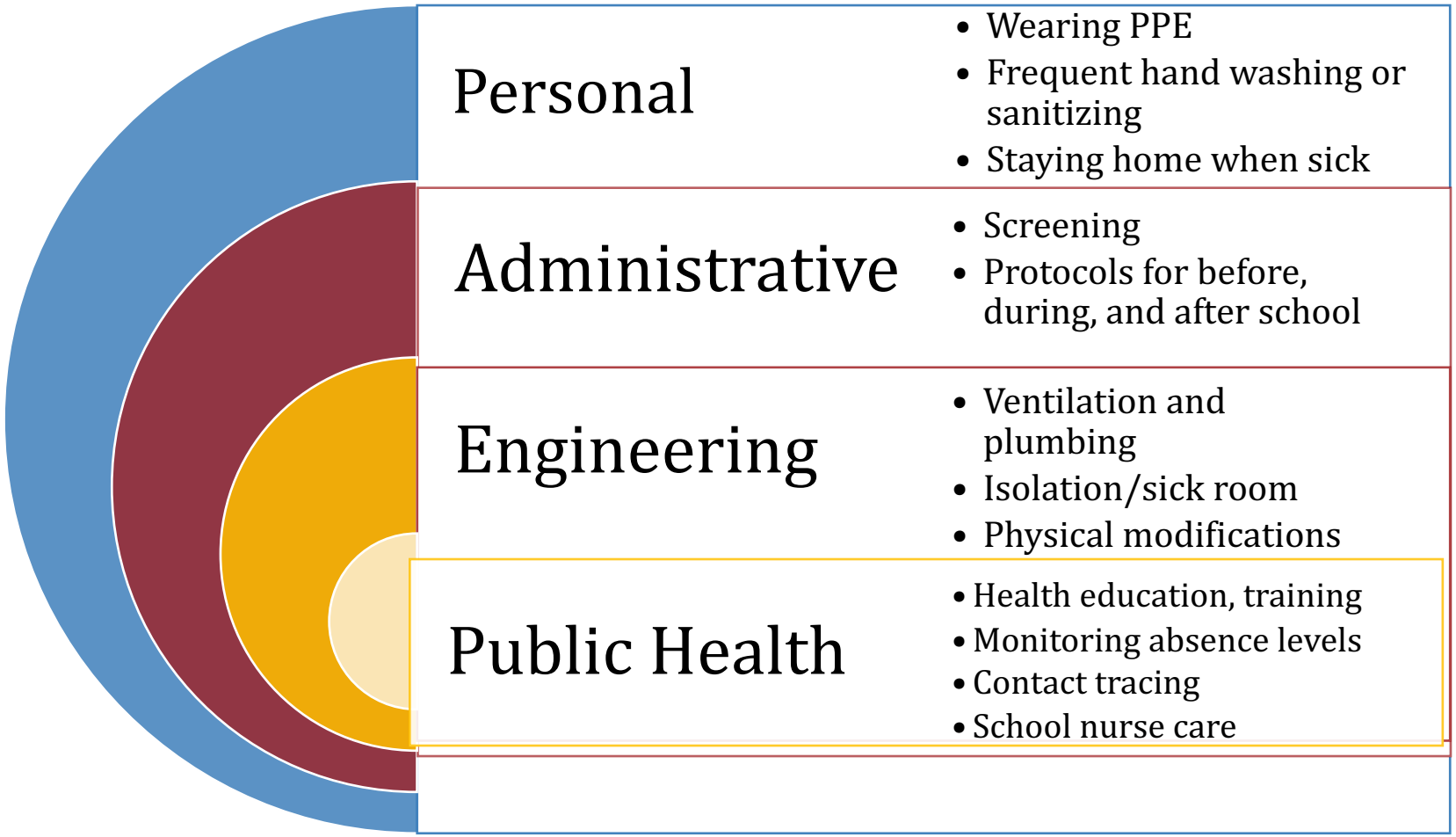
“Our research tells us that stacking best practices—with several layers of safeguards to reduce the spread of COVID-19 and lower the risk of another spike in cases and deaths—is necessary to manage this outbreak while re-engaging our economy.”

-- DuBois Bowman is dean and professor of biostatistics at the U of M School of Public Health

-- Sharon Kardia is associate dean for education and professor of epidemiology at the U of M School of Public Health

https://www.bridgemi.com/guest-commentary/opinion-stacking-best-practices-help-michiganders-safely-return-work

Stacking Best Practices to Protect AAPS Staff and Students



The July 29, 2020 BOE meeting will include a detailed presentation of protocol implementation within AAPS

Adapted from *Stacking best practices to help Michiganders safely return to work*, Bridge Magazine, April 29, 2020.
Guest commentary by DuBois Bowman, Dean, and Sharon Kardia, Associate Dean, University of Michigan School of Public Health.

Closing Thoughts and Thank You

- AAPS and all other schools districts must mitigate risk without having some of the larger systems of support available in other countries
- AAPS is paying close attention to ongoing research and new guidance
- We **all** have a critical role to play in preventing the spread of COVID-19 in our community. To return to in-person learning, we need to see sustained low case counts.

Washtenaw County Health Department
healthy together

Washtenaw ISD
A REGIONAL EDUCATIONAL SERVICE AGENCY