Illinois Education Association
Pediatric COVID Disease

July 30, 2020
Daniel Johnson, MD
Pediatric Infectious Disease Specialist, University of Chicago Medicine
Comer Children’s Hospital
Director, ECHO-Chicago
Treasurer, Illinois Chapter of the American Academy of Pediatrics
(ICAAP)
Disclosures

• No financial disclosures

• The world has changed and is changing
  – What gets said here today may change based on new data and recommendations
  – Knowledge is moving rapidly, the fastest it has for any pandemic
Agenda

• Review

• Schools and COVID
  – Data to date
  – Ideal approach

• Q&A/Discussion
Epidemiology
Percent positive test by region: 4.3-7.6%
Epidemiology Take Home Points

• Cases are rising in our country
  – Our state is doing better than most others
• SARS-CoV-2 spreads mainly by droplet, less so by surfaces and even less by aerosol
• Children under 10 years old rarely spread the infection to adults or even each other
  – Those over 10 years old spread similar to adults
• People spread the infection before they are symptomatic
• Spread in daycare settings appears to be very small
Prevention
Two Layers Is Better Than One!

Thorax: 24 July 2020. doi: 10.1136/thoraxjnl-2020-215748
Prevention Take Home Points

• Isolate infected people
• Distance
  – ≥6 feet is the goal, 3 feet works well
• Masking
  – Cloth works to protect others, two layers is best e.g., cotton–silk, cotton–chiffon, cotton–flannel work best
  – Fit is important- need it tight against the face with few gaps if it is to protect the wearer
• Face shields
  – Works almost as well as mask to protect others
  – Works almost as well as mask to protect the wearer from droplets, less so from aerosol
• Hand hygiene with soap and water for 20 seconds or with 60% alcohol based hand sanitizer gel
• Ventilation
  – Open windows, open doors, fresh air
  – Do not have fans blowing horizontally
Schools
DAMNED IF YOU DO

DAMNED IF YOU DON'T
Public Health Risk Either Way

• Open schools means some risk of exposure and spread

• Close Schools
  – Lost learning
    • Disproportionately hitting people of color, low income populations, and those with disabilities
  – Missed abuse and neglect cases
  – Lost wages which translates into poverty, eviction, hunger, food insecurity, and more
There Is No True Safe Harbor

• “The fishermen know that the sea is dangerous and the storm terrible, but they have never found these dangers sufficient reason for remaining ashore”

Vincent van Gogh
Lessons Learned?
Schools and COVID-19: How Not?

Sweden did not close schools for students in kindergarten through grade 9

- Schools were closed for students in grades 10-12 through June 14, after which schools were reopened for all students
- No major adjustments to class size, lunch policies, or recess rules were instituted
- Seroprevalence surveys conducted by the Swedish Public Health Agency found that the antibody prevalence in children/teenagers was 4.7% compared with 6.7% in adults age 20-64 and 2.7% in adults age 65-70
  - The relatively high rate in children suggests there may have been significant spread in schools

https://globalhealth.washington.edu/sites/default/files/COVID-19%20Schools%20Summary%20%282%29.pdf?mkt_tok=eyJpIjoiWVdRMVpqWmlNek16WldReSlIsInQiOiJpVUE4Uk1ScjBpT1JgVWp1eFM4WTlzaTVzWURTTeWpOT2liZUxCeHdNREdc3Zxano4Z0FWWlk4Mms3S3lJeTNibEFQWVFUT3d5V3cw...
Schools and COVID-19: How Not?

Israel reopened high school in May
- No precautions taken – crowded classrooms, no masking, air conditioning with recirculation of air
- Student attack rate: 13.2% and staff attack rate: 16.6%

Germany reopened around May 4 for older age students
- Students are assigned their own fixed desks that are spaced at least 6 feet way from other desks.
- School days shortened and supplemented with online lessons, no more than 10 students in a room
- Students tested for SARS-CoV infection every 4 days, with a negative test allowing students to attend school without a face masks
- Moderate community transmission,
- Increased transmission among students, but not school staff

What Is Our Goal?

• Schools will eventually need to reopen
• Keeping schools closed comes with massive, long-term individual and societal costs
  — Many children cannot effectively learn, grow, engage, socialize, be active, eat healthy food, or get support until schools reopen.
  — Parents and caregivers cannot go back to work until children go back to school
• **Reduce risk of COVID-19 transmission**
  — There is no such thing as ‘zero risk’, in anything we do, and certainly not during a pandemic
Source Control

Wear masks

• Have students wear face masks as much as possible
  – Face shields are an alternative
• Train students and staff on how to wear and care for masks
• Two layer masks
• Try to create time when students can take off their masks
  – Outside and physically distant (>6 feet) and no hollering or singing
• Allow teachers to wear transparent face shields when teaching at the front of the room
  – Face masks when working more closely with students or in proximity of each other
• Make lunch as short as possible and limit talking
  – Focus on the food!
  – Eat in the classroom
Source Control

Handwashing

• Gel or water

• Build handwashing into the schedule of the day
  – When leaving home, touching one’s face, and leaving school and arriving at home
  – Arriving at school, entering or leaving classroom, eating, finishing lunch, touching shared objects, using the bathroom, coughing, sneezing, and blowing one’s nose
  – Hourly when in the classroom
    • Gel at the desk if possible
Physical distancing (preferred language than social distancing)

- De-densify the school
  - Minimize visitors
  - Repurpose spaces in the school as temporary classrooms (e.g., auditorium, gym, lunch room)
- Keep at least 6 feet between individuals, as much as possible, for as long as possible
- Student should all face in the same direction
- Move class outdoors, if possible, weather permitting
- Walking past someone is low risk but if continuous then problematic
- Manage transition times and locations
  - Stagger school arrival and departure times, class transitions, and locker access
  - Set up separate entrances and exits for different groups of students
  - Use well-marked lines on the floor to encourage physical distancing and indicate direction of travel
Source Control

Pod (cohorting) formation

• Keep class groups as distinct and separate as possible
• Limit students moving between different classrooms
• Avoid large groups and gatherings, both in and outside of school
Ventilation

1. Ventilate with Outdoor Air
   - HVAC System?
     - Yes: Open system dampers
     - No: Open windows

2. Increase Filter Efficiency
   - HVAC System?
     - Yes: Upgrade system filters to ≥MERV13
     - No: [No action specified]

3. Supplement with Portable Air Cleaners

## Cleaning

<table>
<thead>
<tr>
<th>Cleaning Frequency</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>- Classroom desks, tables, and chairs</td>
</tr>
<tr>
<td></td>
<td>- Shared spaces</td>
</tr>
<tr>
<td>Multiple times per day</td>
<td>- Door handles</td>
</tr>
<tr>
<td></td>
<td>- Light switches</td>
</tr>
<tr>
<td></td>
<td>- Handrails</td>
</tr>
<tr>
<td></td>
<td>- Drinking fountains</td>
</tr>
<tr>
<td></td>
<td>- Sink handles</td>
</tr>
<tr>
<td></td>
<td>- Restroom surfaces</td>
</tr>
<tr>
<td></td>
<td>- Cafeteria surfaces</td>
</tr>
<tr>
<td></td>
<td>- Elevator buttons</td>
</tr>
<tr>
<td>Between uses</td>
<td>- Toys, games, art supplies, instructional materials</td>
</tr>
<tr>
<td></td>
<td>- Keyboards, phones, printers, copy machines</td>
</tr>
<tr>
<td></td>
<td>- Seats on bus</td>
</tr>
</tbody>
</table>

Establish A Culture of Health, Safety, And Shared Responsibility

- Provide training to teachers, staff, students, and parents/guardians prior to school opening
- Start each day with a morning message to the entire school reinforcing health messaging
- Create and display signs around the school as reminders of rules, roles, and responsibilities
- Hold weekly and monthly all-staff meetings on COVID-19 to evaluate control strategies
- Send out weekly reports and reminders to parents and students of their respective roles
- Reward good behavior
- Form a COVID-19 response team and plan
- Prioritize staying home when sick
What To Do If Symptoms Appears at School

• Any individual who shows symptoms should be immediately separated from the rest of the school population
  – Designate a safe area to quarantine any individuals who are experiencing COVID-19-like symptoms and may be awaiting pickup/evaluation
    • Students should never be left alone and must always be supervised while maintaining necessary precautions.
• School community members who are sick should not return to school until they have met criteria to return.
  – Schools may wish to consider a symptom checklist for families and staff to use to determine if they are well enough to attend that day
School Opening

• School settings more uncertain for kids above the age of 10-11 (i.e., middle and high schools)
  – Social distancing and masking needed
  – Pod formation and not moving from class to class

• Amount of community spread may be important to successful opening of schools
The Facts

• Risks to students and staff can be kept low if schools adhere to strict control measures and respond to potential outbreaks
• There is no perfect plan to reopen schools
• There is no ‘one size fits all’ strategy that works for every school
  – Schools have limited budgets and student and staff compliance will be imperfect
• Schools may need to reclose unexpectedly depending on local conditions
  – No one knows with certainty what the fall will bring in terms of this pandemic
School Recommendations

• Hand hygiene

• Face covering

• Social distancing

• Ventilation
Reference

SCHOOLS FOR HEALTH

Risk Reduction Strategies for Reopening Schools

June, 2020

Albert Camus’, *The Plague*, Dr. Rieux:

“It may seem a ridiculous idea, but the only way to fight the plague is with decency.”
Questions
Thank you!

Resources, slides & recording of the session
https://www.echo-chicago.org/resources/covid19/
ieceana.org
www.iasaedu.org