The information presented here is the most up-to-date, data-driven and evidence-based science to help school districts make important decisions regarding face-to-face instruction.

Duke University and its partners will not make decisions nor will they advise specific action.
Format

Thank you for joining us this evening!

• We will take questions from the comments section in YouTube and will supplement our presentations with some of your questions.

• Questions that are not answered during the webinar will be collated and may be combined with other questions and will be addressed in a “Frequently Asked Questions” document or future webinars.

• Closed captioning - use the CC function in YouTube

• Webinar slides and videos are available at our website: https://abcsciencecollaborative.org/

• Live stream and previous videos are available on our new YouTube channel: https://www.youtube.com/channel/UCiY1eJxdw0uU80AufPhrTWQ
COVID-19 Transmission

- Person-to-person transmission—Respiratory droplets from an infected person (e.g. coughs or sneezes)
- Land in mouths or noses, inhaled by close contacts
- Contaminate surfaces—Close contact (< 6 feet, >15 minutes)
- Transmission from people who have asymptomatic infection occurs through same mechanisms
The Swiss Cheese Model

The Swiss Cheese Respiratory Virus Defence
Recognising that no single intervention is perfect at preventing spread

Each intervention (layer) has imperfections (holes).
Multiple layers improve success.

Based on the Swiss cheese model of accident causation, by James T. Reason, 1990
Derived from @sketchplanator
Version 1.3
Update: 12 Oct 2020
Data on Masks

Face masks: what the data say

The science supports that face coverings are saving lives during the coronavirus pandemic, and yet the debate trundles on. How much evidence is enough?

Lynne Peeples

“To be clear, the science supports using masks, with recent studies suggesting that they could save lives in different ways:

Research shows that they cut down the chances of both transmitting and catching the coronavirus, and some studies hint that masks might reduce the severity of infection if people do contract the disease.”

Retrieved from: www.nature.com/articles/d41586-020-02801-8
What do we know about transmission of COVID-19 in children?
Transmission

• Symptomatic neonates, children, and teenagers shed infectious SARS-CoV-2, suggesting that transmission from them is plausible.

• Children who are infected with COVID-19 are infectious and can transmit infection. Children are not the main drivers for community transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

https://wwwnc.cdc.gov/eid/article/26/10/20-2403_article
Transmission of COVID-19 in Indian States

- Reported cases and deaths have been concentrated in younger cohorts.
- Infection probabilities ranged from 4.7-10.7% for low-risk and high-risk contact types.
- Highest risk of infection occurred with contacts of the same age.
- No secondary infections were linked to 71% of cases whose contacts were traced and tested.

https://science.sciencemag.org/content/early/2020/09/29/science.abd7672
COVID-19 & The School Experience
Transmission Dynamics of COVID-19 Outbreaks Associated with Child Care Facilities — Salt Lake City, Utah, April–July 2020

<table>
<thead>
<tr>
<th>COVID-19 Precautions</th>
<th>Facility A</th>
<th>Facility B</th>
<th>Facility C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mask for staff</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Index Case</td>
<td>Adult</td>
<td>Adult</td>
<td>Adult</td>
</tr>
<tr>
<td>Mask for children &gt; 2 years</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Distance</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Avoid work while sick or exposed</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
<tr>
<td>Temperature check &amp; symptom screening</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>

Lopez AS, Hill M, Antezano J, et al. MMWR. 2020
Cases in the community will mean cases in schools but not necessarily mean disease spread.

- In Rhode Island, cases occurred in 29 child care programs. 20 (69%) had 1 case with no secondary transmission.

- Possible secondary transmission was identified in 4 of the 666 programs (0.006%)

- All transmission occurred in the last 2 weeks of July, when community transmission in Rhode Island increased.

Link-Gelles R, DellaGrotta AL, Molina C, et al. MMWR. 2020
SARS-CoV2 transmission in schools may be less important in community transmission than initially feared.

China: 68 kids, Jan 20 – Feb 27, 65 (96%) had prior adult contact

France: 9 yo M with SARS-CoV-2, Flu and picoRNA. 80+ contacts at 3 schools. No secondary contacts with COVID-19 despite +ve flu

Australia: 9 students and 9 staff in 15 schools contacts with 735 students and 128 staff. Only 2 secondary infections (staff & student)

COVID-19 Transmission and Children: The Child Is Not to Blame

Benjamin Lee, MD, William V. Raszka, Jr, MD

Danis K, Epaulard O, Bénet T, et al; CID. 2020
Cai J, Xu J, Lin D, et al. CID. 2020
Risk in Schools

IDEAS

Schools Aren’t Super-Spreaders

Fears from the summer appear to have been overblown.

OCTOBER 9, 2020

Emily Oster
Economist at Brown University

- Schools do not, in fact, appear to be major spreaders of COVID-19.
- 200,000 kids in 47 states from the last two weeks of September revealed an infection rate of 0.13 % among students and 0.24 % among staff.
- About 1.3 infections over two weeks in a school of 1,000 kids, or 2.2 infections over two weeks in a group of 1,000 staff.

What about clusters and Traditional Public Schools within North Carolina?

<table>
<thead>
<tr>
<th>Districts</th>
<th>Clusters</th>
<th>Num Clusters</th>
<th>Staff</th>
<th>Students</th>
<th>Population (thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buncombe</td>
<td>Elementary</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>Craven</td>
<td>High School</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Craven</td>
<td>High School</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Macon</td>
<td>High School</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Onslow</td>
<td>High School</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>27</td>
</tr>
<tr>
<td>Richmond</td>
<td>Elementary</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Robeson</td>
<td>Elementary</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>23</td>
</tr>
<tr>
<td>Wilkes</td>
<td>High School</td>
<td>1</td>
<td>4</td>
<td>16</td>
<td>9</td>
</tr>
<tr>
<td>Davidson</td>
<td>High School</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>19</td>
</tr>
<tr>
<td>Gaston</td>
<td>Elementary</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>31</td>
</tr>
<tr>
<td>Gaston</td>
<td>Elementary</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>31</td>
</tr>
<tr>
<td>Moore</td>
<td>Elementary</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Sampson</td>
<td>Elementary</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>13</td>
<td>39</td>
<td>47</td>
<td></td>
</tr>
</tbody>
</table>

Source: NCDHHS
Total source population: ~500k students over 9 weeks (Aug 10th-October 10th)
<5,000 Craven
5,000-10,000 Sampson, Wilkes
>10,000 Buncombe, Gaston, Onslow, Robeson
One School district’s Successful quarter
Many schools 0 infection
Most schools 0 secondary transmission
2 Clusters
15 schools—0 cases
20 schools—1 case
7 schools—2 cases
4 schools—3 cases
1 school—4 cases
3 schools—5 cases
2 schools—6 cases
2 schools—7 cases
1 school—8 cases
1 school—9 cases (*1 case/1,000/week)
COVID-19 Planning Considerations: Guidance for School Re-entry

- Be flexible
- Use available data
- Adjust based on local viral transmission
- Make it practical/feasible
- Limit exclusion of children from education
- Keep ill children out
- Don’t forget special needs and behavioral health
Questions & Answers
Real Life Experiences: NYC

COVID-19 Testing for Students and Staff

- Testing initiative to identify the prevalence of COVID-19
- Random monthly testing
- Organized by NYC Health + Hospitals, the New York City Department of Health and Mental Hygiene (DOHMH), and the NYC Test & Trace Corps


Miranda Barbot
@MirandaBarbot

NEWS: Friday, we completed our first day of random testing in schools.
Here are the results:
- 56 schools participated
- 1,751 test results received
- One positive test (.06%)

Tomorrow and throughout the week, we will continue testing in additional schools.
Thank you.