ABC Science Collaborative

A public health initiative that unites science and schools to ensure a safe work and learning environment

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Learning | Informed Decision-Making | Research

Introducing the ABC Science Collaborative

What Is the ABC Science Collaborative?

A program that pairs scientists and physicians with school and community leaders to help understand the most current and relevant information about COVID-19. We are funded by the National Institutes of Health.

NIH

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The Team

Public health scientists and physicians affiliated with the Duke School of Medicine, the Duke Clinical Research Institute, and the University of North Carolina School of Medicine.

Duke University School of Medicine

UNC HEALTH CARE

ABC Science Collaborative Team

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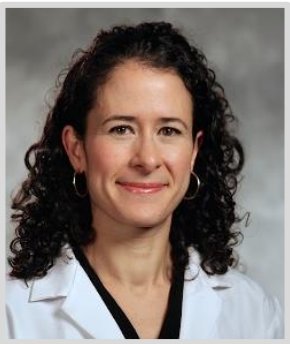
General pediatrics, child nutrition and physical activity



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David Weber, MD, MPH
Assistant Chief
Medical Officer
UNC Health Care

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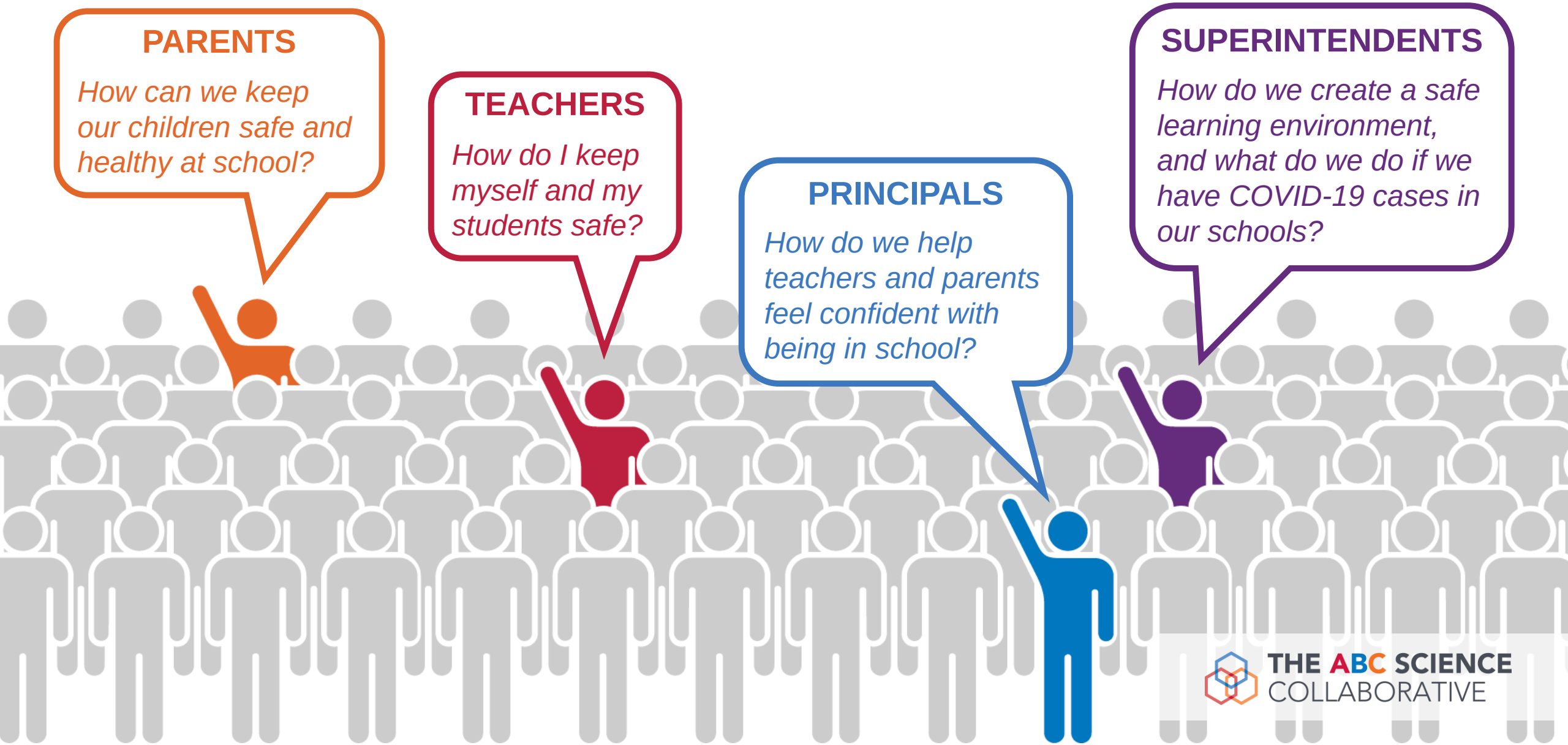
Helping To Answer Pressing Questions



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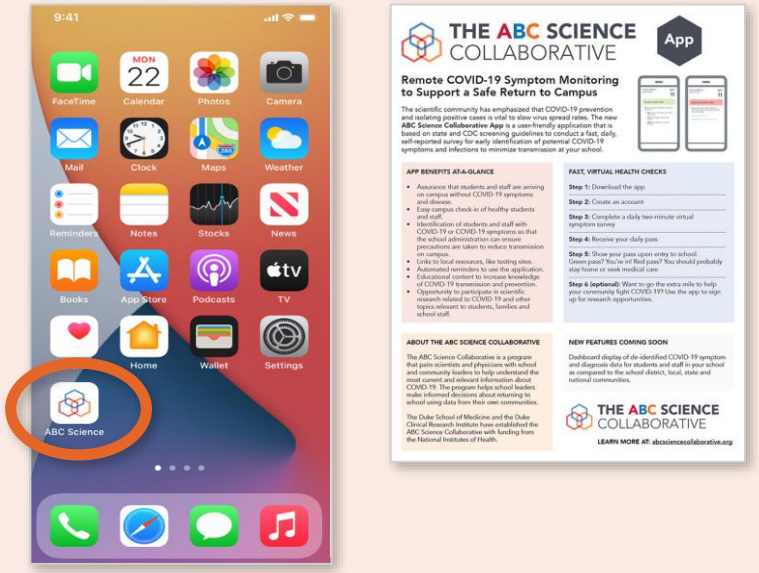
Introducing the ABC Science Collaborative

Informing Evidence-Based Decision Making

- Superintendent lifeline
- Coordination with state health departments
- Stakeholder association liaison

Delivering Educational Resources for All

Advancing Public Health



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12 Principles: Start with the 3 Ws. Then—

1. **BE TRANSPARENT**
   Report all primary COVID-19 cases by week, by school.

2. **MAKE A ROAD MAP FOR CONTACT TRACING AND TESTING**
   The school district and local health department(s) should make available publicly who will do what in a successful contact tracing.

3. **DEVELOP A DASHBOARD**
   A pandemic management dashboard should include primary cases, secondary cases, testing rates, and comparisons to county-wide data.

4. **IMPLEMENT LESSONS LEARNED**
   School leadership should work with staff to understand secondary transmissions and to implement lessons learned.

5. **WORK WITH A TRUSTED 3RD PARTY TO ANALYZE DATA**
   For example, partner with the ABC Science Collaborative.

6. **LEVERAGE SCHOOL-BASED METRICS**
   Secondary transmission per 10,000 students and number of clusters per 10,000 students are metrics that are preferable to county data because the crucial element of managing schools is to prevent spread within schools.

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12 Principles, cont.

7 FIGHT PANDEMIC FATIGUE
Target >99 percent adherence to masking by all mainstream curriculum students, teachers, and staff on school property at all times (except for eating and drinking). Use an anonymous hot line or web portal to report non-compliance or a simple daily walkthrough to check that all masks are over the nose, mouth, and chin.

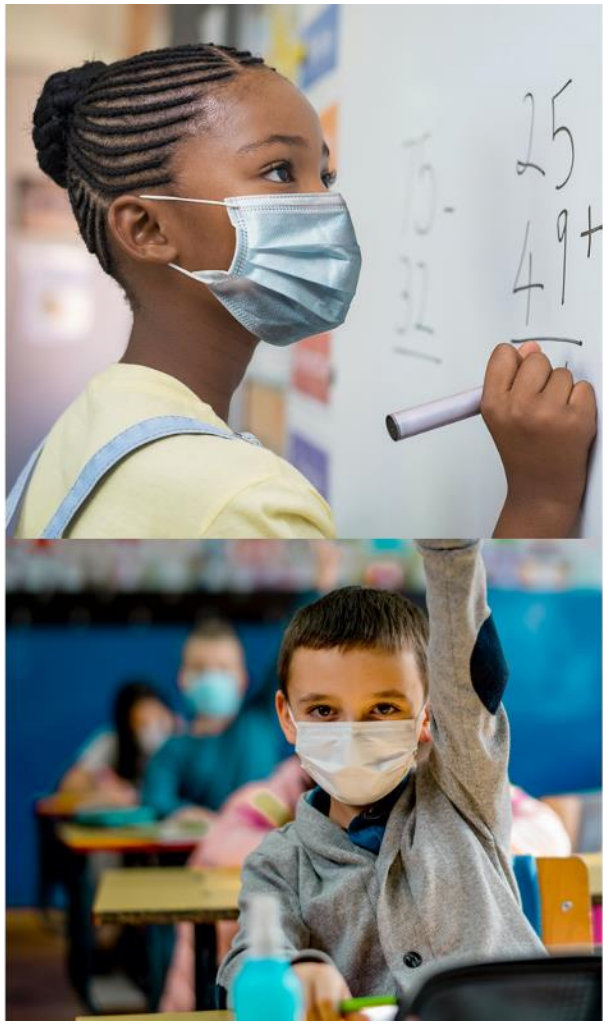
8 MAKE A DETAILED SCHEDULE
Customize the schedule for each school. Examples for elementary, middle, and high schools are available from the ABC Science Collaborative. ***The Toolkit is especially important here.***

9 CONSIDER EXTRACURRICULARS
In addition to a detailed plan for the general school day, develop a detailed plan for all extracurricular and school-sponsored activities such as sports and the arts.

10 CONSIDER SPECIAL NEEDS
This group of teachers and students need additional precautions. Plans should be developed locally, and these groups should receive allocation of extra resources because masking is not always possible.

11 DEVELOP A COMMUNICATION PLAN
How will districts communicate, with whom, and when? Develop a communication plan that is detailed, but that can be revised as new data and insights come to light.

12 WALK, THEN RUN
A defined return to in-person learning (for example, in a hybrid model) can give everyone a chance to adapt to new procedures and policies.



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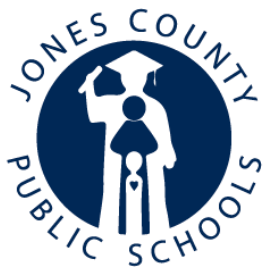
Uniting Schools & Scientists

NC Regional Districts

Guilford County Schools

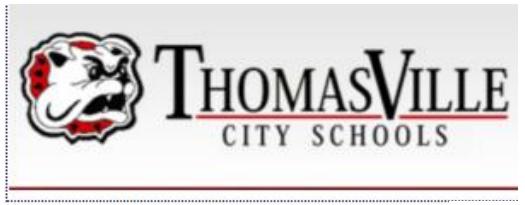
Hickory County Schools

Lexington City Schools

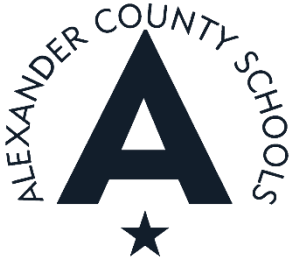


Orange County Public Schools

Iredell- Statesville Schools



Thomasville City Schools



Uniting Schools & Scientists

NC Regional Districts

Franklin County Schools

Warren County Schools, NC 1885

Yadkin County Schools

Surry County Schools — Lighting Pathways to Global Success

Wilson County Schools

Lee County Schools — Inspired.

Washington County Schools — Home • Community • School — Partners in Learning — 1841

Every child. Every day. Mooresville Graded School District

WS Winston-Salem FCS Forsyth County Schools

Charter Schools

Carter Community School — Leadership • Scholarship • Citizenship • Community Service

Excelsior Classical Academy

Maureen Joy Charter School — Durham, NC

KIPP Charlotte — Work hard. Be good. Think.

KIPP ENC — College Prep Public Schools

Central Park School for Children — A Child-Centered, Progressive Charter School in Durham, North Carolina

IDYL — The Institute for the Development of Young Leaders

Global Scholars Academy — Determined to Soar

Discovery Charter

Voyager Academy

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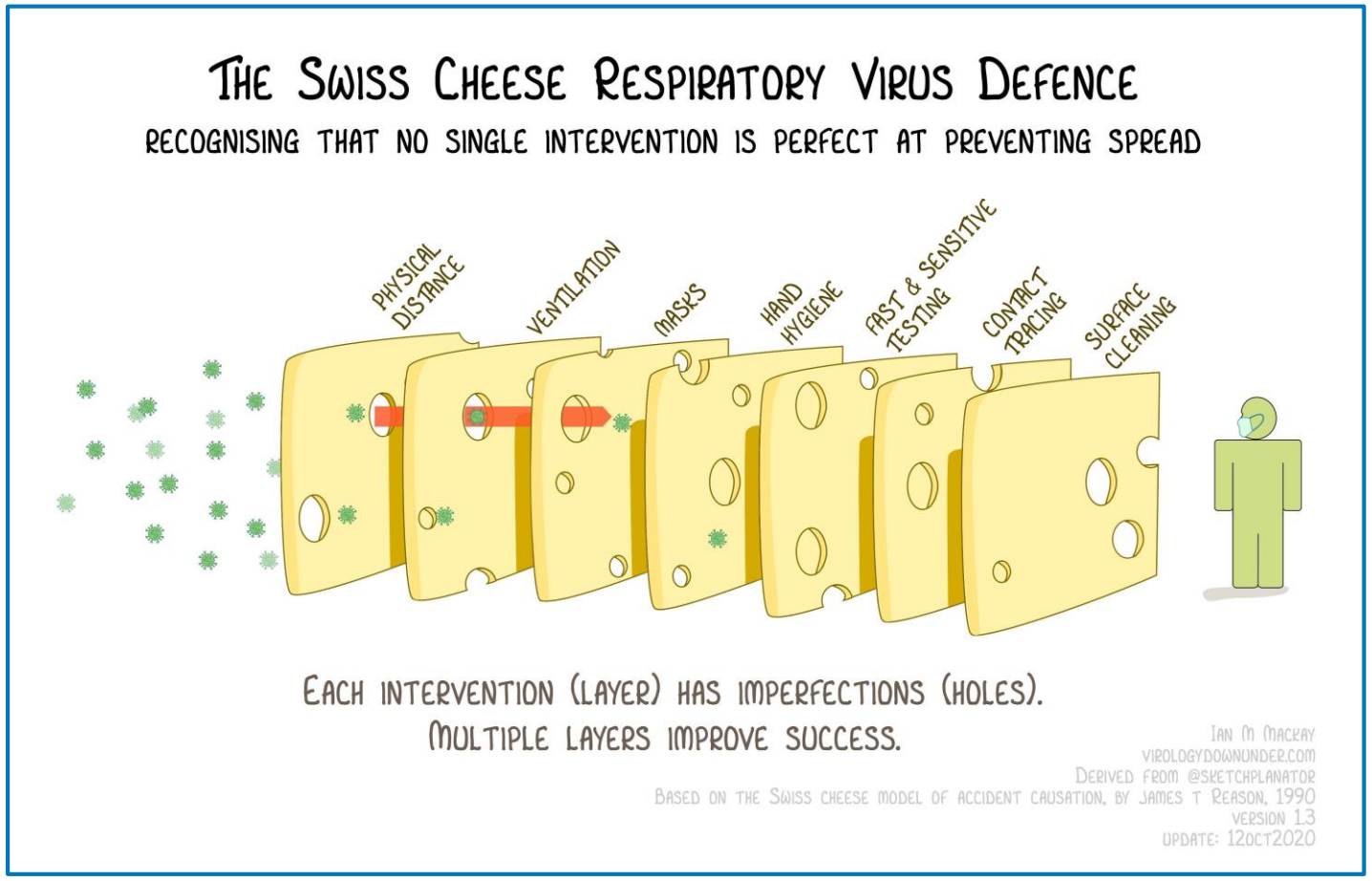
Here's What We Know: Planning & Protocols Work



What's a protocol? The official procedure or system of rules governing.

- **No single intervention is perfect at preventing spread**
- **Multiple approaches improve success**

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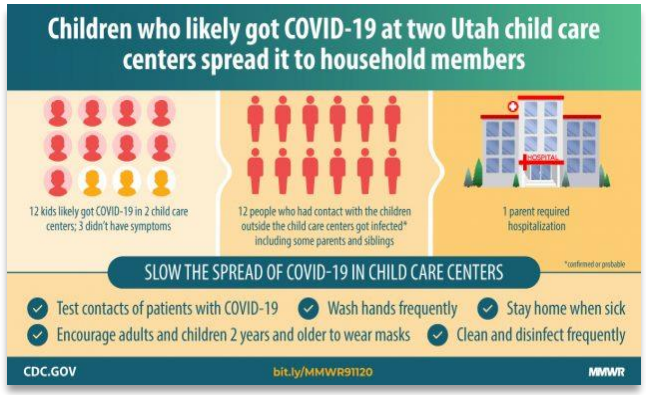
COVID-19 Outbreaks—Research Review



Transmission Dynamics of COVID-19 Outbreaks Associated with Child Care Facilities

Salt Lake City, Utah, April–July 2020

Secondary Transmission

Cases in the community will mean cases in schools but this does not equal disease spread

- Rhode Island child care programs: 66 programs with nearly 20,000 people
- No confirmed secondary transmission
- Four programs had possible secondary transmission(s) related to lack of adhering to protocols representing 17 cases

Masking Works!

Real life examples confirm that even in close contact exposure (e.g., hair stylists), wearing a mask prevents infection.

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COVID-19 & Schools: Research Finds

PEDIATRICS
OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

The Atlantic
est. 1857

Schools Aren't Super-Spreaders

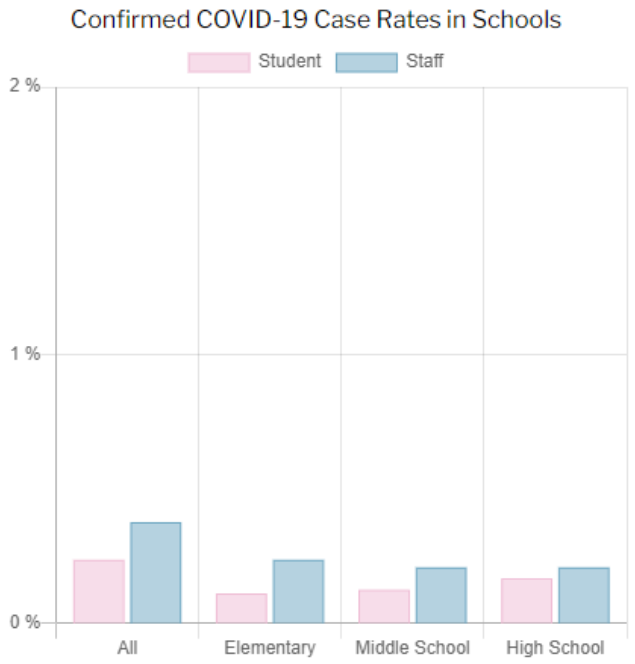
Fears from the summer appear to have been overblown.

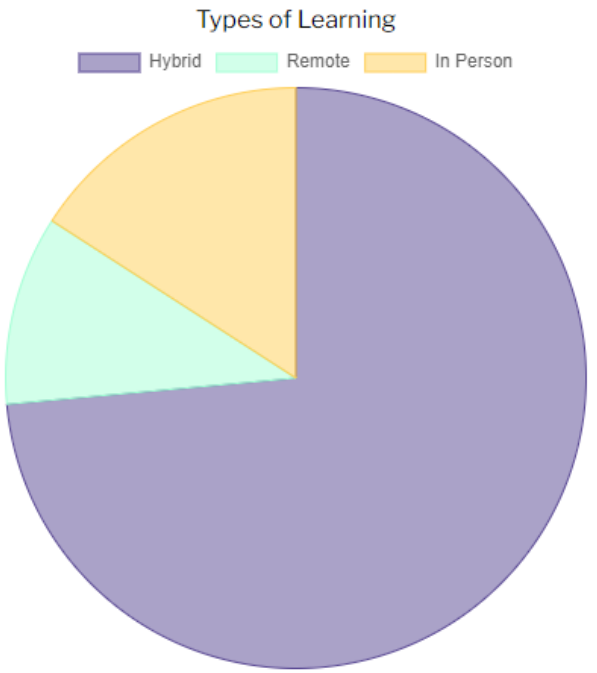
OCTOBER 9, 2020

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.

SARS-CoV2 transmission in schools may be less important in community transmission than initially feared





COVID-19 School Response Dashboard

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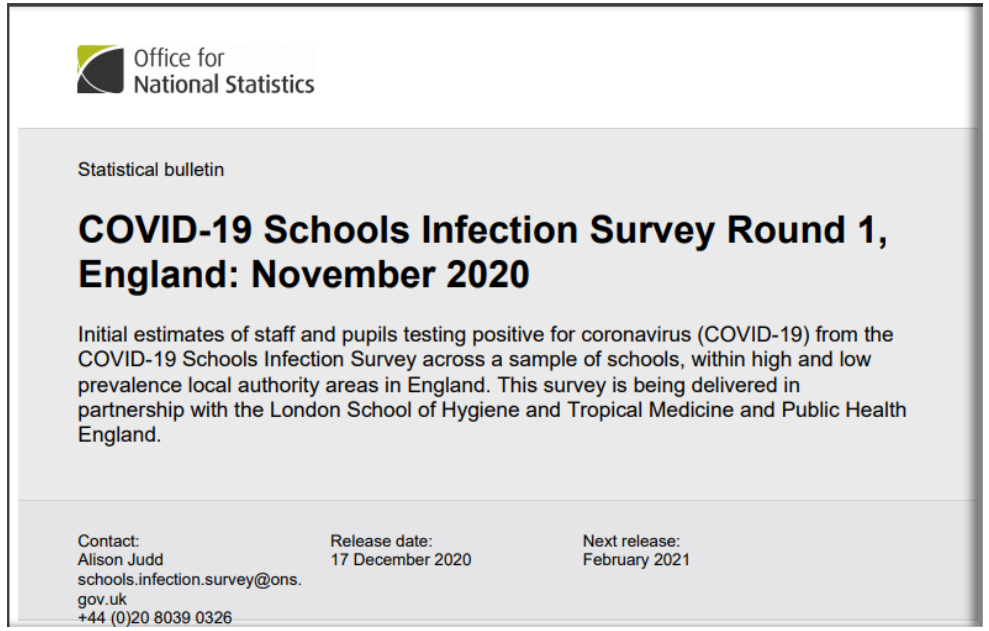
COVID-19 Schools Infection Survey Round 1, England: November 2020



Office for National Statistics

Statistical bulletin

COVID-19 Schools Infection Survey Round 1, England: November 2020

Initial estimates of staff and pupils testing positive for coronavirus (COVID-19) from the COVID-19 Schools Infection Survey across a sample of schools, within high and low prevalence local authority areas in England. This survey is being delivered in partnership with the London School of Hygiene and Tropical Medicine and Public Health England.

Contact:
Alison Judd
schools.infection.survey@ons.gov.uk
+44 (0)20 8039 0326

Release date:
17 December 2020

Next release:
February 2021

- 105 schools (63 secondary (60%) and 42 primary (40%) in 14 local authorities participated.
  - 9 (64.2%) were in high prevalence
  - 5 (35.8%) were in low prevalence areas
- 11,194 participants enrolled by the test date
  - 4,941 (44.1%) staff
  - 6,253 (55.9%) pupils)
- Tested between 3 November 2020 and 19 November 2020.
- Estimates of the positivity rate for pupils and staff were calculated

https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/covid19schoolsinfectionsurveyround1england/november2020

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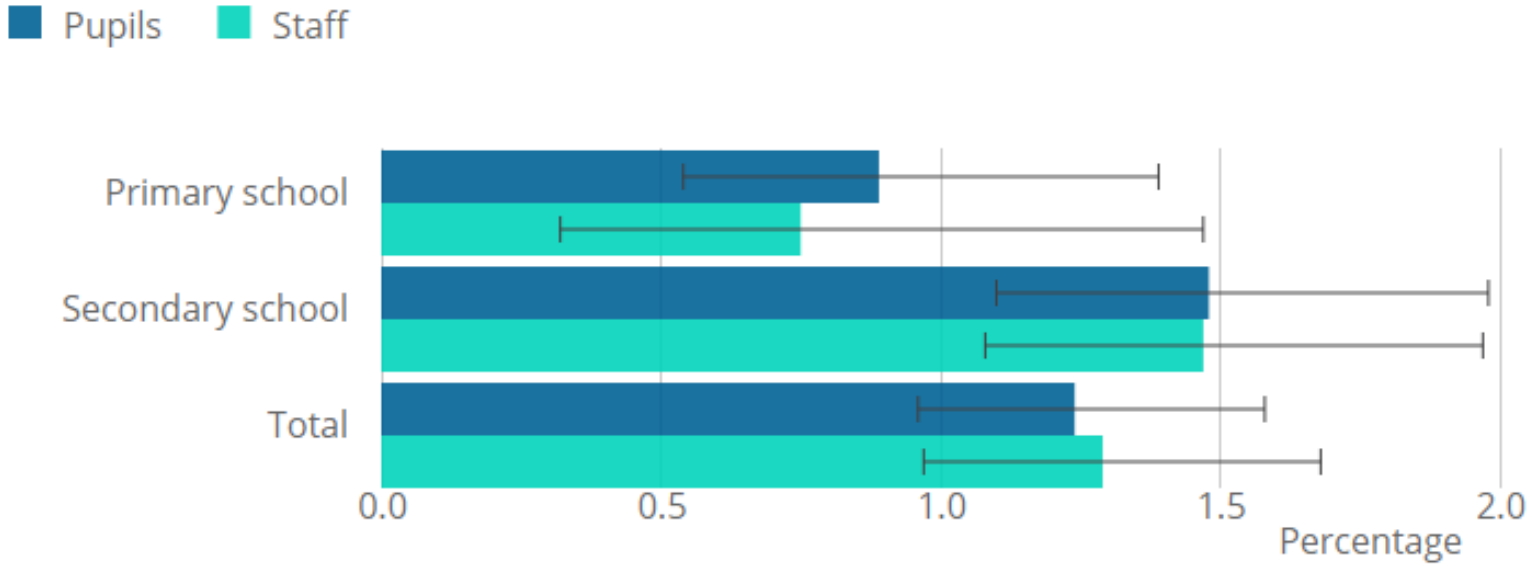
COVID-19 Schools Infection Survey Round 1, England: November 2020

Figure 1: Positive test results for current infection of COVID-19

England, 3 November to 19 November 2020



Source: Office for National Statistics: COVID-19 Schools Infection Survey

https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/covid19schoolsinfectionsurveyround1england/november2020

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Transmission in K-12 schools: Norway, Aug-Nov 2020

Rapid communication

Minimal transmission of SARS-CoV-2 from paediatric COVID-19 cases in primary schools, Norway, August to November 2020

Lin T Brandal[1,2], Trine S Ofitserova[1], Hinta Meijerink[1], Rikard Rykkvin[1], Hilde M Lund[1], Olav Hungnes[1], Margrethe Gre
Karoline Bragstad[1], Karin Nygård[1], Brita A Winje[1]

- 2 counties with the low-medium community prevalence of COVID-19 (<150 cases/100,000/14 days)
- Increasing incidence of COVID-19 among children 5-13 yrs over the time period
- Prospective testing of close contacts in primary schools
- Mitigation measures: strengthened hygiene; physical distancing; stay home when sick; **NO MASKS**

Norway, Aug-Nov 2020 (continued)

Table 1. Outcome of contact tracings in schools from confirmed paediatric COVID-19 cases, Oslo and Viken counties, Norway, 28 August–11 November 2020

Toggle display: Open fullscreen

Age group (years)	Contact tracings	Index cases	Index likely infected in household	Asymptomatic index cases	Included contacts		Primary cases[a]		Secondary cases[b]	
					Children	Adults	Children	Adults	Children	Adults
5–10	8	8[c]	7[d]	6	148	45	1	0	0	0
11–13	5	5	5	3	86	13	1	1	0	0
Total	13	13	12	9[e]	234	58	2	1	0	0

- 4/13 index cases attended school with mild symptoms
- **NO evidence of secondary transmission**
- Remaining cases were asymptomatic while attending school
- All index cases (except 1) had positive household member.

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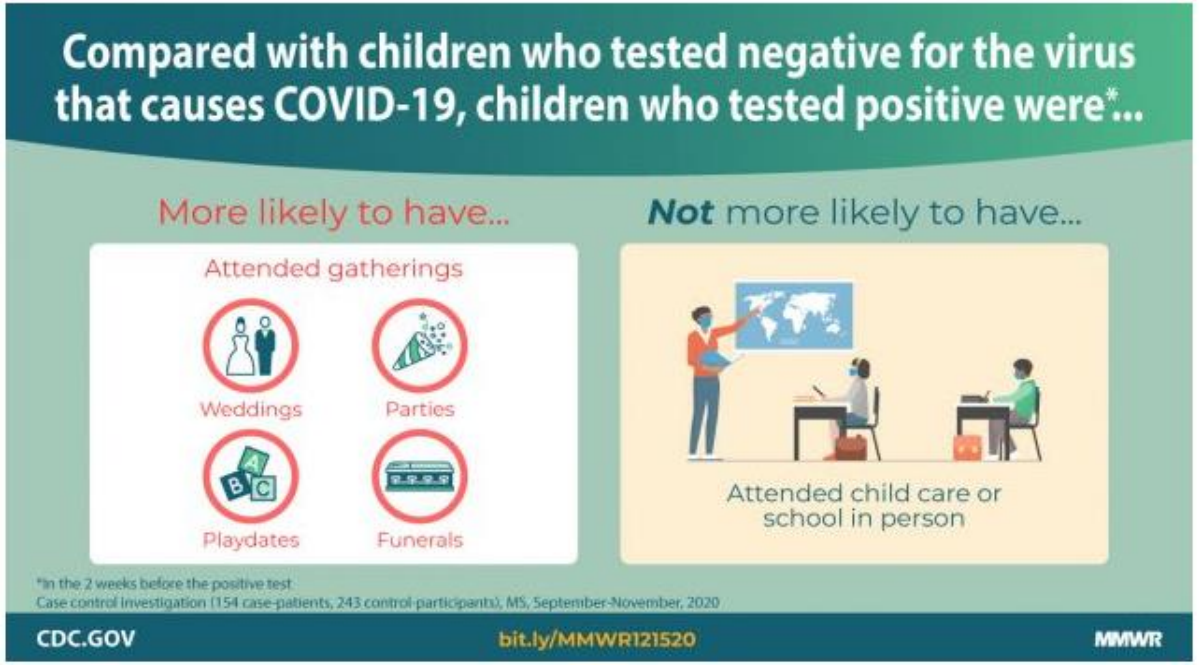
Case control study to evaluate transmission: Mississippi

- Children <18 years who received COVID-19 testing (Sept 1–Nov 5, 2020)
  - 397 participants: 154 positive; 243 negative; 55% non-Hispanic Black
- In-person school or child care attendance ≤14 days before the test reported for case-patients (62%) and control participants (68%)
  - School attendance was **not** associated with a positive result (adjusted odds ratio [aOR] = 0.8, 95% confidence interval [CI] = 0.5–1.3)



https://www.cdc.gov/mmwr/volumes/69/wr/mm6950e3.htm

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Data from NC schools

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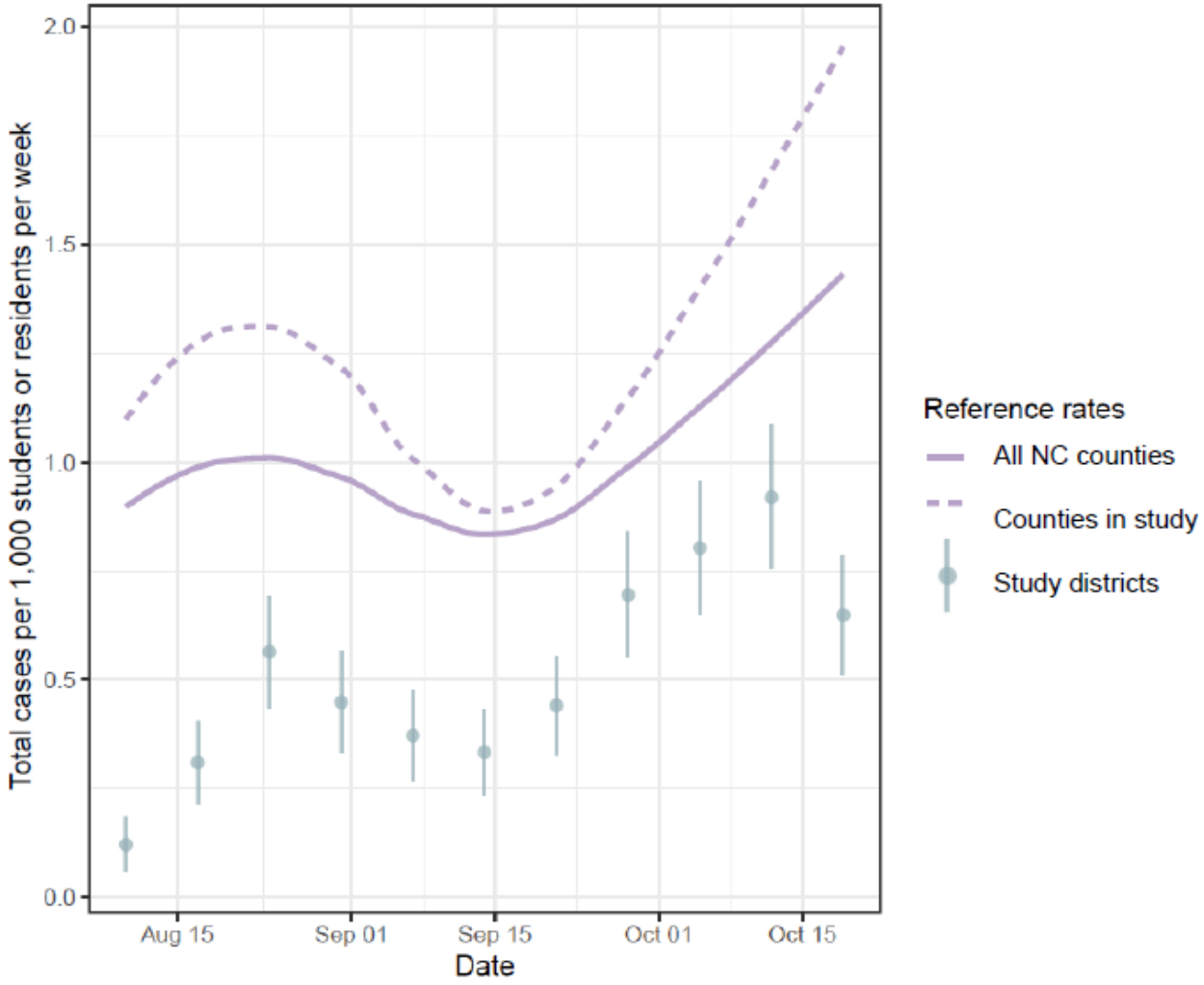
OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Plan B

- 11 districts
- > 90,000 staff and students
- Wide range of local community prevalence (200-400cases/100,000)
- 773 community-acquired SARS-CoV-2 infections by molecular testing
- 32 additional infections acquired within schools (secondary transmission)
- No instances of **child-to-adult** transmission of SARS-CoV-2



Zimmerman KO, Akinboyo IC, Brookhart A, et al. *Pediatrics.* 2021

Data from NC schools

Plan A

- 6 districts
- > 40,000 staff and students
- Early October-Christmas break
- 14 additional infections within schools (cases of secondary transmission)
- Evidence of pandemic fatigue (masks)

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Take home points

- When there are cases in communities, there will be cases in schools
- Cases in schools does NOT automatically translate into spread in schools
- With mitigation measures in place (NCDHHS toolkit, 3Ws), in-school transmission is RARE, even when cases from the community come into school buildings
- Available data suggests that when spread occurs, it is more likely to occur staff-staff rather than student-staff
- Metrics based on what's happening within school buildings are more important for guiding school decisions than those based on the surrounding community

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Other strategy: Immunization

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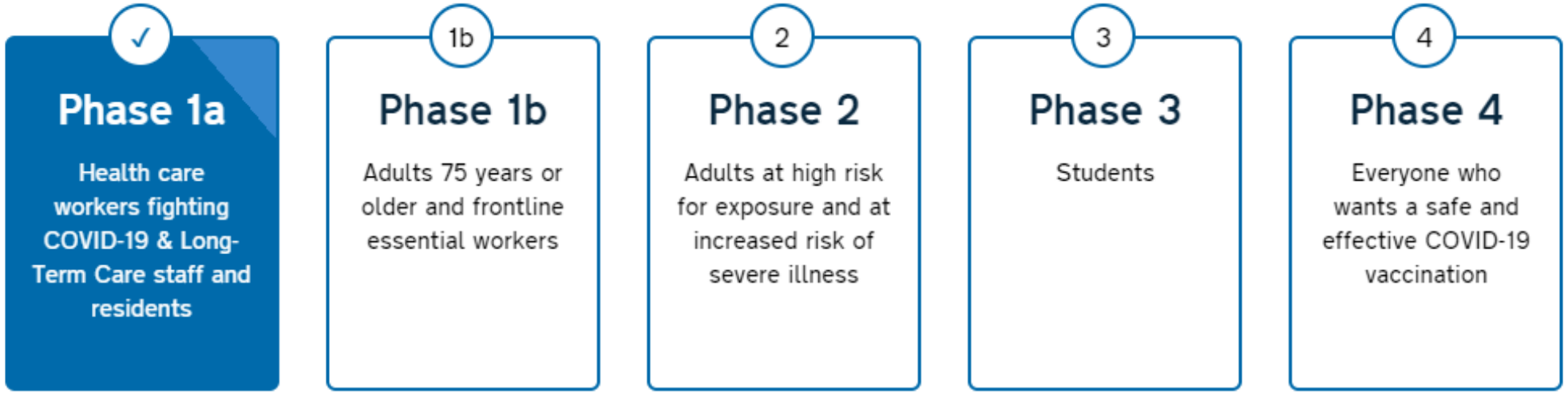
COVID-19 vaccination



- Education sector included in Phase 1b
  - Group 1: Anyone ≥ 75 years
  - Group 2: Health care workers and frontline essential workers ≥50 years
  - Group 3: Health care workers and frontline essential workers of any age

https://covid19.ncdhhs.gov/vaccines

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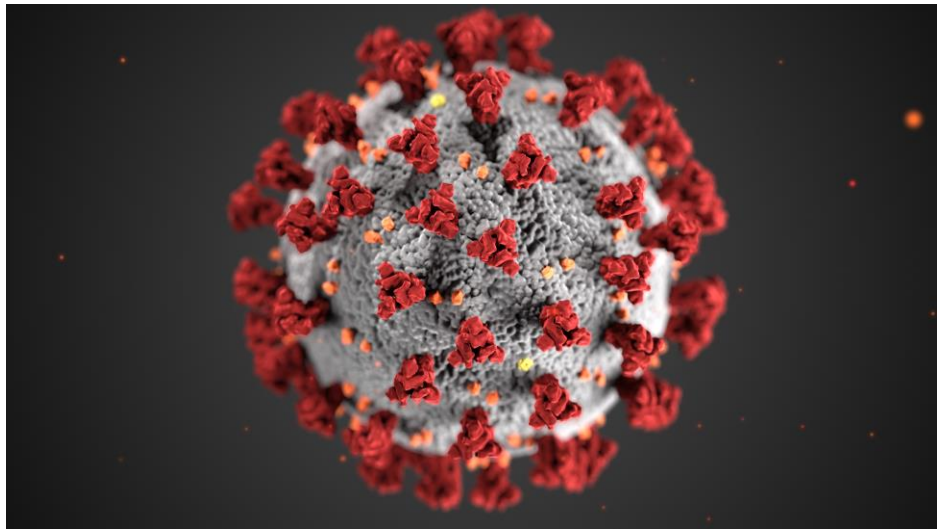
Should you be worried about new variants?

- Variants for mRNA viruses are common (mutations during replication)
- Recently described variants in UK (B.1.1.7 lineage) and South Africa (B.1.352) with many mutations
- Concerns for increased spread and false negative results
- **No change to clinical disease**
- Masks, distancing and routine cleaning still work at preventing variants
- Vaccines should work against variants (data pending)



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Thank you.

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