

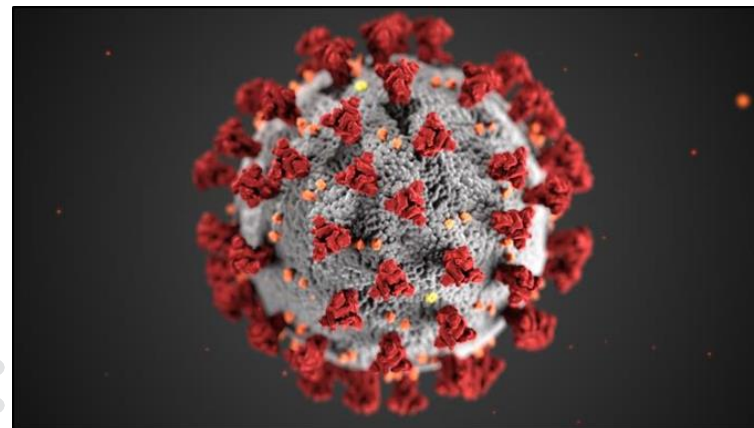
COVID-19: The Impact to Children

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Our shared goals

- Keep teachers safe and healthy
- Keep the community safe and healthy
- Keep children safe and healthy



Pediatric COVID-19 Cases in Georgia

Public Health Statewide Data (through 1/14/2021):

- **67,995** pediatric cases
- **10.4%** of all positive cases
- **805** children hospitalized (1.8% of all hospitalizations)
 - ICU care: **33%** (mechanical ventilation **5.8%**)
 - Hispanic: **45.8%**
 - Black: **29.7%**
- **8** pediatric deaths (0.08% of all deaths)

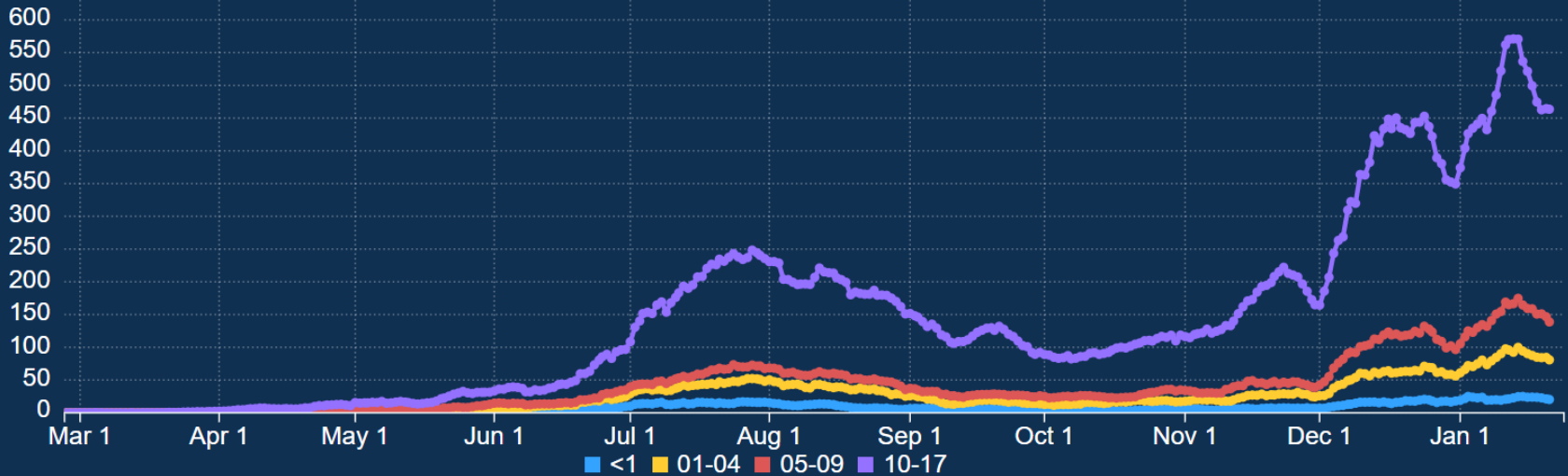
<https://services.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/children-and-covid-19-state-level-data-report/>

Kambhampati A, et al. MMWR. August 7, 2020. Vol. 69



Cases by Age Over Time (7 Day Moving Average)

All Ages Children Only

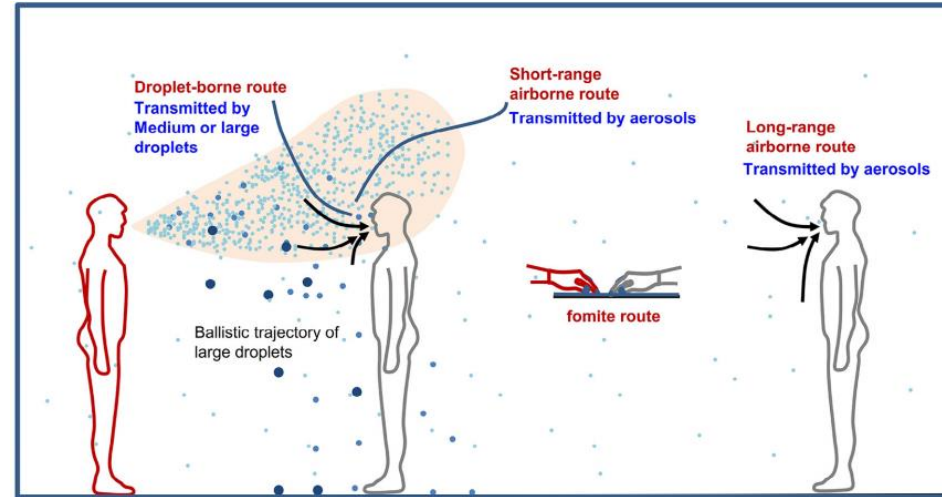


Multi-system Inflammatory Syndrome in Children

- April 27, alert from the NHS: cases of severe myocardial dysfunction, some with features of Kawasaki disease, and several with shock requiring vasopressive medications as supportive care
- Later this was described in NYC and throughout areas in the US
- Features similar to Kawasaki disease and toxic shock syndrome
- Over 1,000 cases of MIS-c reported in the US
 - More Black and Hispanic children affected

Transmission of COVID-19

- Droplet transmission predominates
- SARS-CoV-2 can survive surfaces for varying times depending on the surface
- Virus detected in aerosols; role in transmission remains unclear
- Prolonged exposure in a poorly ventilated space may allow virus laden particles to accumulate



Wei J. AJIC. 44 (2016) S102-S108

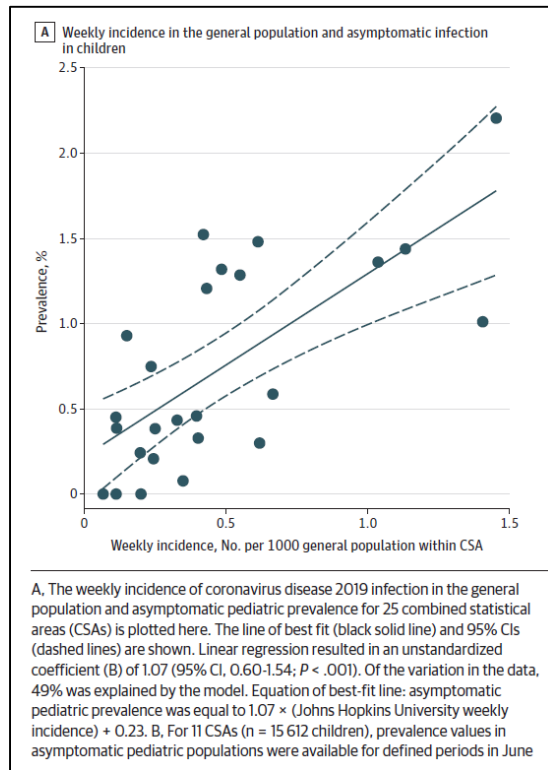


Prevalence of Asymptomatic Children

- SARS-CoV-2 PCR testing of asymptomatic children
- Prior to surgical procedures or admission
- 250 of 33,041 asymptomatic children tested at 28 hospitals were positive for SARS-CoV-2
- **Average prevalence 0.65% (0 – 2.2%)**
- Prevalence was significantly **associated with weekly incidence** of COVID-19 in the general population
- In a study of healthcare worker exposures to asymptomatic children, **no transmission occurred**

Sola AM, et al. JAMA Peds. August 25, 2020. doi:[10.1001/jamapediatrics.2020.4095](https://doi.org/10.1001/jamapediatrics.2020.4095)

Patel AB, et al. JPIDS. 2020.

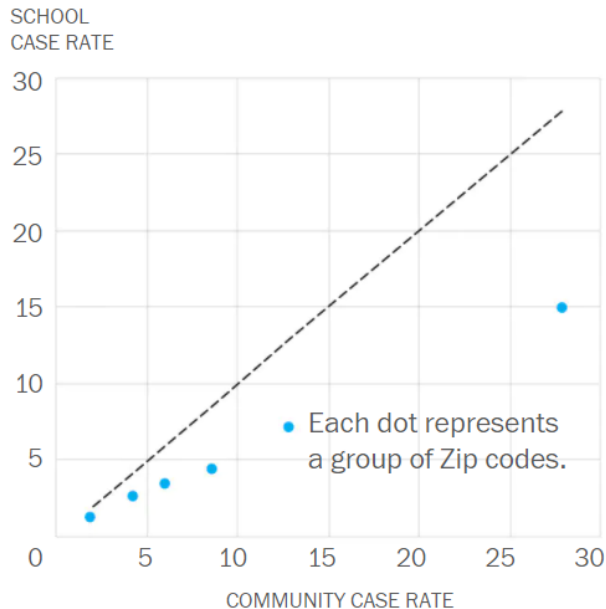


Back to school?

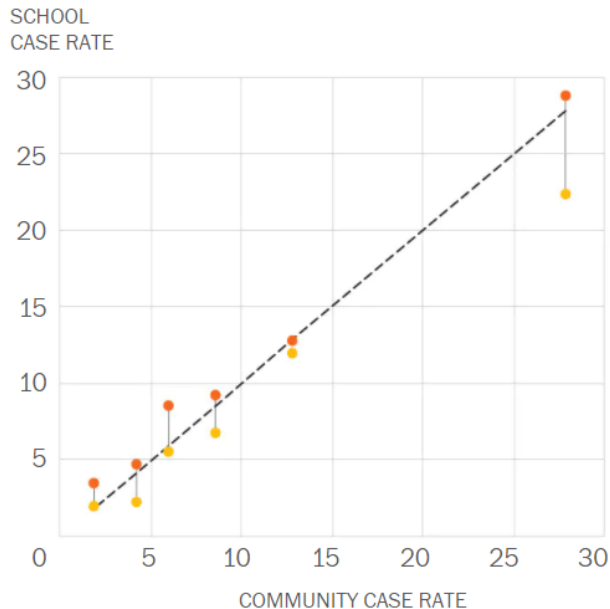


Transmission of COVID-19 in School vs the Community: NY state

Case rate in schools among **elementary and middle school students** is lower than the rate in the overall community.



While case rate among **school staff** and **high school students** is similar to the community rate.



*Cases per 100,000 people

Compared with children who tested negative for the virus that causes COVID-19, children who tested positive were*...

More likely to have...

Attended gatherings



Weddings



Parties



Playdates



Funerals

Not more likely to have...



Attended child care or school in person

*In the 2 weeks before the positive test
Case control investigation (154 case-patients; 243 control-participants), MS, September-November, 2020

CDC.GOV

bit.ly/MMWR121520

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PEDIATRICS

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Incidence and Secondary Transmission of SARS-CoV-2 Infections in Schools

Kanecia O. Zimmerman, MD; Ibukunoluwa C. Akinboyo, MD; M. Alan Brookhart, PhD;
Angelique E. Boutzoukas, MD; Kathleen McGann, MD; Michael J. Smith, MD, MSCE;
Gabriela Maradiaga Panayotti, MD; Sarah C. Armstrong, MD;
Helen Bristow, MPH; Donna Parker, MPH; Sabrina Zadrozny, PhD;
David J. Weber, MD, MPH; Daniel K. Benjamin, Jr., MD, PhD;
for The ABC Science Collaborative

Secondary Transmission of COVID-19 in Schools

- 07/15/2020, NC's governor announced schools could open via remote learning or a “hybrid” model
- From 08/15/2020–10/23/2020, 11 of 56 school districts participating in ABC Science Collaborative (ABCs) were open for in-person instruction for all 9 weeks
- Schools tracked incidence and secondary transmission of SARS-CoV-2
- Health department adjudicated secondary transmission.
- **90,000 students and staff** attend school in-person
 - **773 community-acquired SARS-CoV-2 infections**
 - An additional **32 infections were acquired within schools.**
 - **No instances of child-to-adult transmission** of SARS-CoV-2 were reported within schools.





Children'sSM
Healthcare of Atlanta



EMORY
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THE ABC SCIENCE
COLLABORATIVE

*Our goal is to provide
information that will
help school systems
make informed
decisions.*



-
- **pairs scientists and physicians with school and community leaders to help understand the most current and relevant information about COVID-19.**
 - **helps school leaders make informed decisions about returning to school using data from their own communities.**



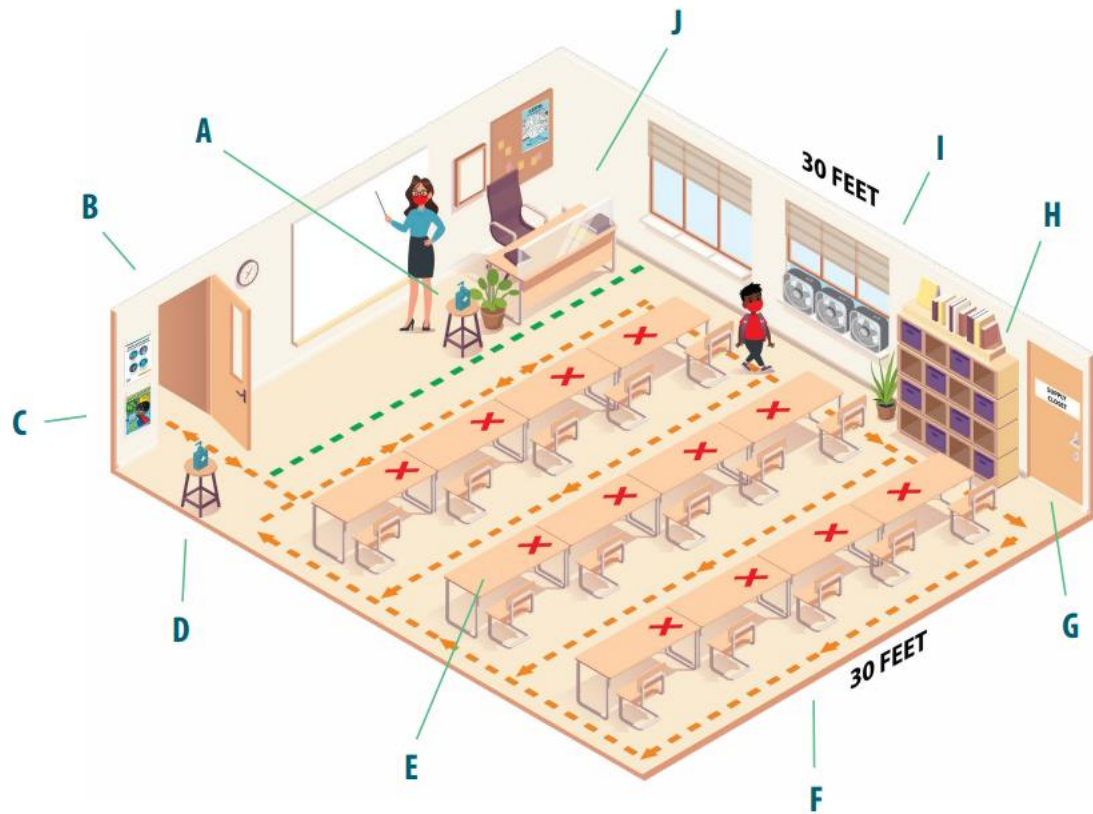
COVID-19 in Sweden, spring 2020

- March to June, 2020
- Entire country had ongoing schools, no universal masking, social distancing
- Country estimates: 15 children with COVID-19 admitted to ICU (0.77 per 100,000)
- As compared with other occupations (excluding health care workers), sex- and age-adjusted relative risks of severe disease:
 - **1.10 (95% confidence interval [CI], 0.49 to 2.49)** among preschool teachers
 - **0.43 (95% CI, 0.28 to 0.68) among schoolteachers**

Ludvigsson. NEJM Correspondence. 6 Jan 2021.
<https://www.nejm.org/doi/full/10.1056/NEJMc2026670>.



Children's Healthcare of Atlanta



- A. A hand sanitizing station is set up near the teacher's desk.
- B. The door is open to increase ventilation and to avoid touching the doorknob.
- C. Signs are posted in the classroom that promote everyday protective measures and describe how to stop the spread of germs.
- D. A hand sanitizing station is set up near the door.
- E. A modified layout can be used with long tables. Mark "X's" on tables to keep at least 6 feet of distance between students using colorful tape. Explain to students that they should not sit in "X" zones.
- F. Walking paths are marked with tape on the floor.
- G. A locked supply cabinet is used to store cleaning and disinfecting supplies.
- H. Each student's belongings are separated from others' in individual cubbies.
- I. The windows are open to increase ventilation, as feasible.
- J. A "teacher zone" is marked around the teacher's desk and in the front of the room. Green tape is used as a physical guide to mark this space. A physical barrier is installed on the teacher desk.

The Science of Masking to Control COVID-19: Summary

- **Cloth masks reduce community exposure to SARS-CoV-2**
- **Cloth masks offer both source control and personal protection**
 - The relationship is likely complementary and possibly synergistic
 - Community benefit derives from the combination of these effects
 - Individual benefit increases with increasing community mask use
- **Wearing masks by both the infected and uninfected person gives the uninfected person the most protection**
 - “Masking can protect you and works *best for you* when *everyone* does it”
 - “When you wear a mask, you protect others as well as yourself”



Multiple Epidemiologic Investigations Document the Effectiveness of Masking

■ High-risk exposure event

- Universal masking in hair salon where 2 ill stylists attended to 139 clients; no infections developed in 67 clients subsequently tested
- Use of face covering onboard the USS Theodore Roosevelt during an outbreak was associated with a 70% reduced risk of infection

■ Retrospective case-control study of exposed contacts

- Always wearing a mask before and during high-risk exposures reduced risk of infection by 70%

■ Household surveys

- Household mask use before index case developed symptoms reduced infection risk 79%

■ Air travel

- With masking, no infections transmitted on multiple flights with infected passengers



SARS CoV-2 Infection in Children

- Typically milder illness, severe disease more with health issues
- MIS-C in otherwise healthy, more common in Black children
- Community transmission as a whole is main driver
 - No excessive transmission of infection in schools
 - Cases identified in schools mirror community transmission



Back to School... As Safe as Possible

Schools transmission can be mitigated with:

Universal masking

Hand hygiene

Physical distancing

Contact tracing

Community participation



Safely Returning to School and Daycare

