

COVID-19: Back to School in a Pandemic

Jeffrey R. Donowitz, MD
Assistant Professor
Pediatric Infectious Diseases

Financial Disclosures/ Conflicts of Interest

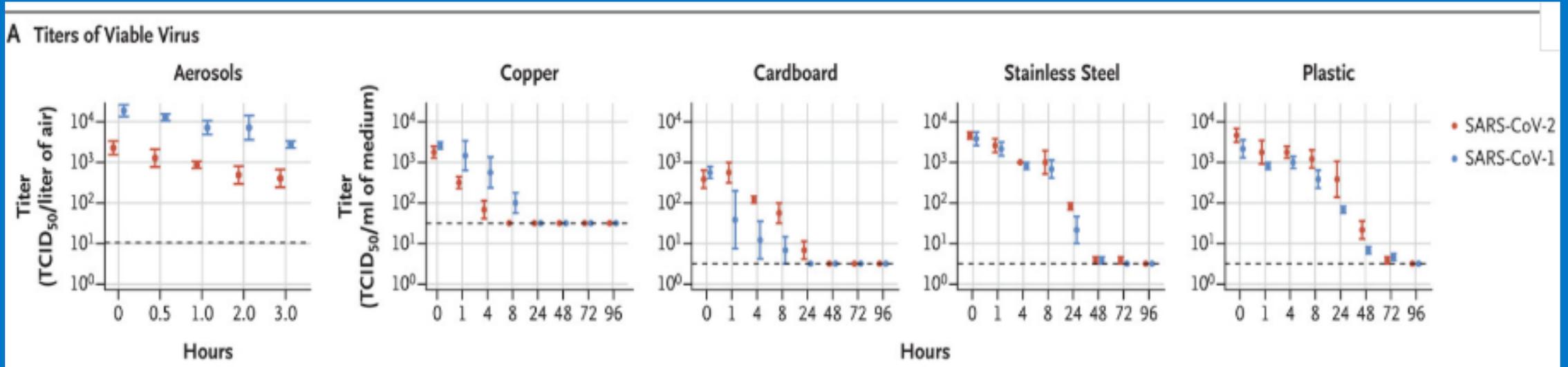
- None

SARS-CoV-2 Basics: Transmission

- Transmission of SARS-CoV-2 person to person is thought to occur mainly through **respiratory droplets**
 - These are HEAVY, they tend to spread 3-6 feet & fall to the ground
 - Sneezing, coughing – YES
 - Signing, yelling – Likely
 - Talking - maybe
- **Current data does not support LONG range aerosol transmission; short-range inhalation of aerosols is a possibility, as with many respiratory pathogens**
 - Increasing evidence of aerosol transmission



SARS-CoV-2 Basics: Transmission



N van Doremalen et al., NEJM 2020

- There is talk about SARS-CoV-2 being spread through **fomites/surfaces**
 - Copper: 4 hours
 - Cardboard: 24 hours
 - Plastic/stainless steel: 72 hours

COVID-19: Symptoms

“Per CDC guidelines / Covid-19 S
major difference between
shortness of breath. Could
symptoms that alert you th
times in your patients
the Flu without a Covid tes

The average person/doctor cannot tell the
difference between Influenza and COVID
based on symptoms alone

1. Asymptomatic – asymptomatic

2. Fever or chills

3. Fatigue or difficulty breathing

4. Body aches

5. Headache

8. Loss of taste or smell

9. Sore throat

10. Congestion or runny nose

11. Nausea or vomiting

12. Diarrhea

COVID-19: Multisystem Inflammatory Syndrome in Children (MIS-C)

“Specific symptoms to watch for/assessment tips in MIS-C?”

1. Persistent fever
2. Abdominal pain
3. Vomiting
4. Diarrhea
5. Skin rash
6. mucocutaneous lesions
7. Hypotension/shock

COVID-19: Who to test?

“Some pediatricians have "cleared" kids to return to school for viral illnesses that have the same symptoms as COVID 19, but do not have the child tested. Why not test?”

“How do physicians determine whether a student should be tested for COVID-19?”

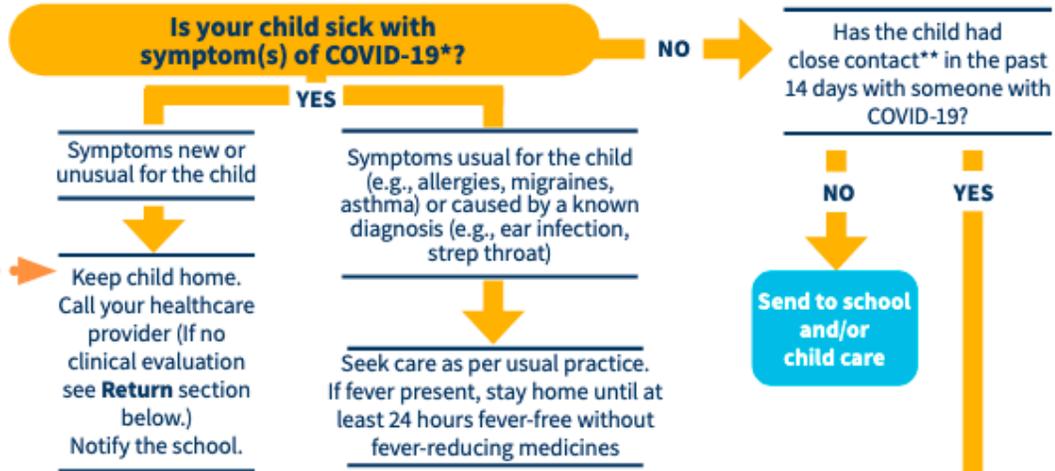
My opinion: If anyone, child or adult, is sick enough to seek medical attention with respiratory symptoms they warrant a COVID test

VDH Algorithm for Evaluating a Child with COVID-19 Symptoms or Exposure

FOR PARENTS AND GUARDIANS



***Symptoms** of COVID-19 include fever ($\geq 100.4^{\circ}\text{F}$) or chills, fatigue (more tired than usual), headache, muscle aches, cough, nasal congestion or runny nose, new loss of taste or smell, sore throat, shortness of breath or difficulty breathing, abdominal pain, diarrhea, nausea or vomiting, new onset of poor appetite or poor feeding.

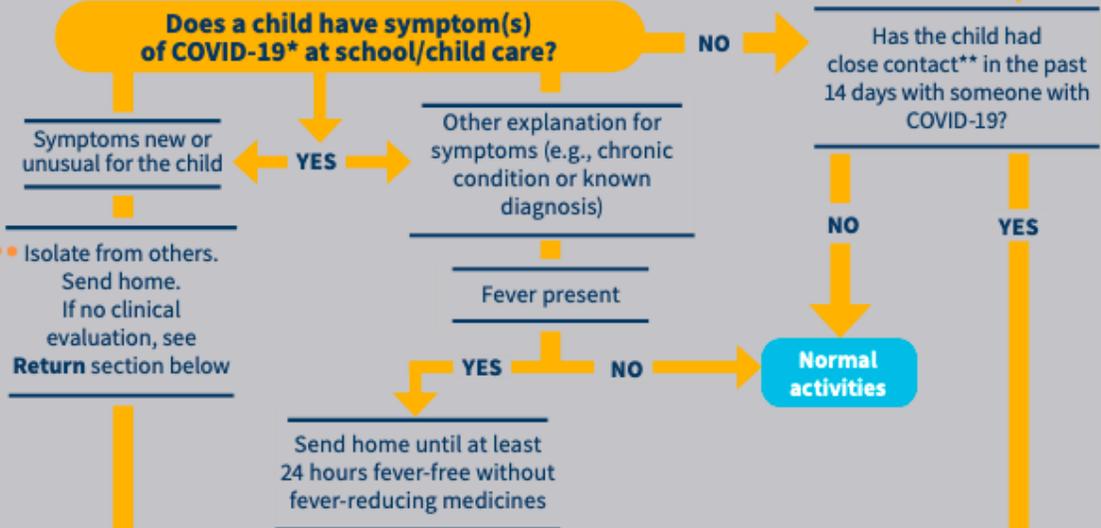


FOR SCHOOLS AND CHILD CARE FACILITIES



****Close contact** means being within 6 feet of a person with COVID-19 for a total of 15 minutes or more over a 24-hour period, or having direct exposure to respiratory secretions.

***** ≥ 50 cases per 100,000 population in the past 14 days.** Click here for local information: www.vdh.virginia.gov/coronavirus/key-measures/pandemic-metrics/school-metrics/



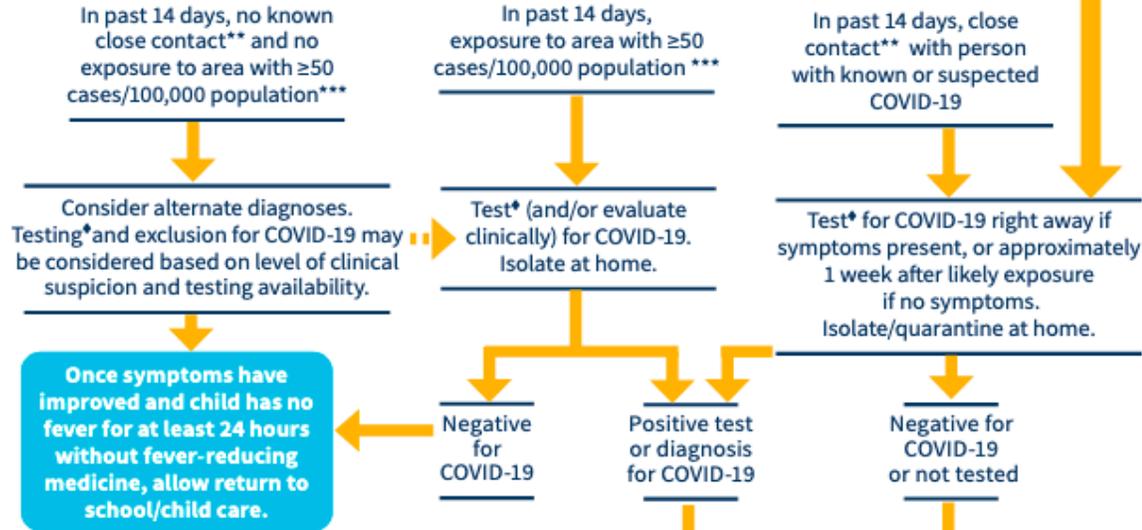
<https://www.vdh.virginia.gov/content/uploads/sites/182/2020/08/Evaluating-Symptoms-in-a-Child.pdf>

FOR HEALTHCARE PROVIDERS

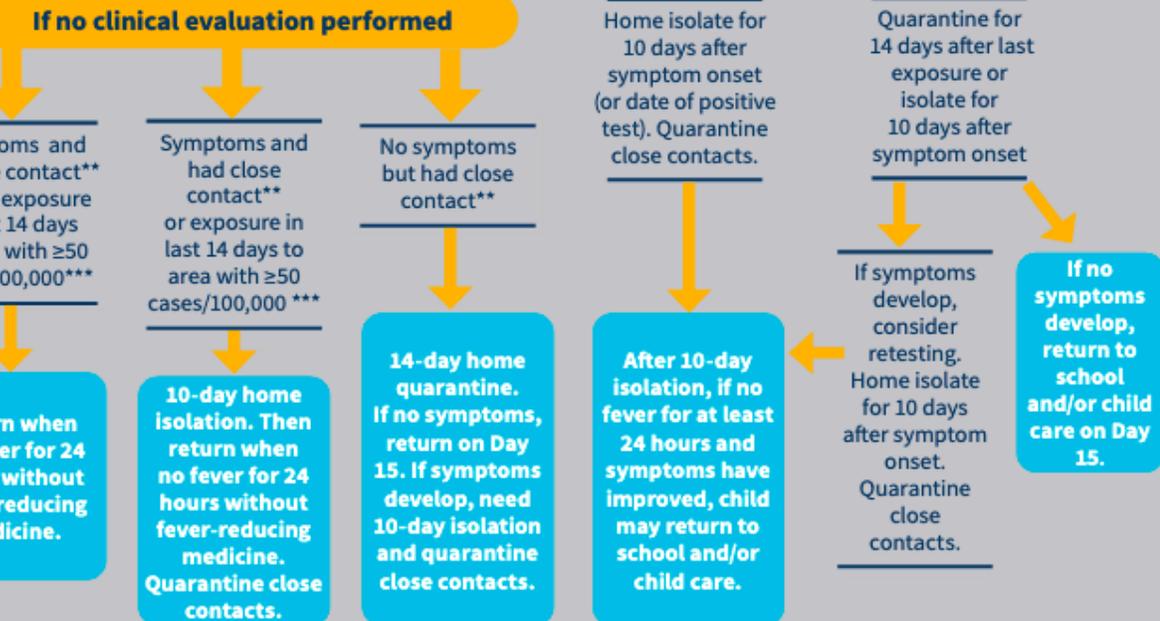


◆ **Testing** – PCR or antigen (Ag) testing is acceptable. If an Ag test is negative and clinical suspicion for COVID-19 is high, confirm with PCR, ideally within 2 days of the initial Ag test. If PCR testing is not available, clinical discretion can be used in whether to recommend the patient isolate.

Clinical Evaluation for Children with Symptoms of COVID-19* (www.cdc.gov/coronavirus/2019-ncov/hcp/pediatric-hcp.html)



RETURN TO SCHOOL AND CHILD CARE



<https://www.vdh.virginia.gov/content/uploads/sites/182/2020/08/Evaluating-Symptoms-in-a-Child.pdf>



COVID-19 in Virginia: Locality



Dashboard Updated: 11/2/2020
Data entered by 5:00 PM the prior day.

Select Counts or Rates for the Table **Select Locality** **Select Measure**
 or Click on Table to Select

Counts (All) Cases

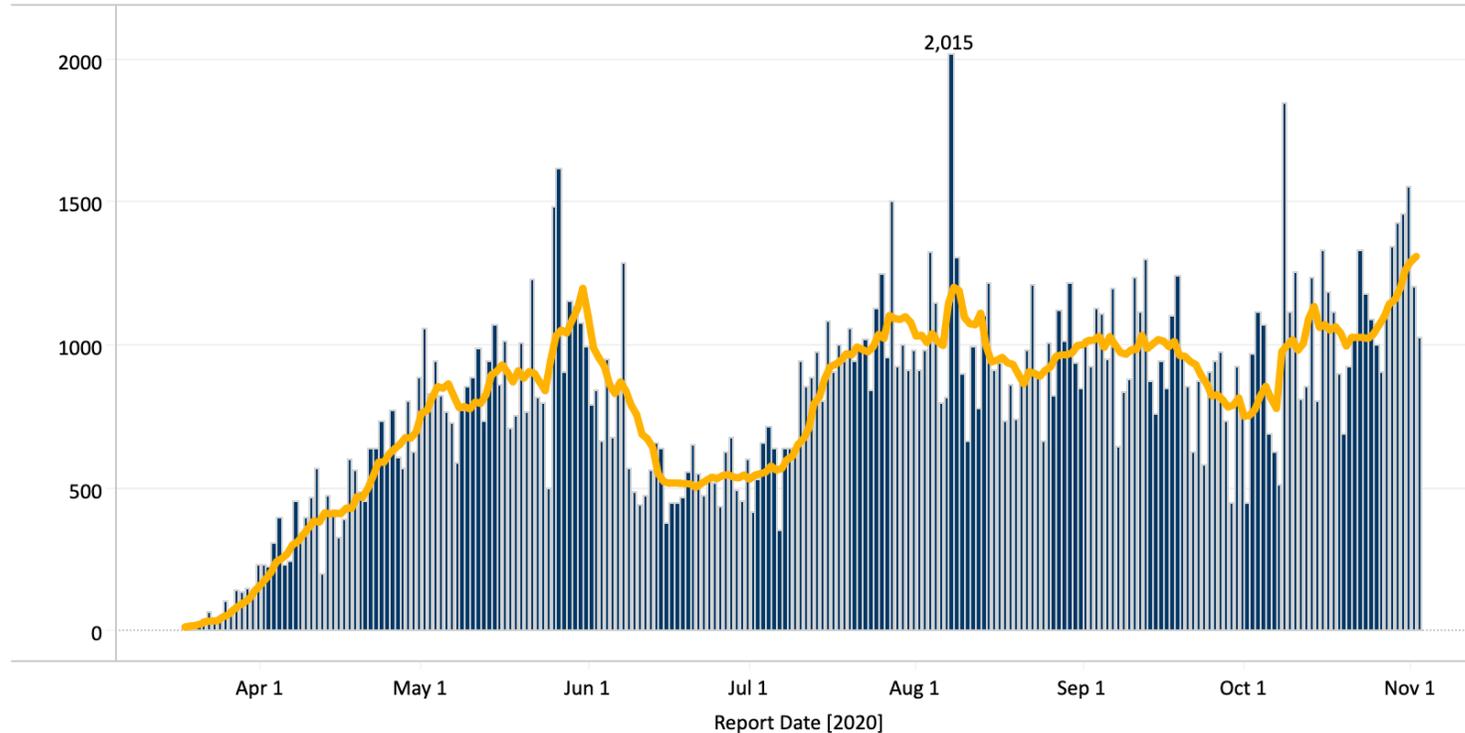
Number of New Cases Reported^
1,026

7-Day Average Number of Daily New Cases Reported
1,306

7-Day Average Number of New Daily Cases Reported, Rate per 100,000 Population
15.3

Total Number of New Cases per 100,000 Population within last 14 days
194.8

Report Date Daily Cases Counts - All Localities

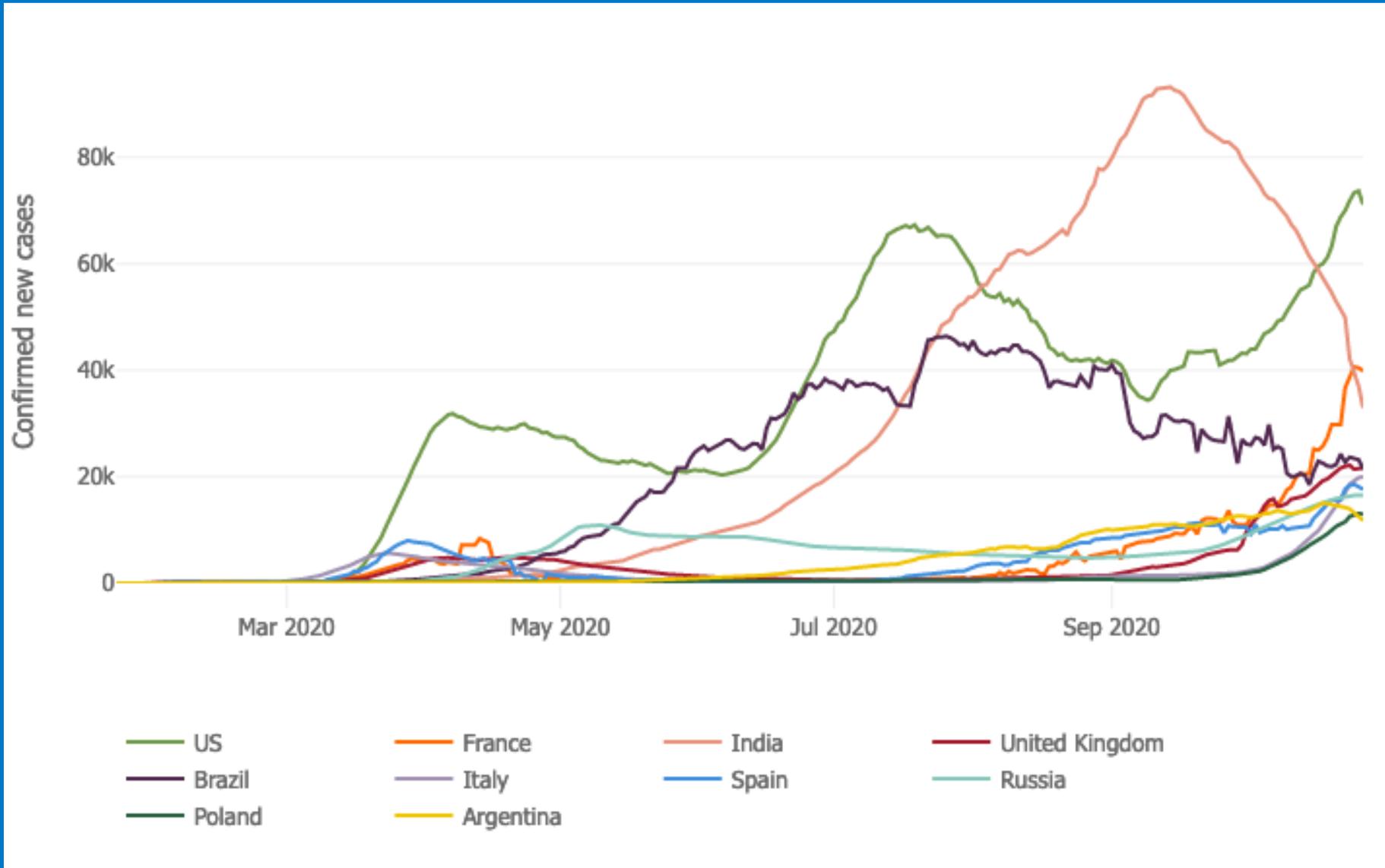


COVID-19

“Nasal congestion is a Covid-19 symptom, but many students are not getting COVID tested by their Healthcare Provider. Should we be concerned?”

There is no way to open schools that is 100% risk free. There is reasonable risk mitigation and there is risk acceptance.

SARS-CoV-2 Basics: Epidemiology

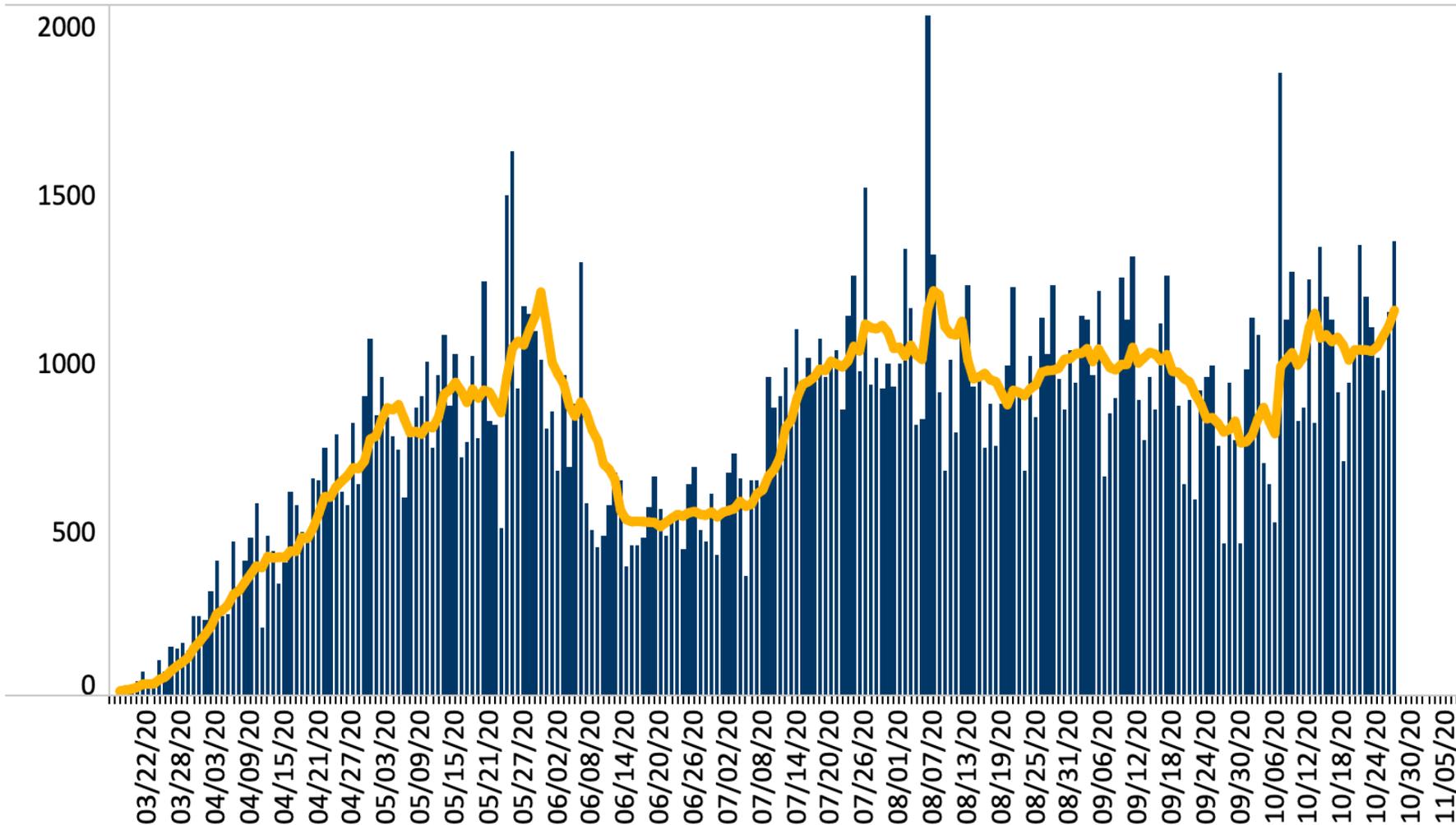


SARS-CoV-2 Basics: Epidemiology

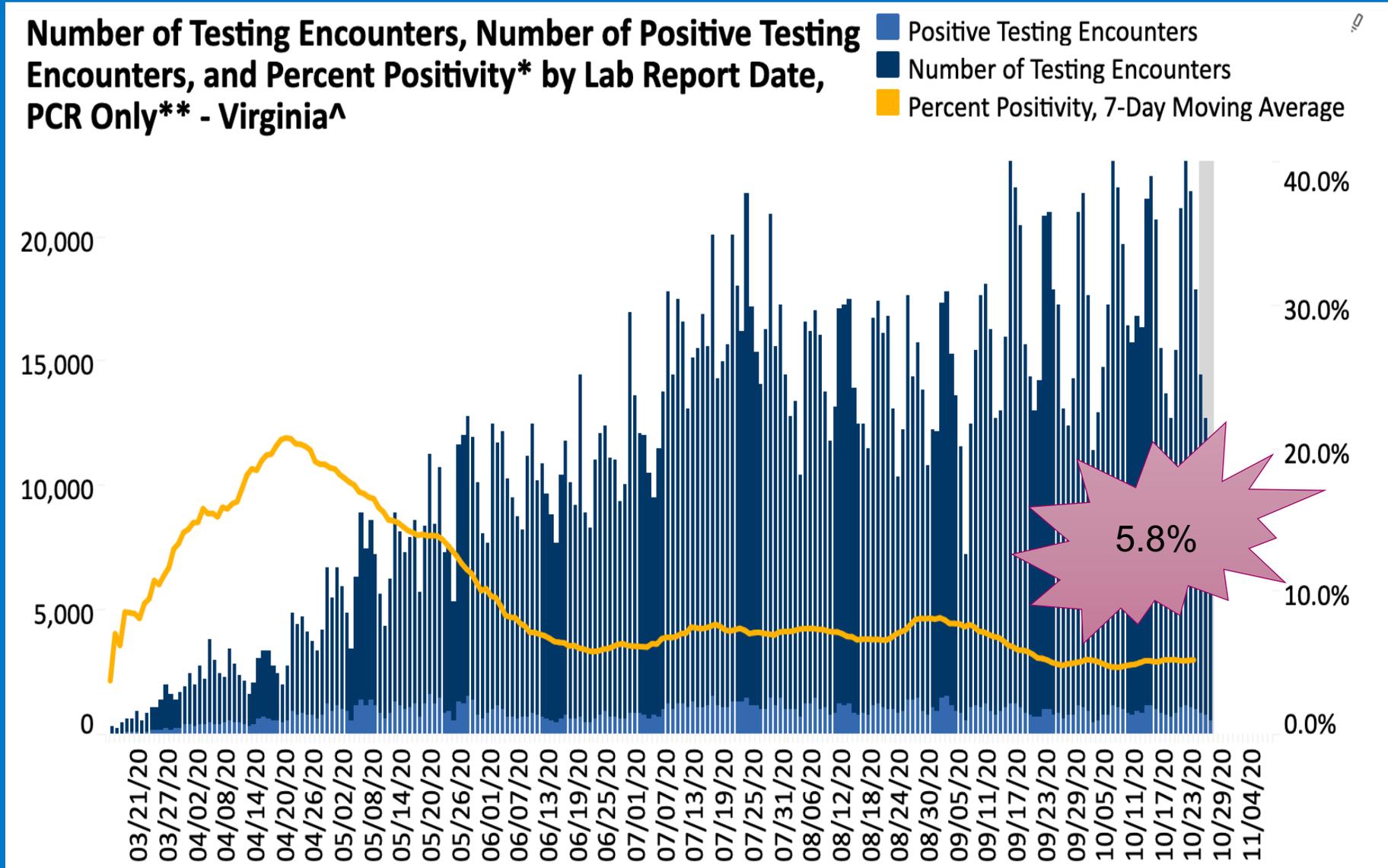
Total Cases by Date Reported - Virginia

Number of new cases VDH reported by day.

■ Reported Cases
■ 7-day Moving Average



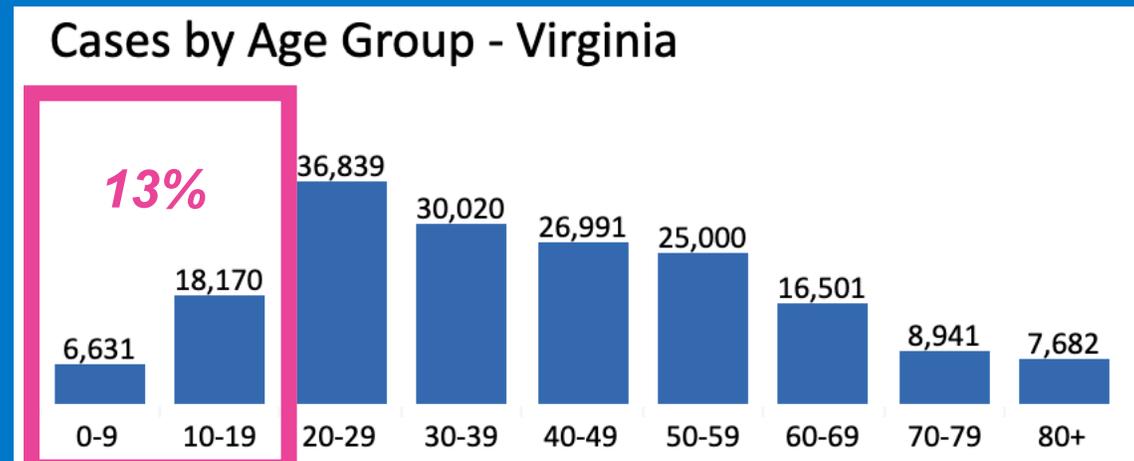
SARS-CoV-2 Basics: Epidemiology



COVID-19: Epidemiology

“Why are children under 10 not getting Covid-19 and do not need mask?”

All Health Districts Cases*		All Health Districts Hospitalizations**		All Health Districts Deaths	
178,183		12,454		3,636	
Confirmed†	Probable†	Confirmed†	Probable†	Confirmed†	Probable†
165,384	12,799	12,314	140	3,384	252



<https://www.vdh.virginia.gov/coronavirus/covid-19-daily-dashboard/>

SARS-CoV-2 Transmission and Infection Among Attendees of an Overnight Camp — Georgia, June 2020

TABLE. SARS-CoV-2 attack rates^{*,†} among attendees of an overnight camp, by selected characteristics — Georgia, June 2020

Characteristic	No. [§]	No. positive	Attack rate, %
Total	597	260	44
Sex			
Male	267	123	46
Female	330	137	42
Age group, yrs			
6–10	100	51	51
11–17	409	180	44
18–21	81	27	33
22–59	7	2	29
Type of attendee (dates attended camp)			
Trainee (June 17–21)	134	26	19
Staff member (June 17–27 ^{¶, **})	117	66	56
Camper (June 21–27 [¶])	346	168	49
Cabin size during camp^{††} (no. of persons/cabin)^{§§}			
Small (1–3)	13	5	38
Medium (7–13)	75	29	39
Large (16–26)	375	200	53



EMERGING INFECTIOUS DISEASES®

[EID Journal](#) > [Volume 27](#) > [Early Release](#) > [Main Article](#)

Disclaimer: Early release articles are not considered as final versions. Any changes will be reflected in the online version in the month the article is officially released.

Volume 27, Number 1—January 2021

Research Letter

SARS-CoV-2 Cluster in Nursery, Poland

Magdalena Okarska-Napierała, Joanna Mańdziuk✉, and Ernest Kuchar

Author affiliation: Medical University of Warsaw, Warsaw, Poland

[Suggested citation for this article](#)

Abstract

We report a cluster of surprisingly high spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) associated with a single nursery in Poland. Our findings contrast with the presumed negligible role of children in driving the SARS-CoV-2 pandemic. Children 1–2 years of age might be effective SARS-CoV-2 spreaders.

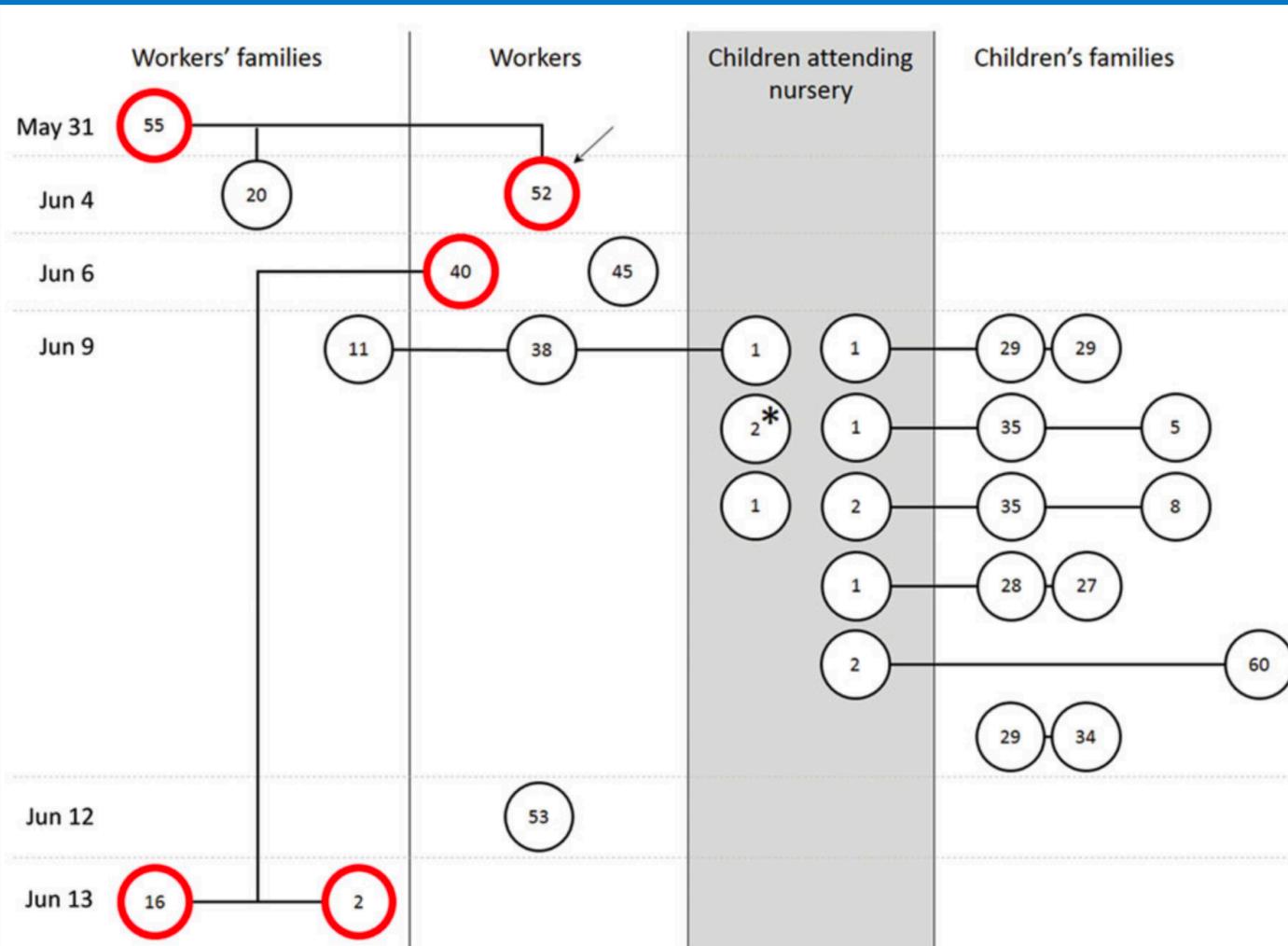


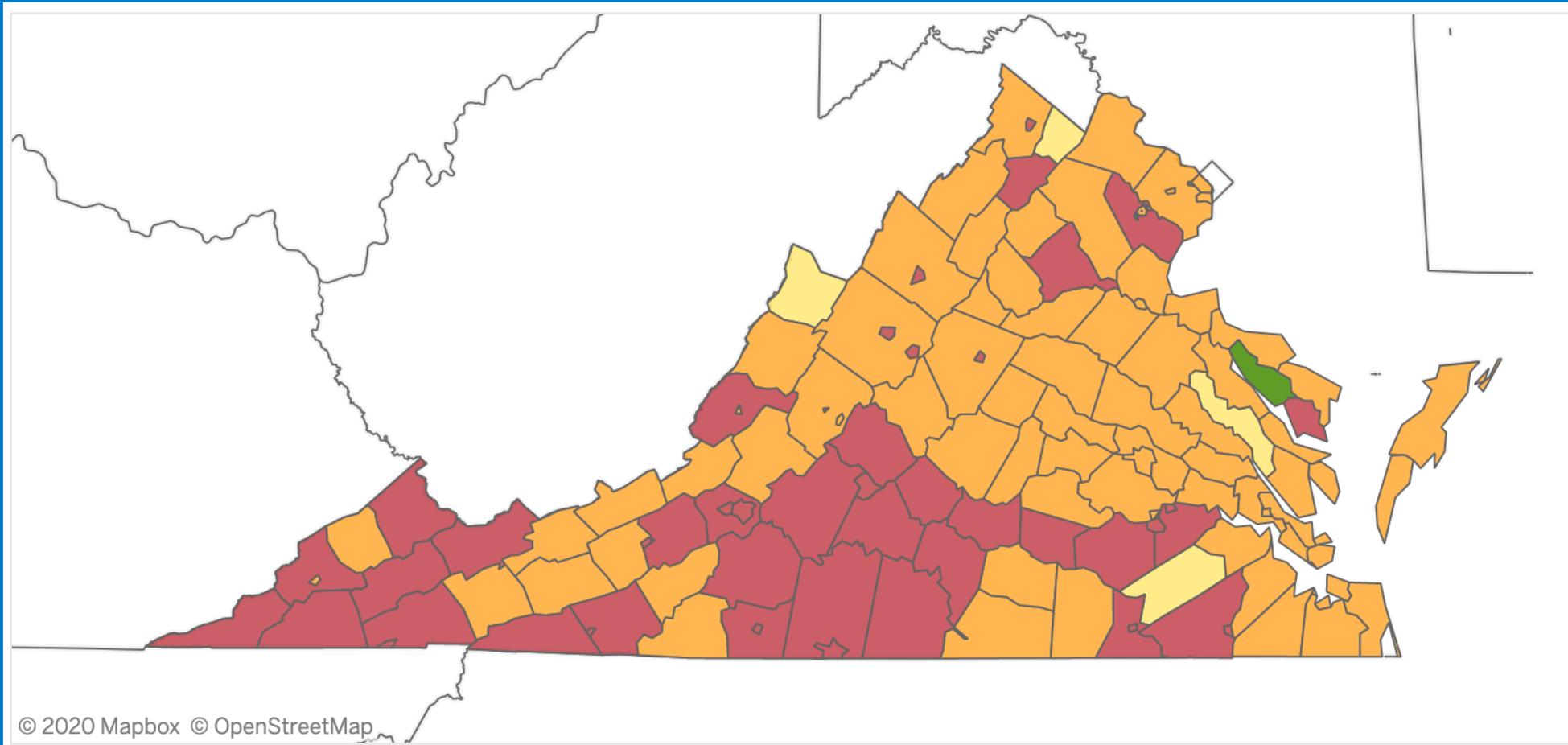
Figure. All persons testing positive for severe acute respiratory syndrome coronavirus 2 infection in a cluster associated with a nursery, Poland 2020. Dates to left indicate first positive results in consecutive case-patients. Circles indicate infected case-patients; numbers in circles indicate age in years. Red circles indicate infected case-patients with symptoms. Circles connected by lines indicate case-patients who are members of the same household. Arrow indicates the probable index case-patient. Asterisk indicates child whose parent tested negative in this cluster but tested positive within the previous 2 weeks.

Take Home
**Children are efficient
transmitters of SARS-CoV-2
especially in crowded
conditions.**

Indicators to Guide School Reopening

Indicators	Lowest risk of transmission in schools	Lower risk of transmission in schools	Moderate risk of transmission in schools	Higher risk of transmission in schools	Highest risk of transmission in schools
Core Indicators					
Number of new cases per 100,000 persons within the last 14 days*	<5	5 to <20	20 to <50	50 to ≤ 200	>200
Percentage of RT-PCR tests that are positive during the last 14 days**	<3%	3% to <5%	5% to <8%	8% to ≤ 10%	>10%
<p>Ability of the school to implement 5 key mitigation strategies:</p> <ul style="list-style-type: none"> • Consistent and correct use of masks • Social distancing to the largest extent possible • Hand hygiene and respiratory etiquette • Cleaning and disinfection • Contact tracing in collaboration with local health department <p>Schools should adopt the additional mitigation measures outlined below to the extent possible, practical and feasible.</p>	Implemented all 5 strategies correctly and consistently	Implemented all 5 strategies correctly but inconsistently	Implemented 3-4 strategies correctly and consistently	Implemented 1-2 strategies correctly and consistently	Implemented no strategies

New Cases Per 10,000 People Over the Last 14 Days (as of Oct 29, 2020)



© 2020 Mapbox © OpenStreetMap

Number of new cases per
100,000 persons within the
last 14 days*

<5

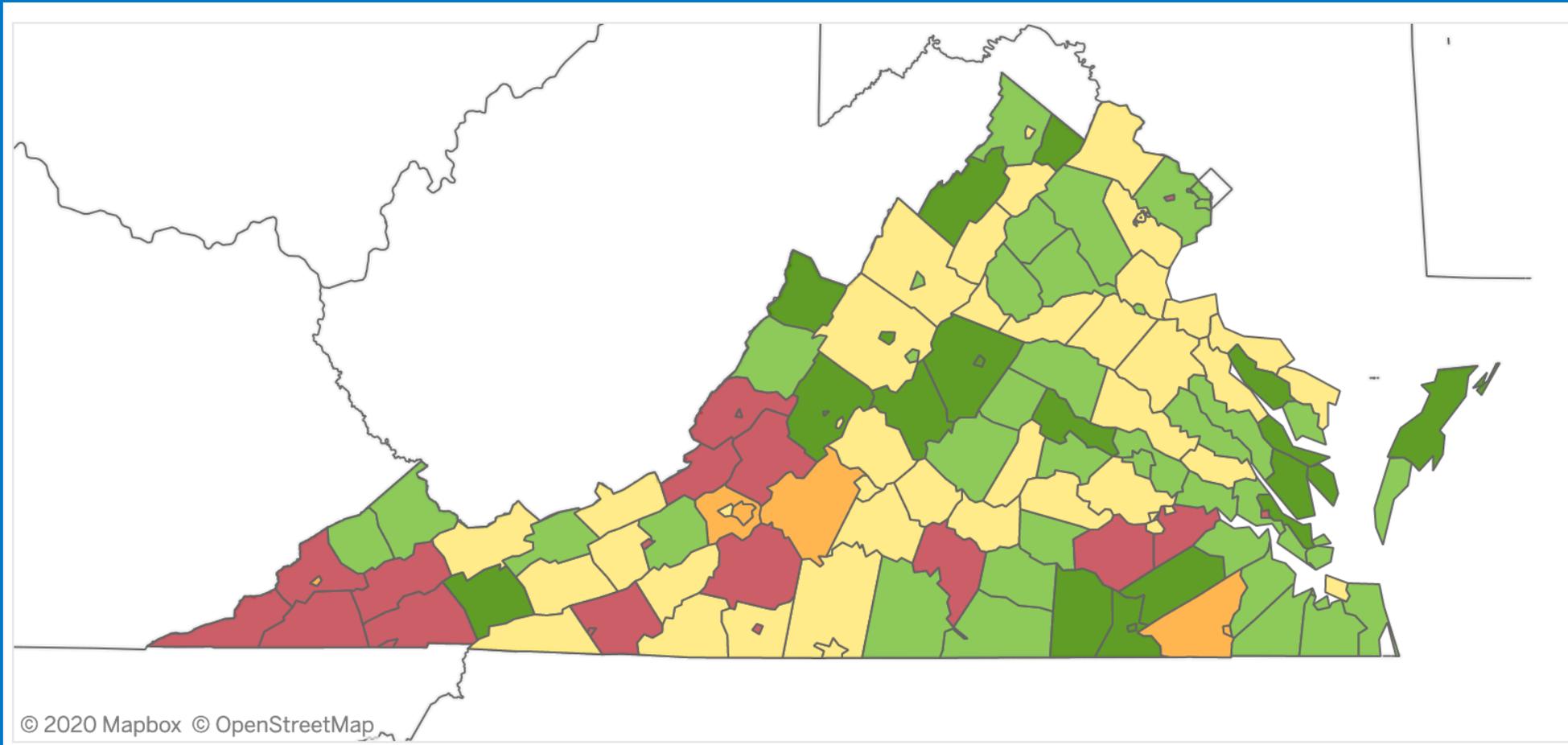
5 to <20

20 to <50

50 to ≤ 200

>200

Percentage Positivity Over the Last 14 Days (as of Oct 29, 2020)



Percentage of RT-PCR tests that are positive during the last 14 days**

<3%

3% to <5%

5% to <8%

8% to ≤ 10%

>10%

<p>Ability of the school to implement 5 key mitigation strategies:</p> <ul style="list-style-type: none"> • Consistent and correct use of masks • Social distancing to the largest extent possible • Hand hygiene and respiratory etiquette • Cleaning and disinfection • Contact tracing in collaboration with local health department 	<p>Implemented all 5 strategies correctly and consistently</p>	<p>Implemented all 5 strategies correctly but inconsistently</p>	<p>Implemented 3-4 strategies correctly and consistently</p>	<p>Implemented 1-2 strategies correctly and consistently</p>	<p>Implemented no strategies</p>
--	---	---	---	---	---

“Should we be taking different precautions or looking at symptoms differently in the middle school population (over age 11) as recent information suggests they spread virus more like adults?”

These recommendations are the same across all age groups!

COVID-19



So who should wear a mask?

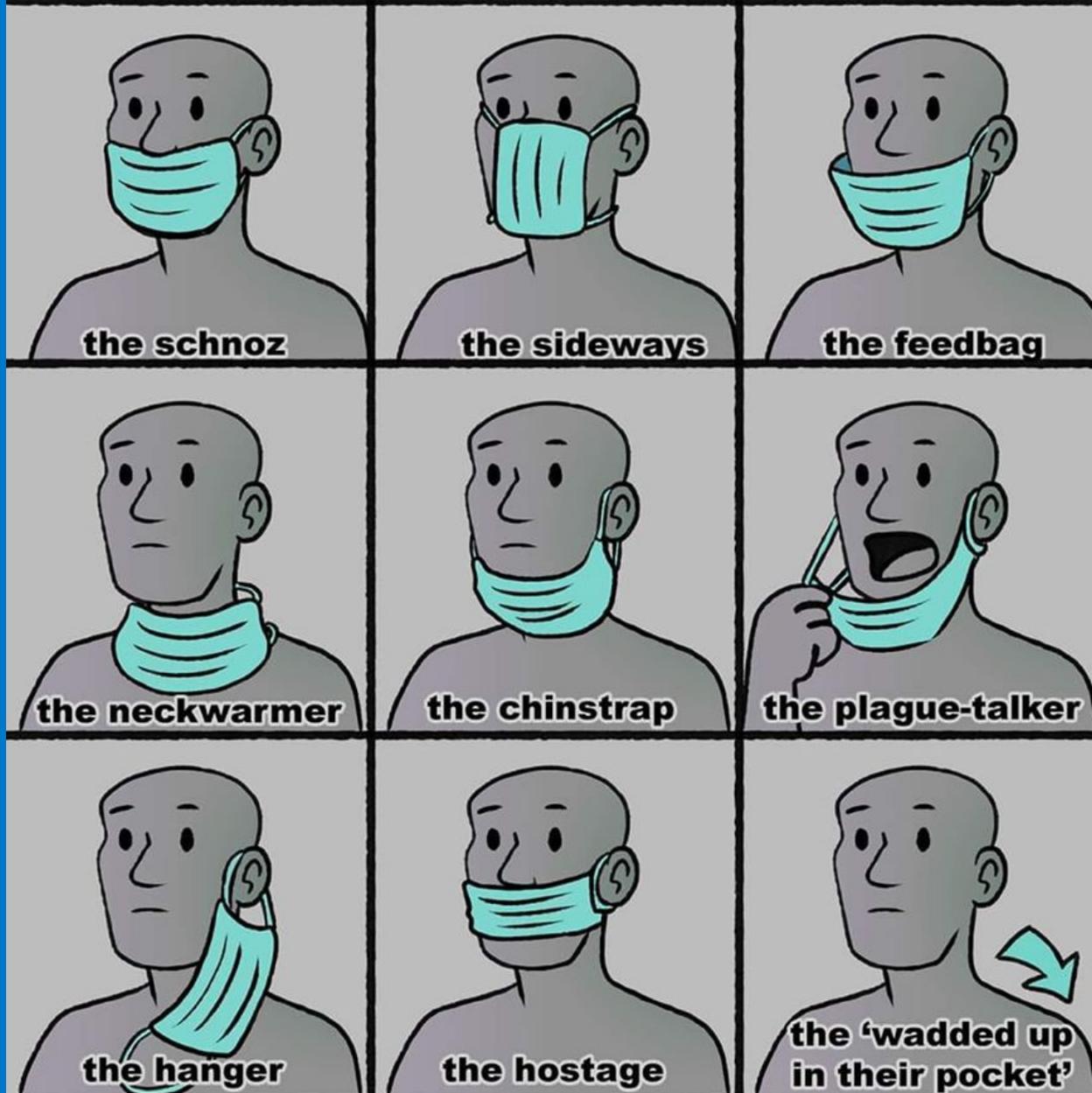
EVERYONE WHO CAN

CDC recommends all people **2 years of age and older** wear a mask in public settings and when around people who don't live in your household, **especially when other social distancing measures are difficult to maintain.**

Note: This says nothing about being inside or outside!!!

Ineffective Face Mask Bingo

@skidarstudios





<https://www.chrichmond.org/covid-19/covid-19#mask-wearing-tips-and-information>

COVID-19: Other PPE

“Is there evidence showing that teachers need to wear gloves when touching a child?”

Example, holding hand while in hall, helping students in the classroom with manipulatives, etc.

I am specifically referring to SPED, PK, and ES population.”



Italian lawmaker Maria Teresa Baladini wore a face mask and gloves during a session in Parliament .(Roberto Monaldo / AP)

GLOVES

You are probably taking them off wrong

You are probably cross contaminating your phone, pen, ect

You are probably still touching your face

You are too comfortable

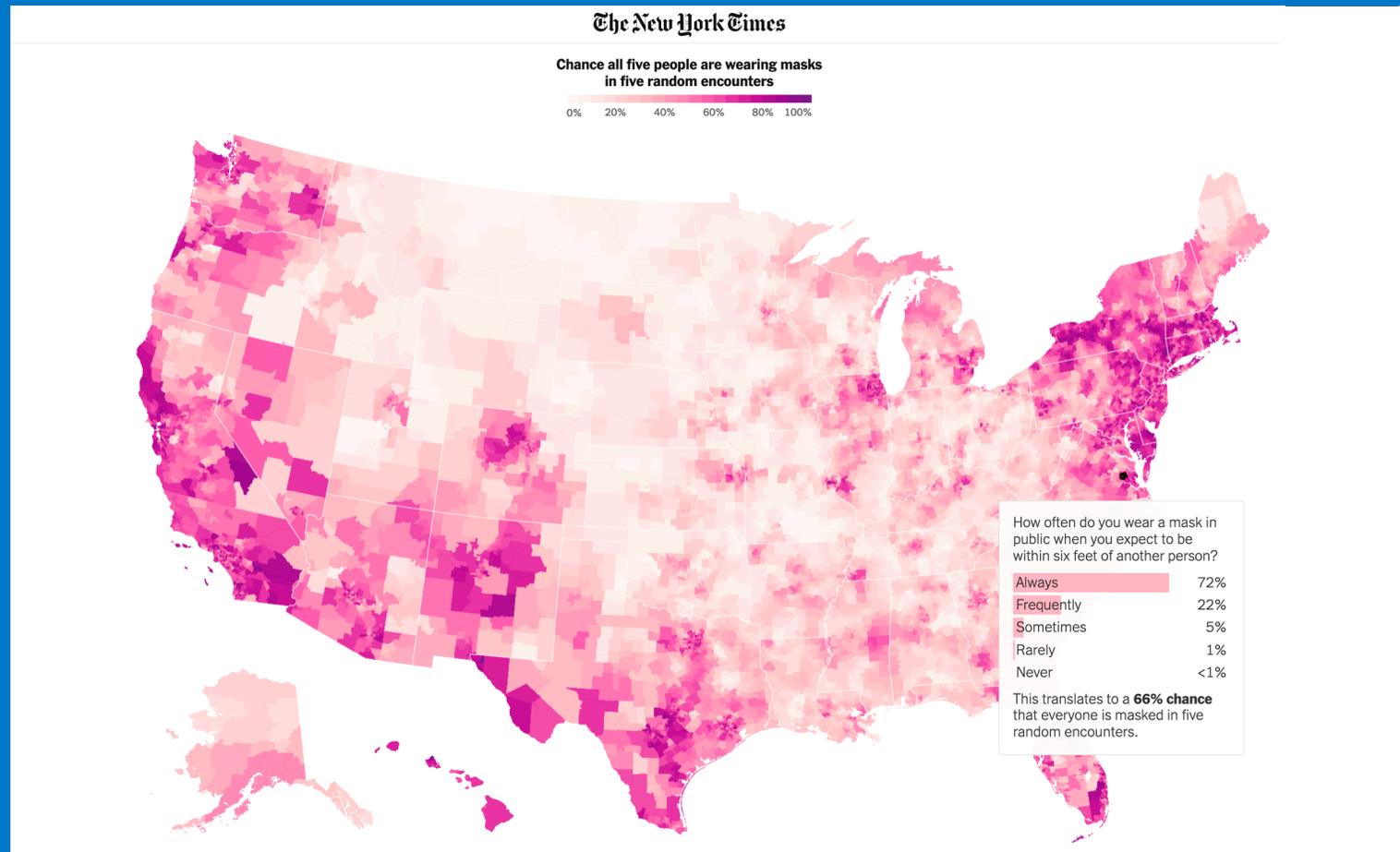
You are probably not washing your hands

COVID-19: The Flu Vaccine

“Is it necessary to get flu vaccines when we are all wearing masks?”

The US 2019 Flu Season

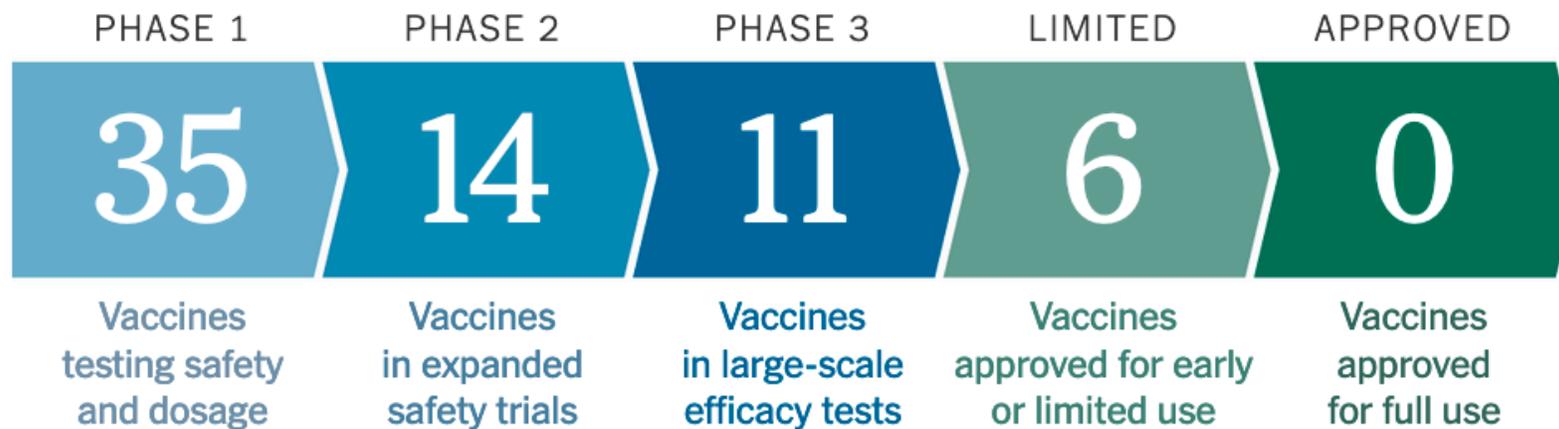
- 39 – 56 million illnesses
- 18 – 26 million medical visits
- 410 – 740K hospitalizations
- 24 – 62K deaths



COVID-19: Vaccines Are Coming

Coronavirus Vaccine Tracker

By Jonathan Corum, Sui-Lee Wee and Carl Zimmer Updated October 29, 2020



<https://www.nytimes.com/interactive/2020/science/coronavirus-vaccine-tracker.html>

There are no vaccines being trialed in children although BioNTech/Pfizer have approval to test their vaccine in children >12 years old.

COVID-19: The New Normal

“Any idea when life can return to "new normal" and what will new normal look like?”

*“No matter where you go, there you are”
-Confucius*

Thank you