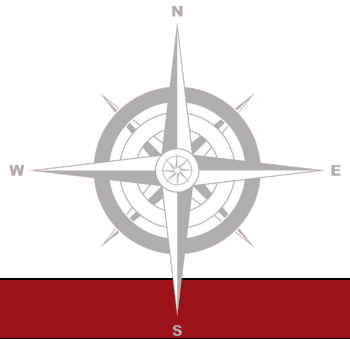
WPS School Reopening Webinar

March 11, 2021

WELLESLEY PUBLIC SCHOOLS

Learning • Caring • Innovating



Webinar Overview

- Introductions

- Review of the Science
- K-5 Return to Full Schedules
- Remote Learning School
- School Registration
- Next Steps Grades 6-12

- Q & A

Webinar Panelists

Dr. David Lussier, Superintendent of Schools

Linda Chow, Chair, Wellesley School Committee

Dr. Marcia Testa Simonson, Vice-Chair, Wellesley Board of Health

Dr. Shira Doron, Hospital Epidemiologist, Tufts Medical Center

Dr. Robin Ingalls, Professor of Medicine & Microbiology, Boston University School of Medicine

Michael LaCava, Interim Assistant Superintendent for Teaching & Learning

Cynthia Mahr, Assistant Superintendent for Finance & Operations

Linda Corridan, Director of Nursing Services

Toni Jolley, Principal, Bates Elementary School

Jeff Dees, Principal, Upham Elementary School

Ellen Quirk, Principal, Hunnewell Elementary School

Kathy Dooley, Technology Director

Understanding the Risks of Disease Burden, and the Positive and Negative Consequences of Public Health Mitigation Efforts

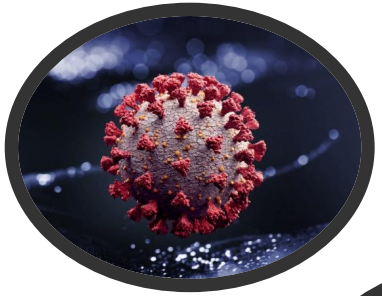
Marcia A. Testa, MPH, MPhil, PhD, Vice Chair, Wellesley BOH
Director and Faculty, Emergency Preparedness, Research and Education, Department of Biostatistics
Harvard T. H. Chan School of Public Health
President, Massachusetts Association of Health Board

WELLESLEY PUBLIC SCHOOLS
Learning • Caring • Innovating

Definitions

- **Human Disease:** Impairment of the normal human state that negatively interrupts or modifies vital functions.
- **Disease Burden**: Death, morbidity, degree of pain, dysfunction, distress, and social problems affecting people both physically and mentally. (e.g., health outcome - death, ICU, hospitalization, respiratory symptoms, depression and anxiety)
- **Societal Burden**: Unemployment, economic downturns, increase in crime, poverty and hunger

Definitions



- **COVID-19:** Disease that is causing the 2019 novel coronavirus outbreak
- **Positive SARS-CoV-2 (COVID)Test:** Detects the presence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)
- **Risk:** Probability of an Outcome or Event occurring in a defined population of subgroup over a defined period of time.
- **Preventative Public Health Mitigation Efforts:** Isolation of cases, quarantine of contacts, masking, hand washing, physical distancing, closures, lockdown, vaccination.

When Harms Outweigh Benefits

Specific Mitigation Program Impact

Depends upon the Population Sub-group

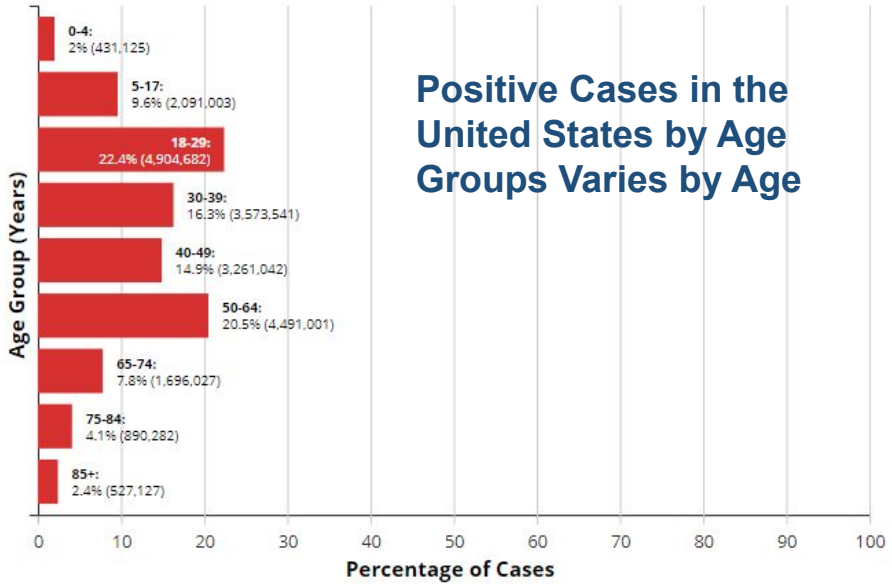
- **BENEFITS: Positive Outcome Mitigation Consequences – Should always outweigh HARMS**
  - **Direct** □ Reduces disease burden in individuals
  - **Indirect** □ reduces transmission in populations □ reduces positivity rates for SARS-CoV-2 □ reduces disease burden in individuals
- **HARMS: Negative Outcomes Mitigation Consequences – Should never outweigh BENEFITS**
  "Side effects" or "adverse reactions"
  - Increased deaths, morbidity, physical, mental, emotional, social, economic impacts individuals and populations

Testing Positive for SARS-CoV-2 vs. Deaths from COVID by Age Groups - Numerators Only (N,%)

Cases by Age Group:

Download

Data from 22,034,740 cases. Age group was available for 21,865,830 (99%) cases.

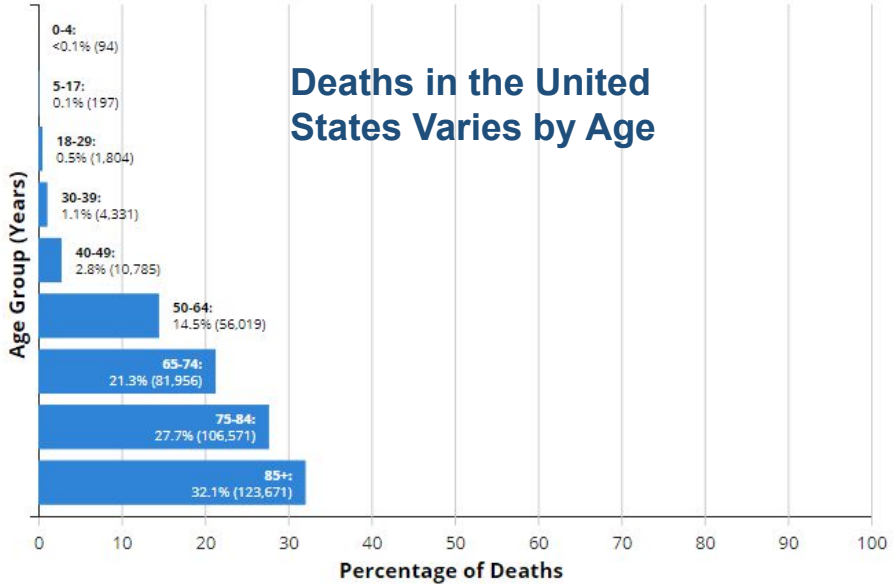


Positive Cases in the United States by Age Groups Varies by Age

Deaths by Age Group:

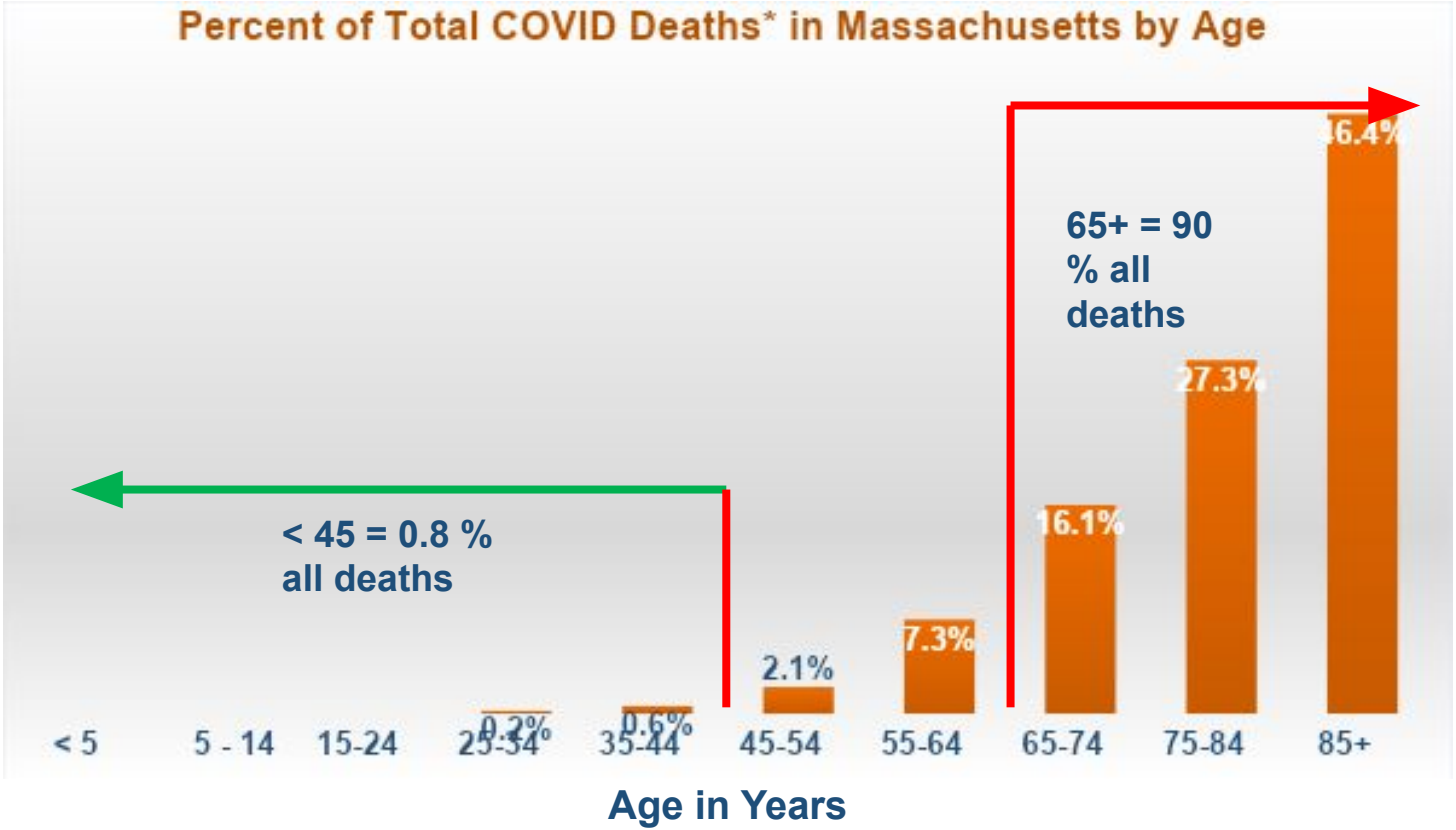
Download

Data from 385,467 deaths. Age group was available for 385,428 (99%) deaths.



Deaths in the United States Varies by Age

COVID Disease Burden (Deaths) by Age

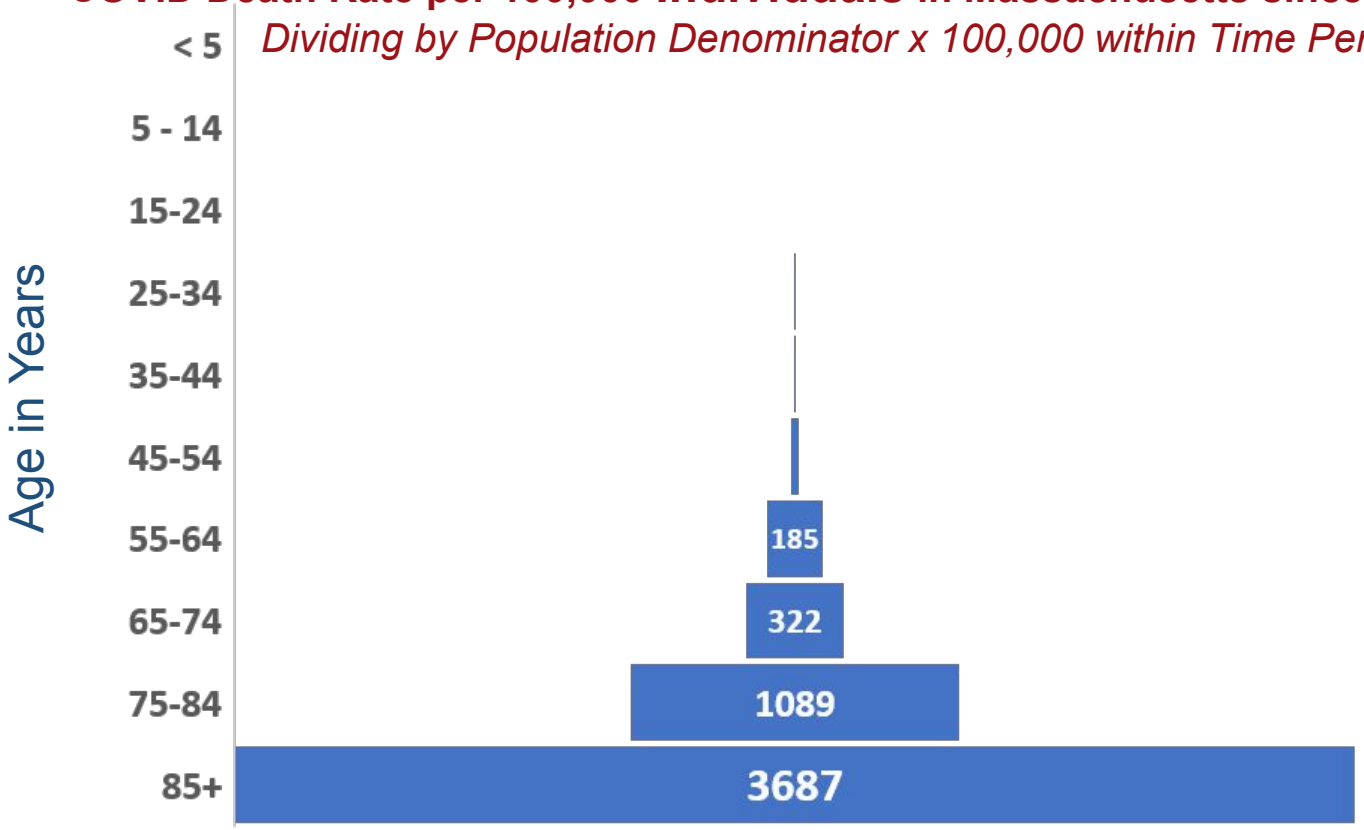


*CDC reporting as of 2/27/2021 Total Deaths = 12,248 since start of epidemic

Risk of Death

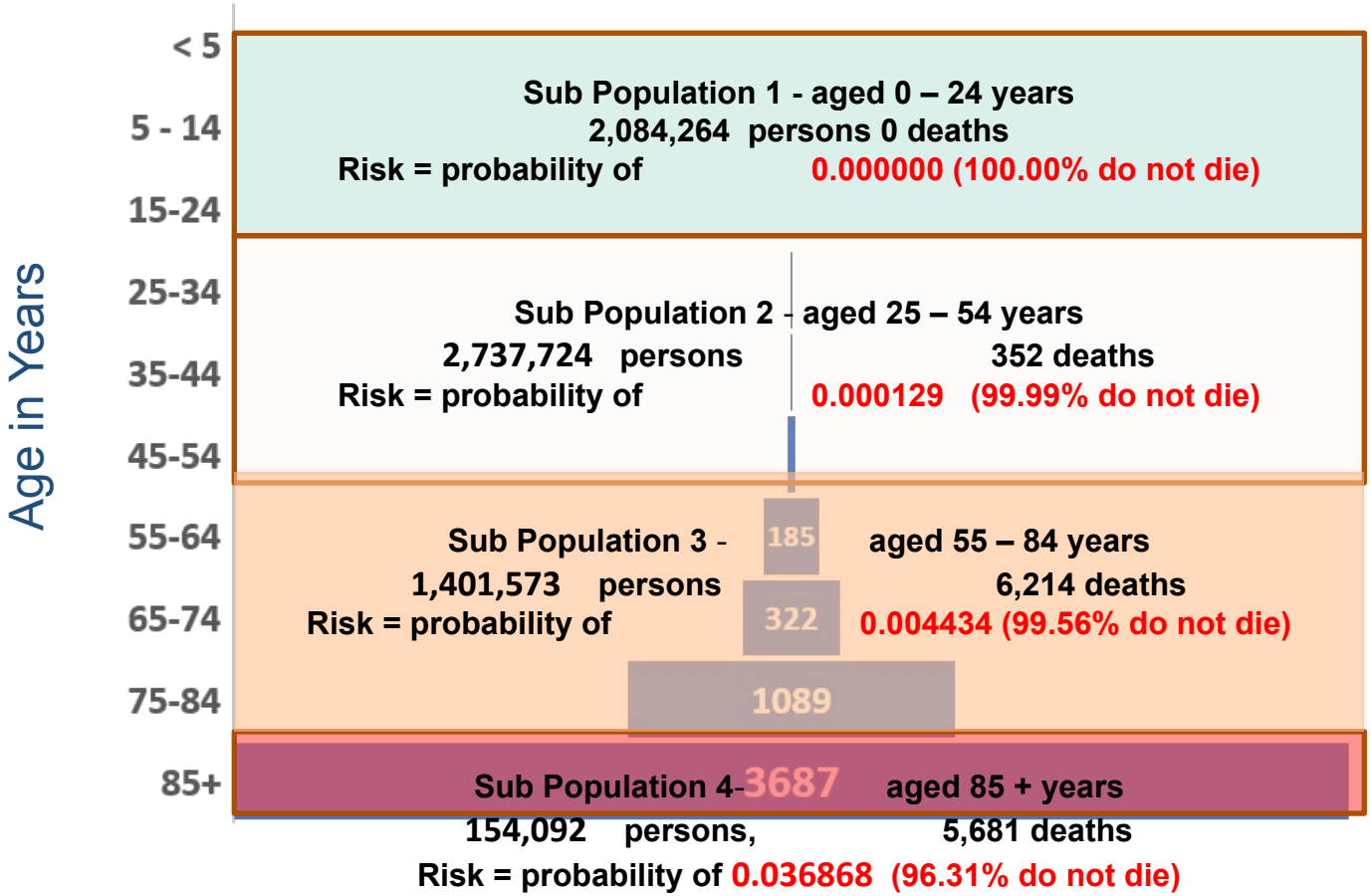
COVID Death Rate per 100,000 Individuals in Massachusetts since March 2020

Dividing by Population Denominator x 100,000 within Time Period



*CDC reporting as of 2/27/2021 Total Deaths = 12,248 since start of epidemic -- latest data available as of March

COVID Death Rate per 100,000 Individuals in Massachusetts



Risk for COVID-19 Infection, Hospitalization, and Death By Age Group

Updated Feb. 18, 2021 Print

K – 12 (5 – 17 years) have the lowest risk for infection, hospitalization and death of any age group

Rate ratios compared to 5-17 year olds[1]

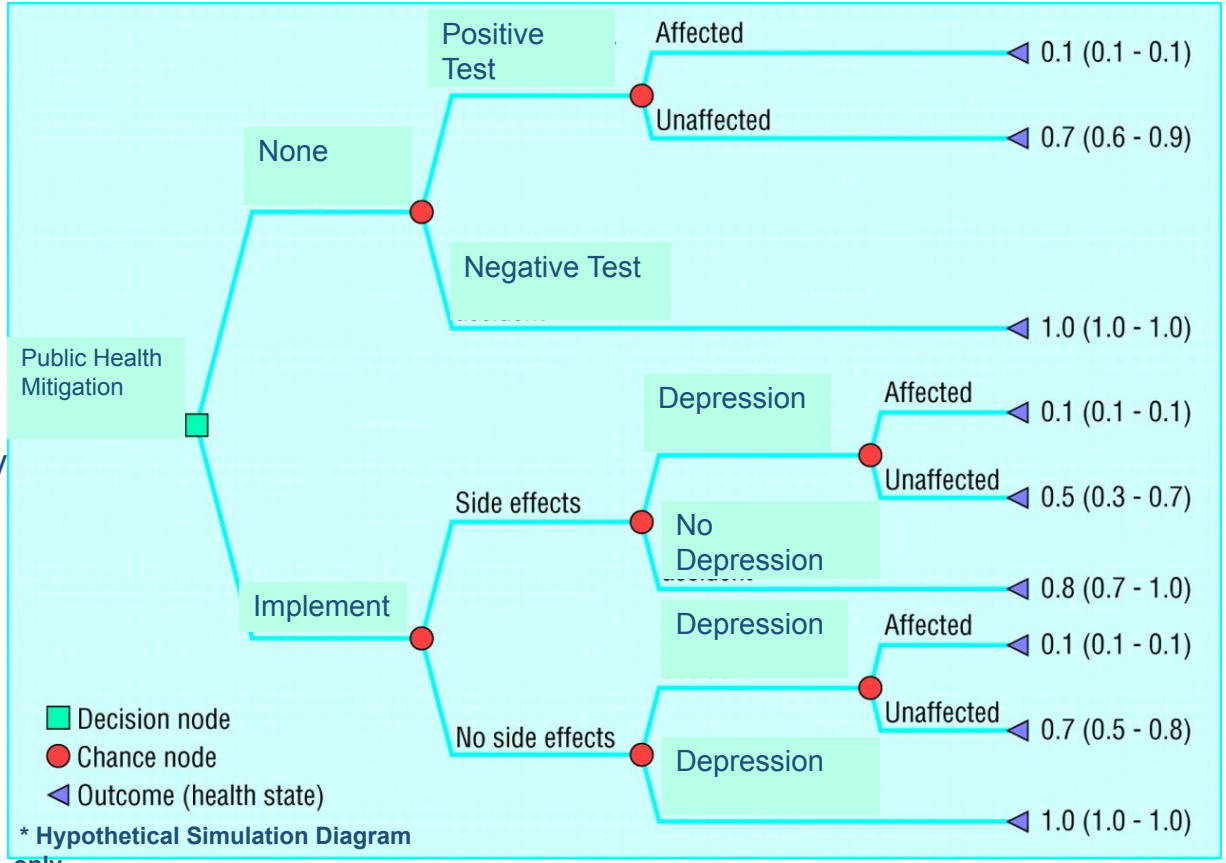
	0—4 years	5—17 years	18—29 years	30—39 years	40—49 years	50—64 years	65—74 years	75—84 years	85+ years
Cases[2]	<1x	Reference group	3x	2x	2x	2x	2x	2x	2x
Hospitalization[3]	2x	Reference group	7x	10x	15x	25x	35x	55x	80x
Death[4]	2x	Reference group	15x	45x	130x	400x	1100x	2800x	7900x

All rates are relative to the 5—17-year age category. Sample interpretation: Compared with 5—17-year-olds, the rate of death is 45 times higher in 30—39-year-olds and 7,900 times higher in 85+-year-olds. Compared with 18—29-year-olds, the rate of hospitalization is 8 times higher in 75—84-year-olds (55 divided by 7 equals 7.9).

Public Health Decision Trees: Benefits vs. Harms*

Mitigations

- Physical Distancing
- Handwashing
- Masking
- Vaccine
- Business Closing
- Remote Learning Only
- Hybrid Learning
- Vaccine



* Hypothetical Simulation Diagram only

Health State

- Death
- Morbidity
- Life years lost
- Quality of Life
- Emotional Well being

Societal State

- Economics
- Violence
- Crime
- Hunger
- Addition

Evaluating the Benefits and Harms

- The number of COVID-19 confirmed cases and disease burden measures (hospitalizations, intensive care admissions, deaths) have steadily decreased since the beginning of 2021, both nationwide and statewide.
- Cumulative COVID-19 deaths in individuals under 55 years of age account for only 2.9% of all deaths, while those 55 years and older account for 97.1%.
- Cluster analyses across 23 settings in Massachusetts demonstrate that ***households*** account for 97% of all transmissions, while, of the remaining 3%, *K–12 schools* account for less than 0.1% overall.
- Non-pharmaceutical mitigation efforts (environmentally optimal sanitation, ventilation, masking, hand washing, and physical distancing) can be effectively maintained in schools, as evidenced in Wellesley K-12 classes that experienced no in-classroom transmissions since the start of the September 2020-21 school year.

Evaluating the Benefits and Harms

- In Massachusetts, 78.2 percent of individuals 75 years of age and older and 54.3 percent of individuals aged 65 – 74 have received at least one dose of the COVID-19 vaccine. Individuals 65 and older groups account for 90 percent of all COVID-19 deaths.

- Research studies have shown that social isolation and loneliness in children and adolescents are associated with an increased risk for depression, anxiety, suicidal ideation, and self-harm.

- Research has not demonstrated the superior effectiveness of three-foot versus six-foot distancing between students seated at their school desks in K-12 classrooms in preventing disease transmission or disease burden.

Shifting Weights During COVID-19 Outbreak Mandate Change in Mitigation Efforts

Safety in School during COVID-19

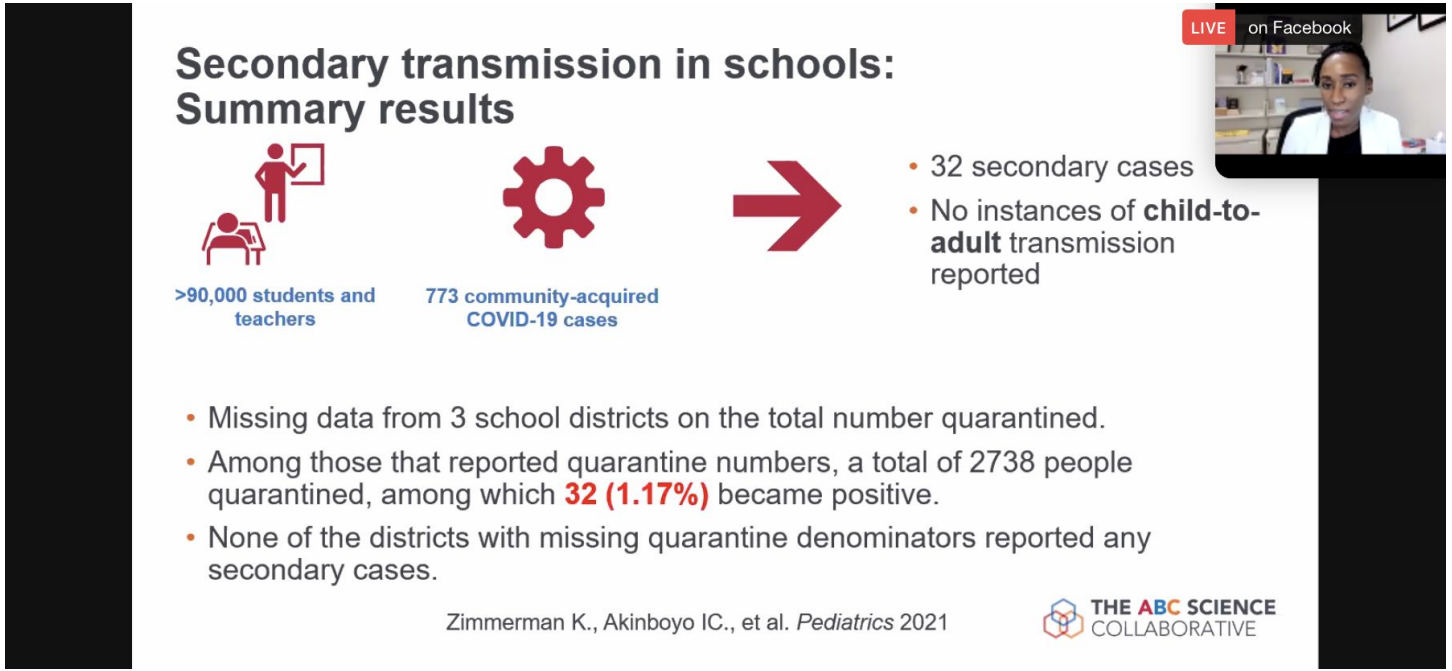
Shira Doron, MD
Attending Physician, Infectious Diseases
Hospital Epidemiologist
Tufts Medical Center

WELLESLEY PUBLIC SCHOOLS
Learning • Caring • Innovating

We are no longer building the plane while flying it

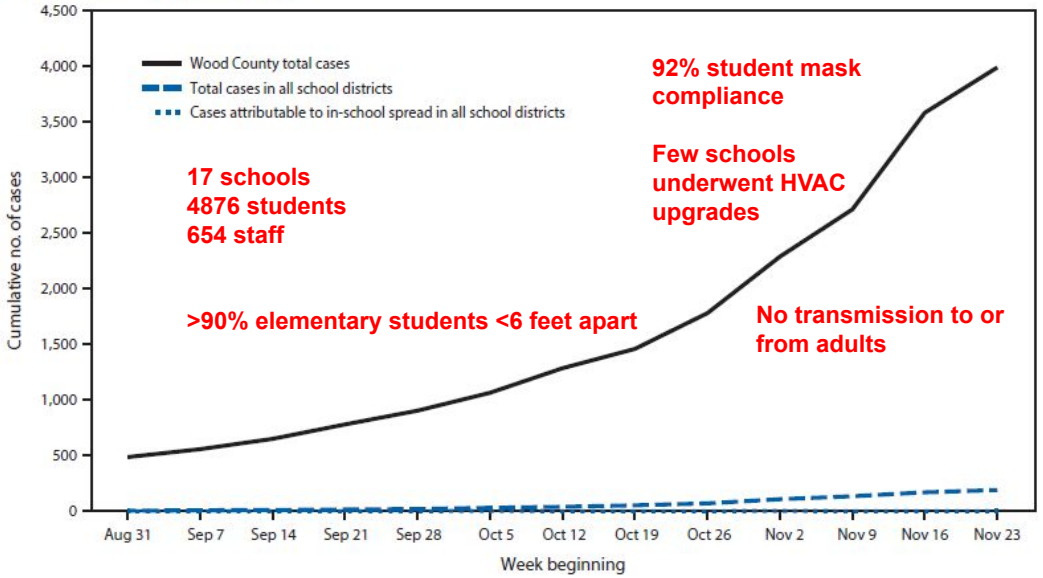
- Extensive global experience with schools open, some since last March
- Rich US experience largely since September
- Massachusetts – variety of different learning models
- Wellesley- Surveillance testing, contact tracing and case investigations

Example: The North Carolina experience



Example: the Wisconsin experience

FIGURE 1. Cumulative number of community and school-associated* COVID-19 cases and in-school transmission,† by week — Wood County, Wisconsin, August 31–November 29, 2020



Falk et al. MMWR Nov 2020

Examples: learning from others' mistakes

When Covid Subsided, Israel Reopened Its Schools. It Didn't Go Well.

As countries consider back-to-school strategies for the fall, a coronavirus outbreak at a Jerusalem high school offers a cautionary tale.

The storied Gymnasia Ha'ivrit high school in Jerusalem became the center of a major virus outbreak after Israeli schools reopened in May. Dan Balilty for The New York Times

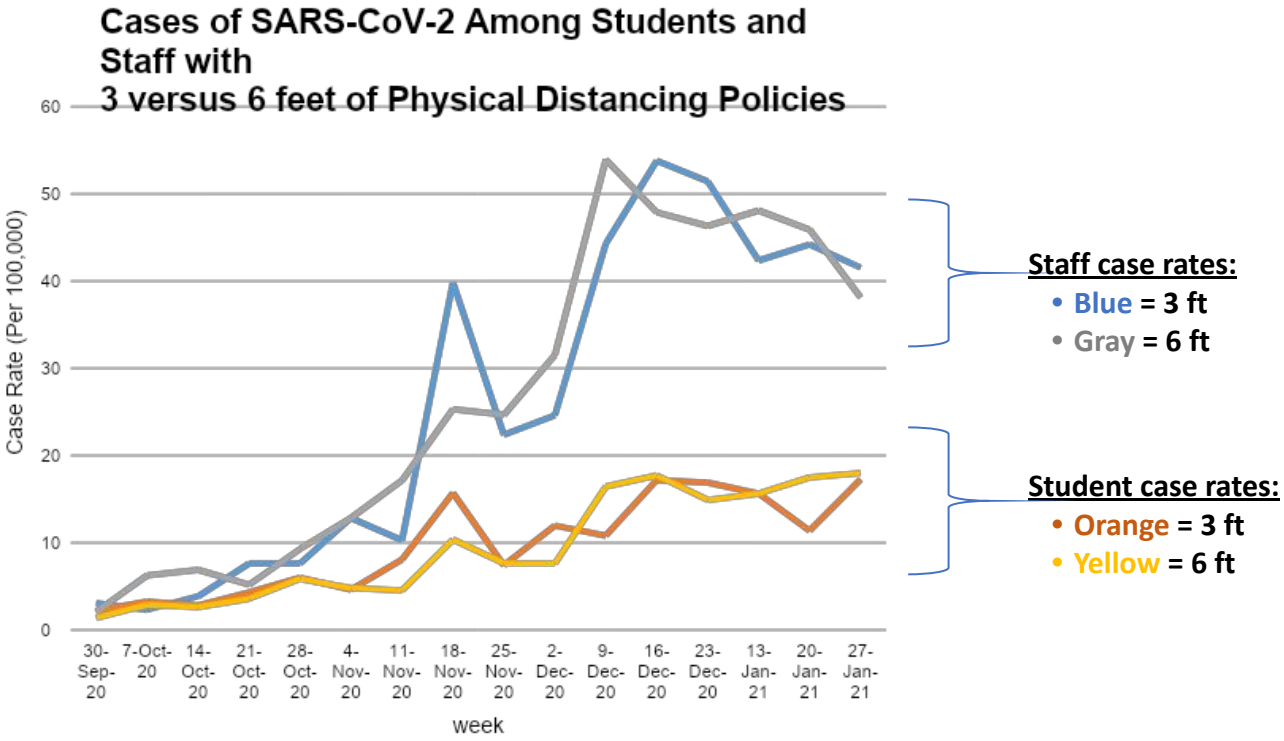
HOME › SCIENCE

CDC: Teachers played an 'important role' in COVID-19 spread at Georgia elementary schools

Andrea Michelson Feb 22, 2021, 3:57 PM

A second-grade teacher cleans a desk in her Boston classroom on September 10, 2020. David L. Ryan/The Boston Globe

Example: the Massachusetts experience



Van den Berg et al. Clinical Infectious Diseases 2021

SARS-CoV-2 Cases in Students and Staff in Massachusetts with Variable Distancing Policies. Infection control plans for Commonwealth school districts with any in person learning were collected, with universal masking for students in grade 3 and higher and universal masking for staff mandatory. 243 districts were included, comprising 520,129 students and 6,227,765 student learning weeks, and 97,679 staff and 1,313,532 staff learning weeks. SARS-CoV-2 cases in students and staff in districts with in-person learning with different distancing policies were compared.

6 feet versus 3 feet

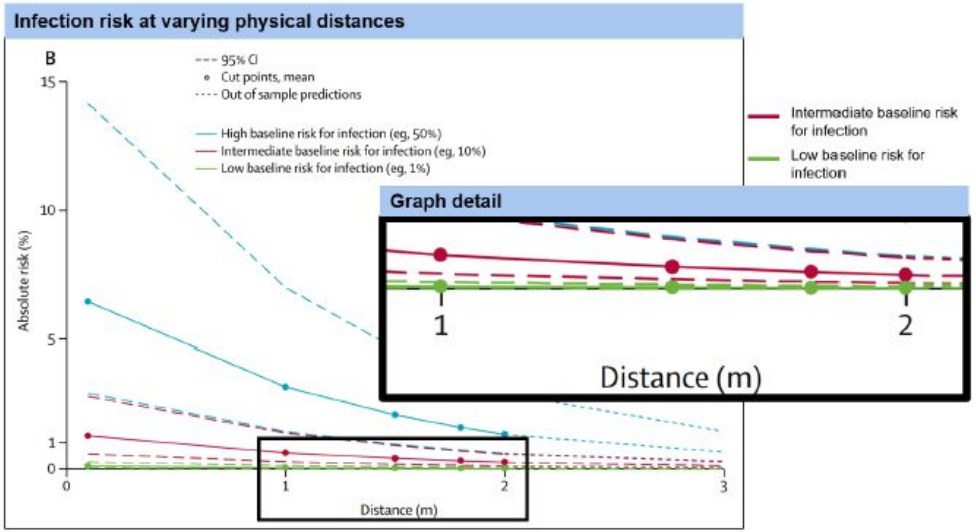
- Where does “6 feet” come from?
    - In most countries, 1 meter (equivalent to just over 3 feet) is the recommended distancing for society (not schools) for a coronavirus epidemic, and used in the definition of exposure to respiratory viruses
    - 1 meter is the standard set by the WHO for both schools and society
    - 3 feet was the standard set by the CDC during SARS1, then for unclear reasons it was changed to 6 feet
- The risk is in fact continuous, increasing with proximity and time

Risk difference between 1 and 2 meters is negligible

Risk of infection at varying physical distances

Key finding: in intermediate- and low-risk settings, the risk of infection is similar at one meter (approximately three feet) and two meters (approximately six feet) distances. Experts suggest schools would be considered low to intermediate risk, especially with additional protections (e.g., masks), and that the risk of infection in these settings at both one meter and two meters is low.

Note: the risk of infection at various physical distances was modeled based on a meta-analysis of data from a group of coronaviruses (COVID-19, MERS, SARS). These are estimates of the risk by type of setting, not the risk to different types of individuals.

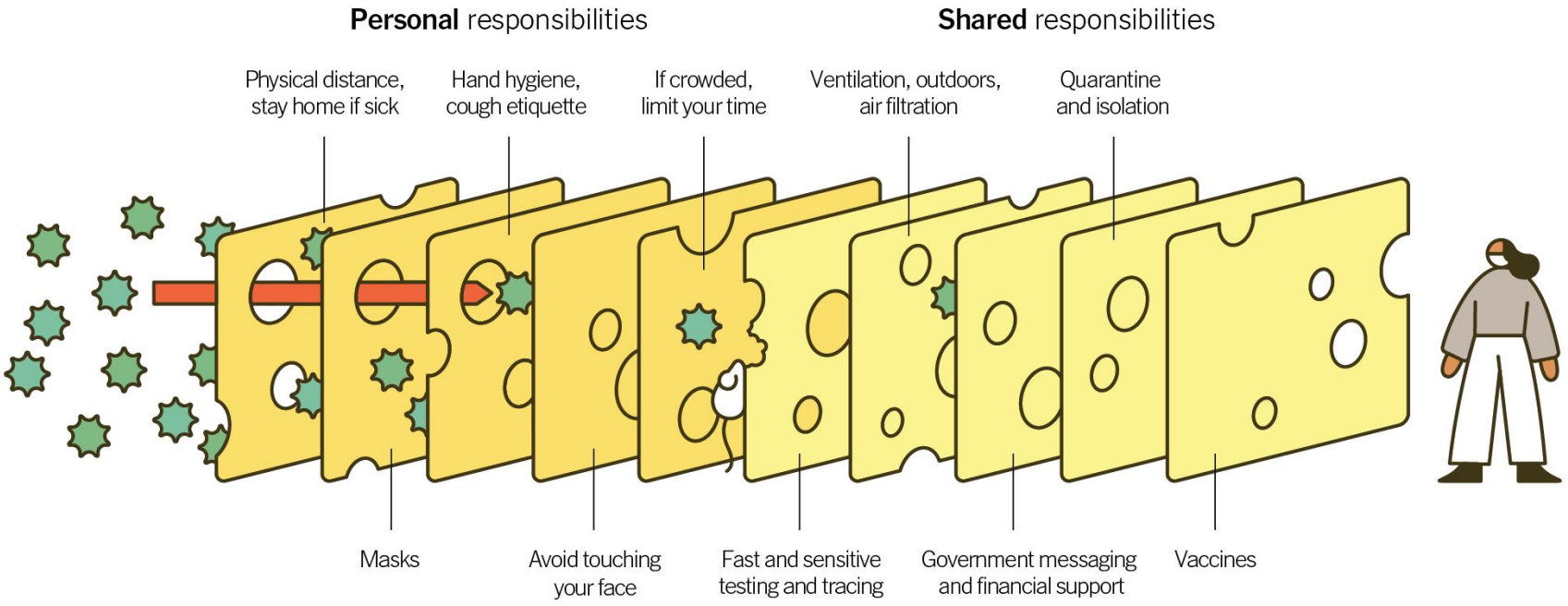


Chu, D.K., Akl, E.A., Duda S., Solo K., Yaacoub S., Schunemann H.J. et al. Lancet 2020. Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic review and meta-analysis. *The Lancet*. Available at: https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)31142-9/fulltext

Layered mitigation

Multiple Layers Improve Success

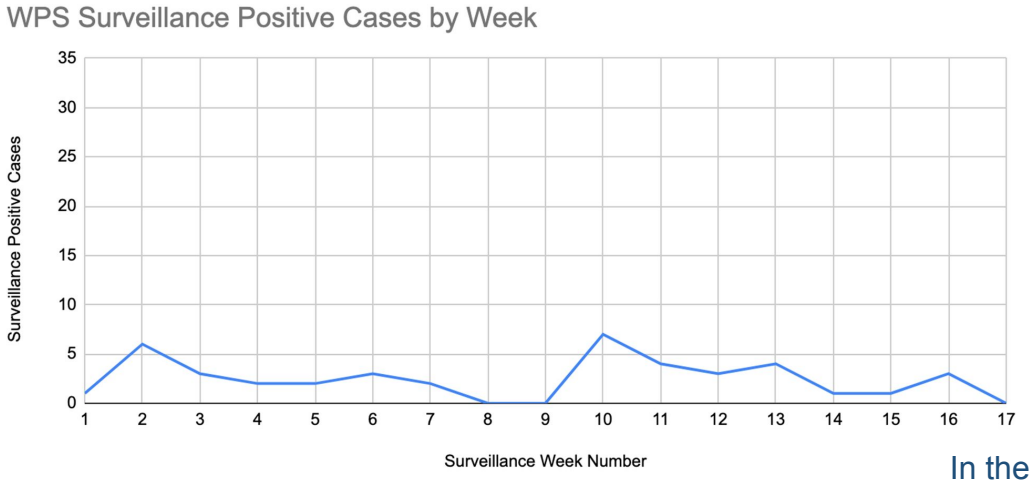
The Swiss Cheese Respiratory Pandemic Defense recognizes that no single intervention is perfect at preventing the spread of the coronavirus. Each intervention (layer) has holes.



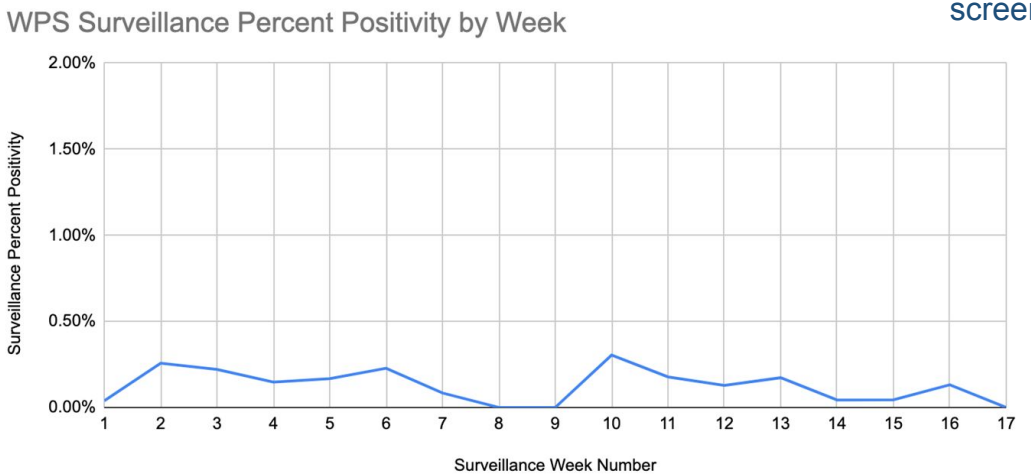
Source: Adapted from Ian M. Mackay (virologydownunder.com) and James T. Reason. Illustration by Rose Wong

Tricky times

- Lunch and mask breaks
- Singing, brass, woodwinds
- Physical education
- Passing periods



In the week ending March 5, 1 in 1000 asymptomatic students and staff screened were positive for COVID-19



The COVID-19 vaccine is here!

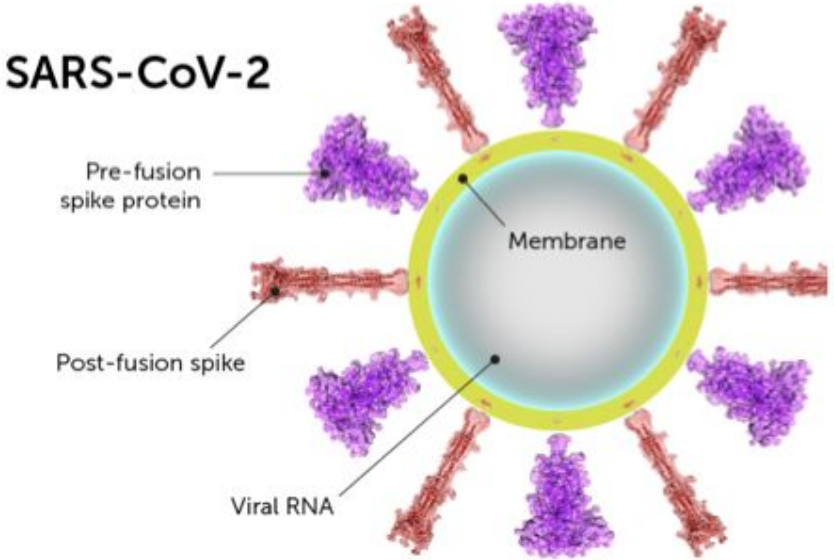
How did we get here so fast?
How will this help?
Is it safe?

Robin Ingalls, MD
Professor of Medicine and Microbiology,
Boston University School of Medicine
Attending Physician, Infectious Diseases,
Boston Medical Center

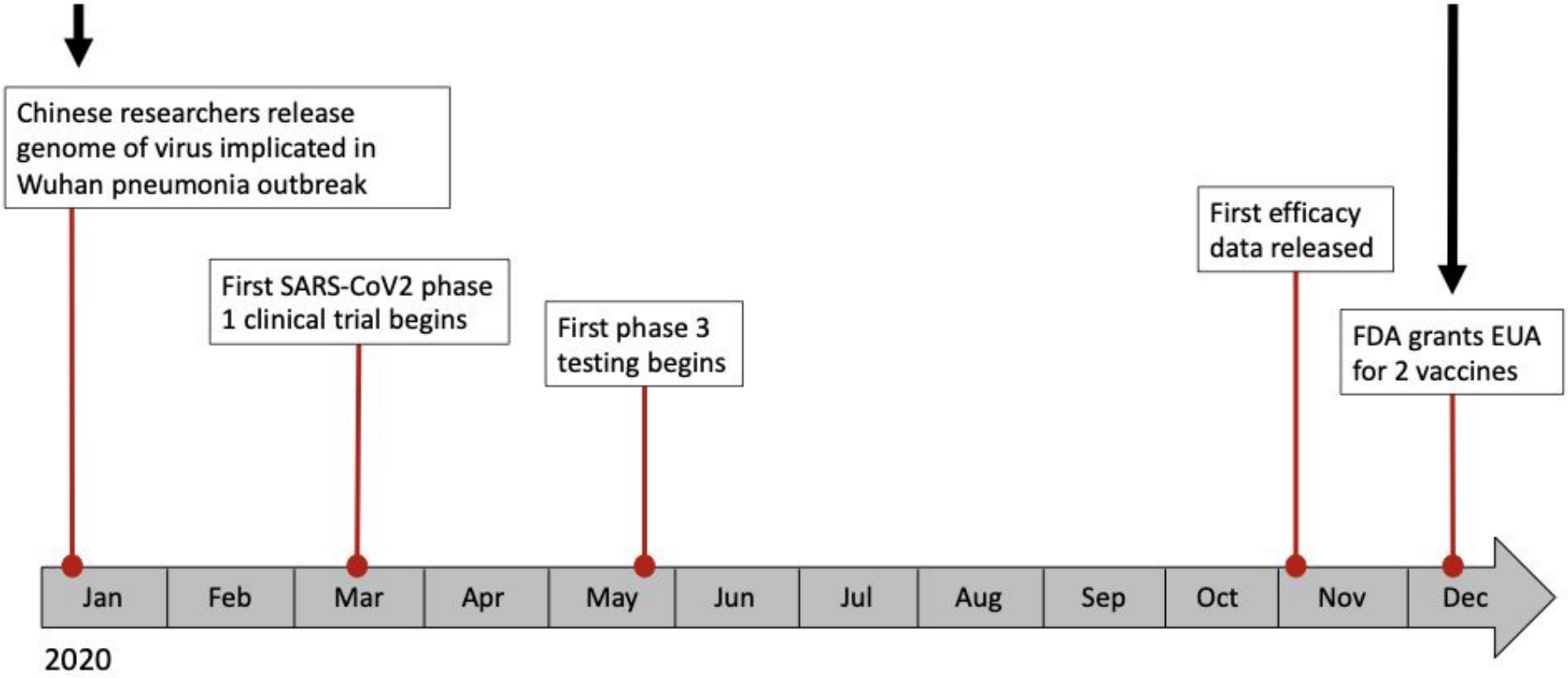
SARS-CoV2 is the virus that causes COVID-19

The surface of the virus has a protein called **SPIKE**

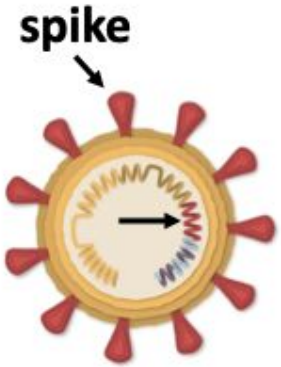
Thanks to work on SARS-CoV, we already knew that the **spike** protein was a good target for vaccine development.



COVID-19 Vaccine: Unprecedented Timeline



COVID-19 vaccine platforms



SARS-CoV2

mRNA

Adenovirus

The **Pfizer-BioNTech** and **Moderna** vaccines are lipid nanoparticles containing a piece of **mRNA** that encodes spike.

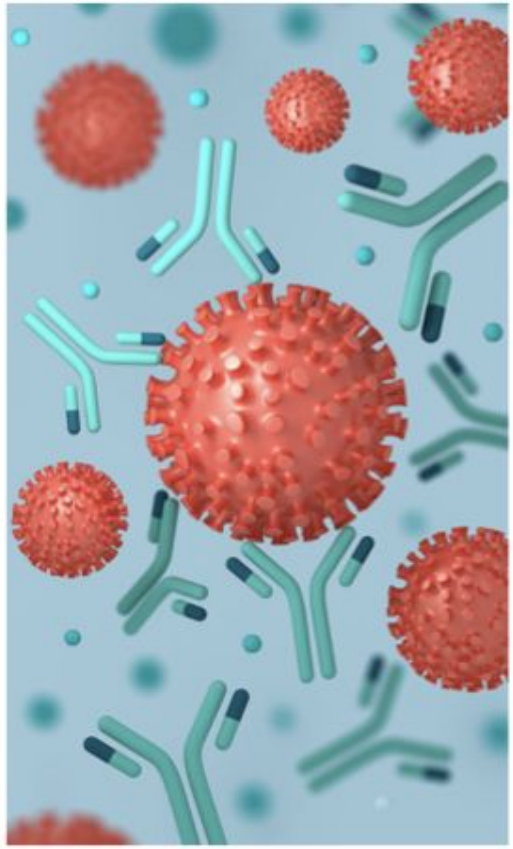
The **Janssen/Johnson & Johnson** vaccine is a modified **adenovirus** (won't replicate or make you sick) containing DNA that encodes spike.

The New York Times

How COVID-19 vaccines work

- Carry genetic material to make a piece of the "**spike protein**" into a cell
- Cells make spike is made, display it on the surface, and trigger an immune response (seen as "foreign")
- Leads to production of **antibody** by B cells to neutralize the virus (prevent infection) and activation of **cytotoxic T cells** that can kill virus-infected cells (clear infection)

COVID-19 vaccines DO NOT change your DNA!



How effective are these vaccines?

- The Pfizer and Moderna vaccines showed **~95% efficacy** at preventing symptomatic COVID infection 7/14 days after **two** doses. Equally protective across age groups, and racial and ethnic groups.
- J&J vaccine showed **85% efficacy** against severe/critical disease after **one** dose at day 28, with no differences across the **eight countries** or three regions in the study, nor across age groups among trial participants.
- For all the vaccines: There were **no hospitalizations or deaths from COVID-19 in the vaccine arm of the trials** after immunity developed.

What is the “best” vaccine?

- **Efficacy** is not the same as **effectiveness**, and 85% efficacy does **NOT** mean you have a 15% chance of getting COVID if you get the vaccine
- We **can’t** compare the ***efficacy*** of these 3 vaccines
  - Different study designs and different primary outcomes
  - Geographic locations were different
  - Populations were different
  - State of the pandemic was different
- ***THERE WERE NO DEATHS FROM COVID-19 IN THE VACCINE GROUPS***

Side effects and precautions

- Arm pain, headache, fatigue, fever, chills were common, especially after the second dose: THIS IS COMPLETELY EXPECTED
  - More common in younger adults
- Serious allergic reactions were reported in some individuals with a history of life-threatening allergies to vaccines
  - Not a problem for people with allergies to eggs, peanuts, etc.
- No contraindications to vaccinating people with immune deficiencies (there is no live virus in these vaccines)

COVID-19 vaccines are being held to the **same safety standards** as all other vaccines. FDA continues to gather "real world" data on the vaccines.

Pregnant women and children

- Pfizer is approved for persons ≥ 16 yrs; Moderna and J&J ≥18 yrs
  - Studies in children are ongoing
- **CDC** and **ACOG:**
  - COVID-19 vaccines should be offered to pregnant and lactating individuals, and the choice of whether to get vaccinated should rest with that individual
- Unfounded claims linking COVID-19 vaccines to infertility have been scientifically disproven. Vaccination is recommended for all eligible people who may consider future pregnancy.

What about the mutants?

- New, highly transmissible SARS-CoV-2 variants that were first detected in the United Kingdom (**B.1.1.7** lineage), South Africa (**B.1.351** lineage), and Brazil (**P.1** lineage) with mutations in the *spike* gene are spreading globally
- Changes or mutations in the spike protein should not make vaccines completely ineffective, but some mutations could lead to decreased efficacy
- Reducing the amount of viral transmission will reduce opportunities for the virus to mutate further, and vaccination is an important part of this strategy

What can I do after vaccination?

- Visit with other vaccinated people indoors without masks or distancing
- Visit with unvaccinated people at low risk for severe disease without masks or distancing
- Refrain from quarantine and testing following a known exposure if asymptomatic AND following travel
- BUT you should continue to take precautions in public, avoid large gatherings, test if symptomatic, limit air travel
- Don't yet know duration of protection, or if "boost" might be required

Staff Vaccination Information

Designated Vaccination Days for Staff

Sat. March 27th

Sat. April 3rd

Sat. April 10th

Sun. April 11th

- You must use the pre-registration form
- Appointments can be made at sites outside these dates
- All vaccination information can be found on the Nursing Website - Teacher Vaccination Information

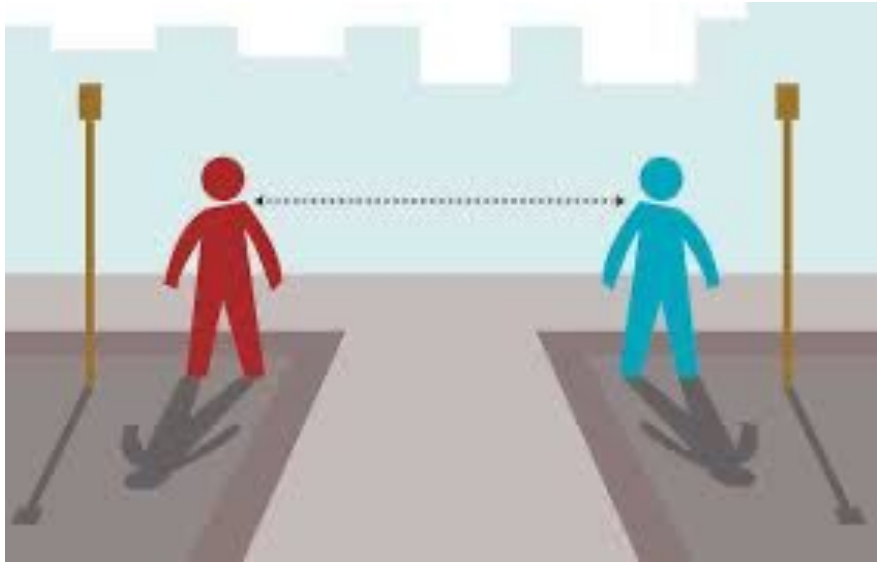
Current WPS Staff Vaccinated: 289

After You Receive the Vaccine

- Staff Vaccination Record Form
- It takes 2 weeks for immunity to build
- No longer need to quarantine after COVID-19 exposure
- Travel guidelines have changed
- Continue to practice Mitigation Strategies: wear a mask, physical distancing and frequent hand washing
- Continue to participate in WPS COVID-19 Surveillance Testing

The Full Return of Grades K-5

Social Distancing Standard



Transitioning from the Hybrid….

- **Schedules**
- **Times**
- **Arrival / Dismissal**

Lunch & Snack

Transportation

Expanded Viral Testing (Grades 3-5)

Remote Learning School (RLS)

- Maintaining Program
- Options for Families
- Upcoming Surveys

New Student Registrations

- Registering for Current Year
- Registering for SY 2021-22

Next Steps, Grades 6-12

- DESE Requirements:
  - WMS No Later than April 28th
  - WHS TBD
- WPS Working to Make Full K-12 Transition in April


Q
&
A