COVID-19 Update on Vaccine, Risk Mitigation, and Sports

February 5, 2021

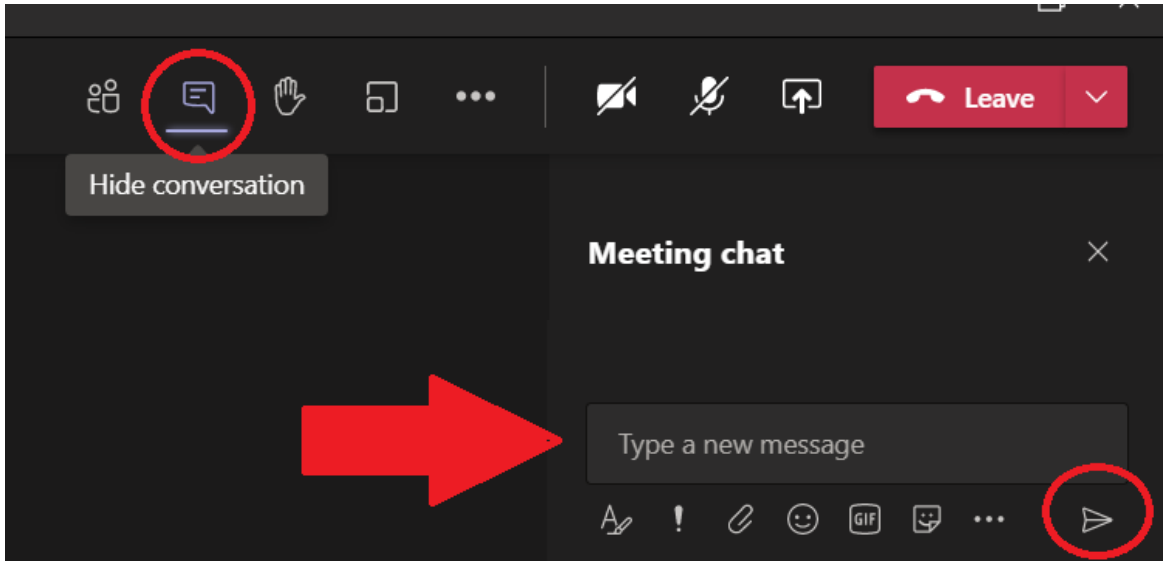
12:00 p.m.- 1:30 p.m.

Today's Agenda

- **COVID-19 Regional Update and Vaccine Availability**
  - *Jennifer Watts, MD, MPH*
- **Vaccine Review and In-Person School During a Pandemic**
  - *Jennifer Goldman, MD, MS-CR and Jennifer Schuster, MD, MSCI*
- **Return to Sports**
  - *Amol Purandare, MD and Brian Harvey, DO*
- **Q & A**

Important Details

- All mics are muted during the webinar
- Submit your questions in the chat box



COVID-19: regional update and vaccine availability

Jennifer Watts, MD, MPH, Medical Director Emergency Management

Kansas City Region COVID-19 Data Hub

MARC MID-AMERICA REGIONAL COUNCIL

- Regional View
- Cases
- Testing
- Deaths
- Hospitalizations
- New Hospitalizations - Beta
- KC Region Map
- State Map
- School Gating Criteria Metrics
- Common Operating Picture (COP)
- HCC (N/S) Data Hub
- FAQ and Data Resources
- Vaccinations

Cases, Tests, Deaths Data
Updated daily between 5-6 pm
Last Updated:
2/3/2021

Hospital Resource Data
Updated daily for the previous day before 2 pm
Last Updated:
2/3/2021

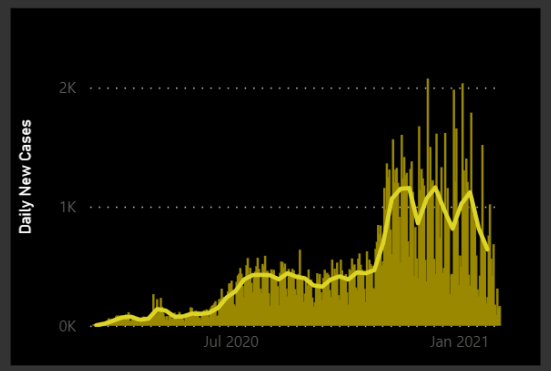
DAILY REGIONAL SNAPSHOT

This dashboard compiles several sources from the Kansas City region to display a best estimate of the current COVID-19 situation at the regional level. Our methodology is outlined in our data dictionary and may be summarized in ways that differ from other information resources. Data displayed is provisional and subject to validation over time to create a more accurate picture. Highlighted trend lines below show verified, 7-day rolling averages and include a 10-day lag to account for delayed data reporting. Daily bars after the trend line represent emerging data, which is often not yet inclusive of all jurisdictions' data. Trend lines and daily bars attribute incidents to their date of occurrence wherever possible. Newly Reported data communicates the change in total reported cases and deaths since the previous day, which may have occurred on an earlier date.

Cases

164
Newly Reported

149,507
Total Reported



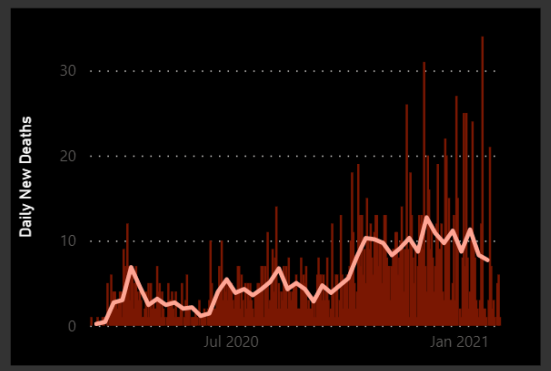
What to look for: Trends in case rates can represent changes in the amount of COVID-19 in a community. These numbers are also influenced by the amount of testing being conducted. Case rates rely on lab results that can take days to complete and report, and therefore are subject to a delay.

Read more about the cases data sources.

Deaths

1
Newly Reported

1,889
Total Reported



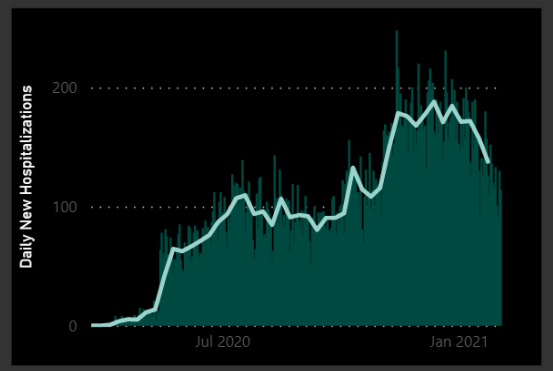
What to look for: Trends in death rates can represent changes in the amount of death from COVID-19 in a community. These numbers are also subject to a data delay due to reporting times for death certificates.

Read more about the deaths data sources.

Hospitalizations

115
Daily Average New Hospitalizations

806
Total Weekly New Hospitalizations



What to look for: Trends in hospitalizations represent changes in the number of symptomatic individuals being treated in the hospital. High levels of hospitalization typically indicate greater prevalence of COVID-19 in the community.

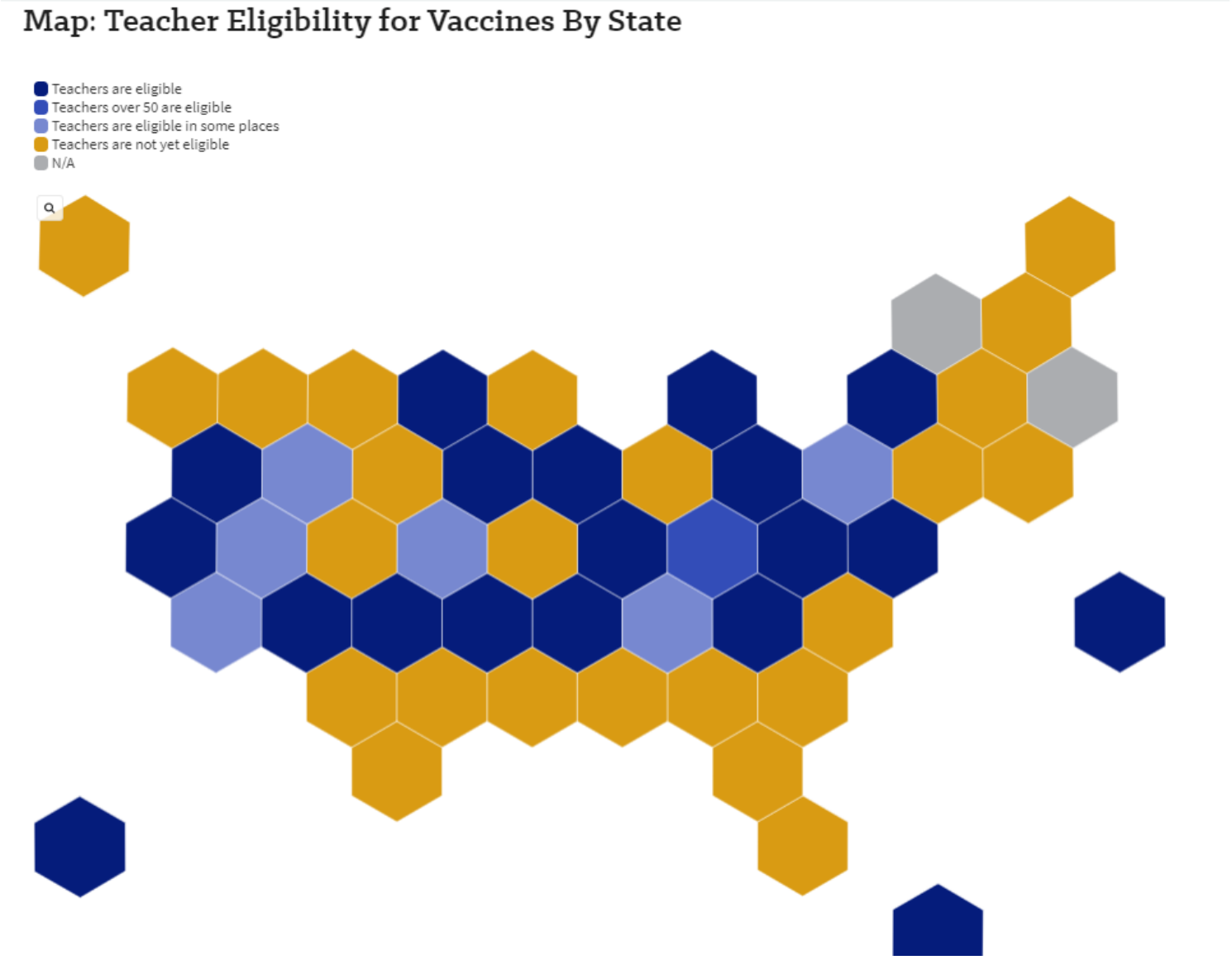
Read more about the hospitalizations data sources.

Hospitalization data is updated M-F before 8 am, and before 2 pm on the weekend. Case, death, and testing information is updated nightly before 8 pm. Please send questions and feedback to covidhub@marc.org.

Children's Mercy

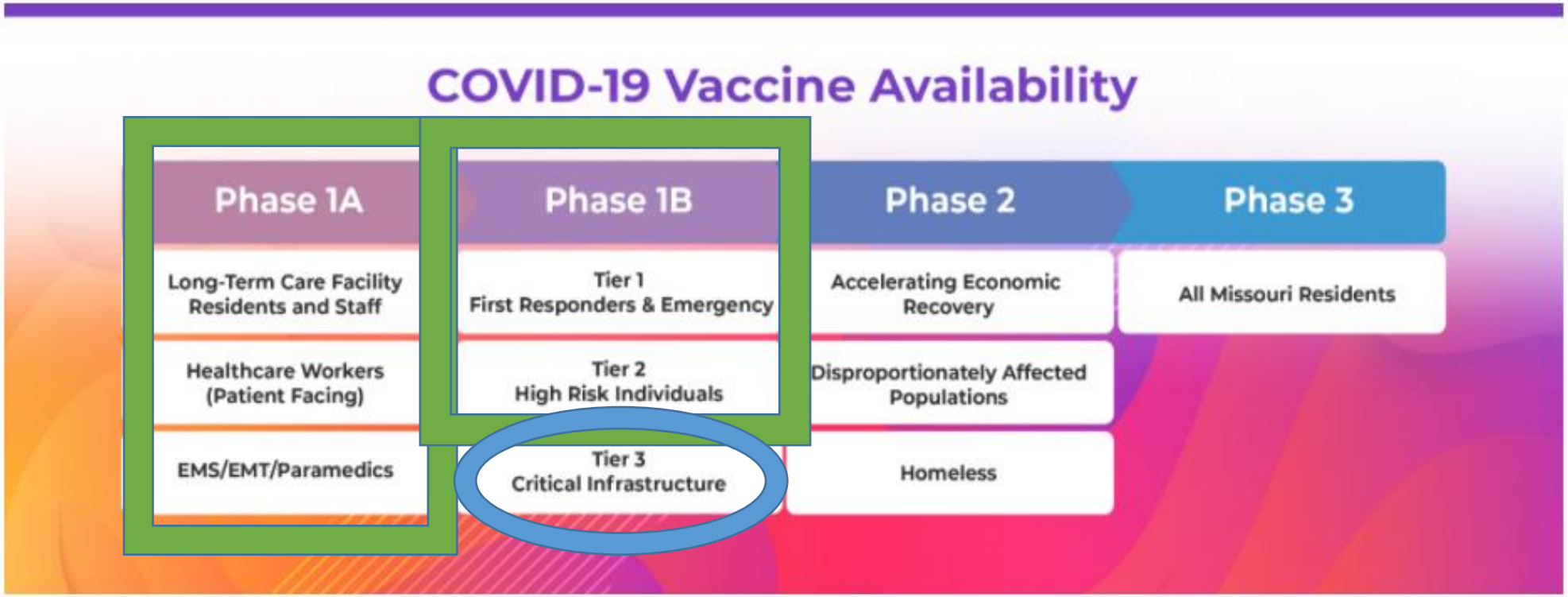
Vaccine Availability

- Vaccines available
- State roll out plans
  - Missouri
  - Kansas

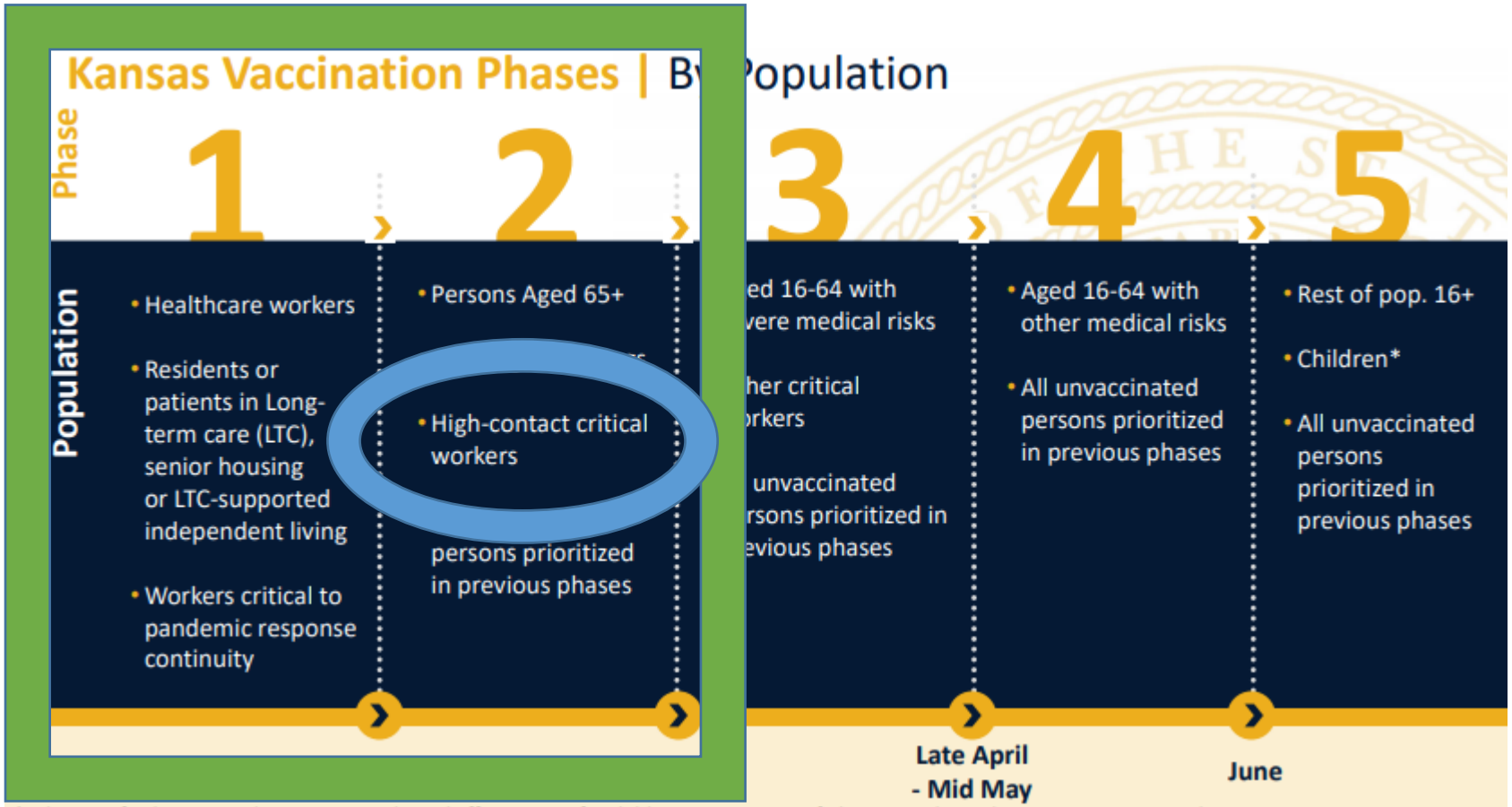


Education Week, 02/01/2021

Missouri


COVID-19 Vaccine Availability
Phase 1A
Long-Term Care Facility Residents and Staff
Healthcare Workers (Patient Facing)
EMS/EMT/Paramedics
Phase 1B
Tier 1 First Responders & Emergency
Tier 2 High Risk Individuals
Tier 3 Critical Infrastructure
Phase 2
Accelerating Economic Recovery
Disproportionately Affected Populations
Homeless
Phase 3
All Missouri Residents

Kansas


Kansas Vaccination Phases | By Population
Phase
1
2
3
4
5
Population
• Healthcare workers
• Residents or patients in Long-term care (LTC), senior housing or LTC-supported independent living
• Workers critical to pandemic response continuity
• Persons Aged 65+
• High-contact critical workers
persons prioritized in previous phases
ed 16-64 with vere medical risks
her critical orkers
unvaccinated rsons prioritized in evious phases
• Aged 16-64 with other medical risks
• All unvaccinated persons prioritized in previous phases
• Rest of pop. 16+
• Children*
• All unvaccinated persons prioritized in previous phases
Late April - Mid May
June
*Subject to further research on Vaccine risks and effectiveness for children; Note: Dates of phases are dependent upon vaccine supply.

COVID-19 Vaccine Review

Jennifer Schuster, MD MSCI
Jennifer Goldman, MD MSCR

Feb 5, 2021

Disclosure

- These slides were finalized on February 3, 2021 and some information is likely outdated

Definitions

SARS-CoV-2: Severe Acute Respiratory Syndrome Coronavirus 2

COVID-19: Coronavirus disease 2019

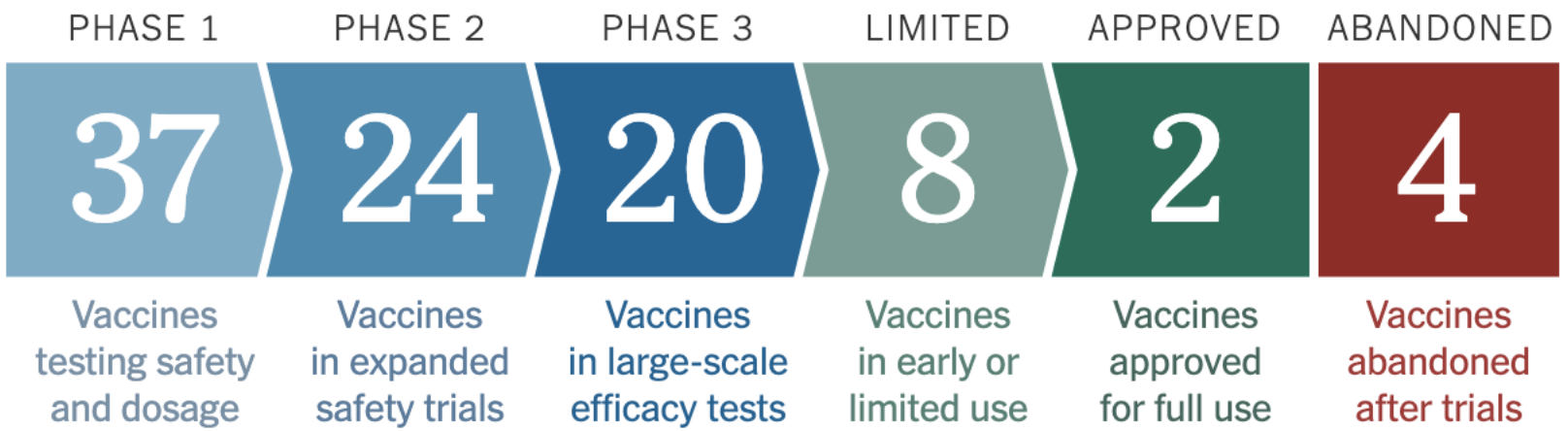
Timeline

COVID-19 pandemic (months)

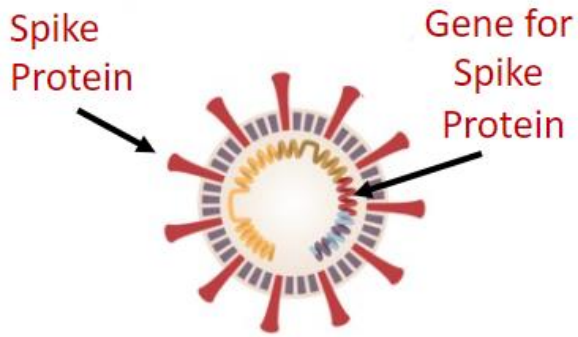
H1N1 pandemic (months)

Coronavirus Vaccine Tracker

By Carl Zimmer, Jonathan Corum and Sui-Lee Wee Updated Jan. 31, 2021

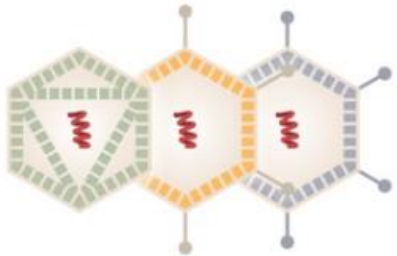


Platform	Developer
Nucleic acid	moderna
	BIONTECH Pfizer
Viral vector	University of Oxford AstraZeneca
	Janssen
	MERCK
Protein subunit	NOVAVAX
	gsk SANOFI



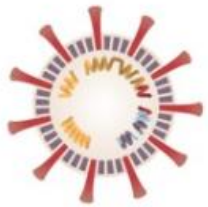
SARS-CoV-2

Genetic Vaccines
- mRNA



Recombinant Viral Vector Vaccines
- Ad5
- Ad26
- chAd

Recombinant Protein Vaccines
- Spike
- Receptor Binding Domain



Inactivated Whole Virus Vaccines

Adapted from New York Times Coronavirus Vaccine Tracker
nytimes.com/vaccinetracker

COVID-19 Prevention Network

Where did this technology come from?

Kizzmekia S. Corbett, Ph.D.

National Institutes of Health

https://abcnews.go.com/Health/kizzmekia-corbett-african-american-woman-praised-key-scientist/story?id=74679965
https://asm.org/Biographies/Kizzmekia-S-Corbett,-Ph-D

This technology has been used before

The Journal of Infectious Diseases

J Infect Dis. 2018 Feb 1; 217(3): 451–455.
Published online 2017 Dec 21. doi: 10.1093/infdis/jix592

PMCID: PMC5853918
PMID: 29281112

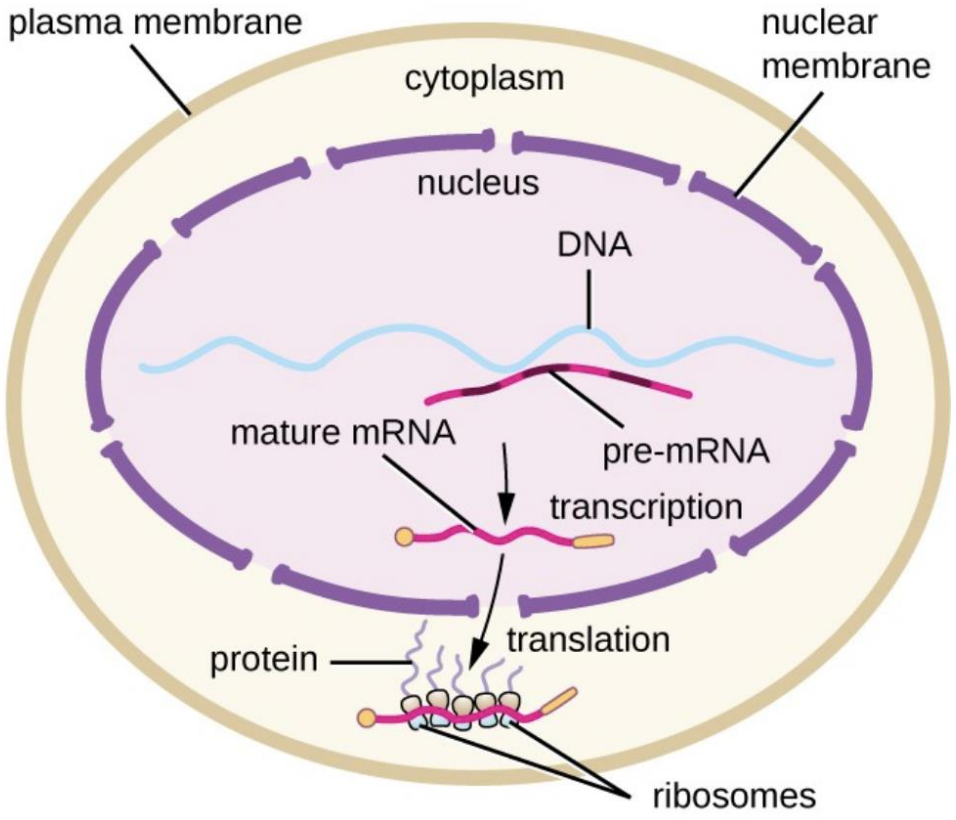
Modified mRNA-Based Vaccines Elicit Robust Immune Responses and

Safety and immunogenicity of a mRNA rabies vaccine in healthy adults: an open-label, non-randomised, prospective, first-in-human phase 1 clinical trial

Martin Alberer MD, Ulrike Gnad-Vogt MD, Henoch Sangjoon Hong PhD, Keyvan Tadjalli Mehr MD, Linus Backert MSc, Greg Finak PhD, Raphael Gottardo PhD, Mihai Alexandru Bica MD, Aurelio Garofano PhD, Sven Dominik Koch PhD, Mariola Fotin-Mleczek PhD, Ingmar Hoerr PhD, Ralf Clemens MD and Frank von Sonnenburg Prof

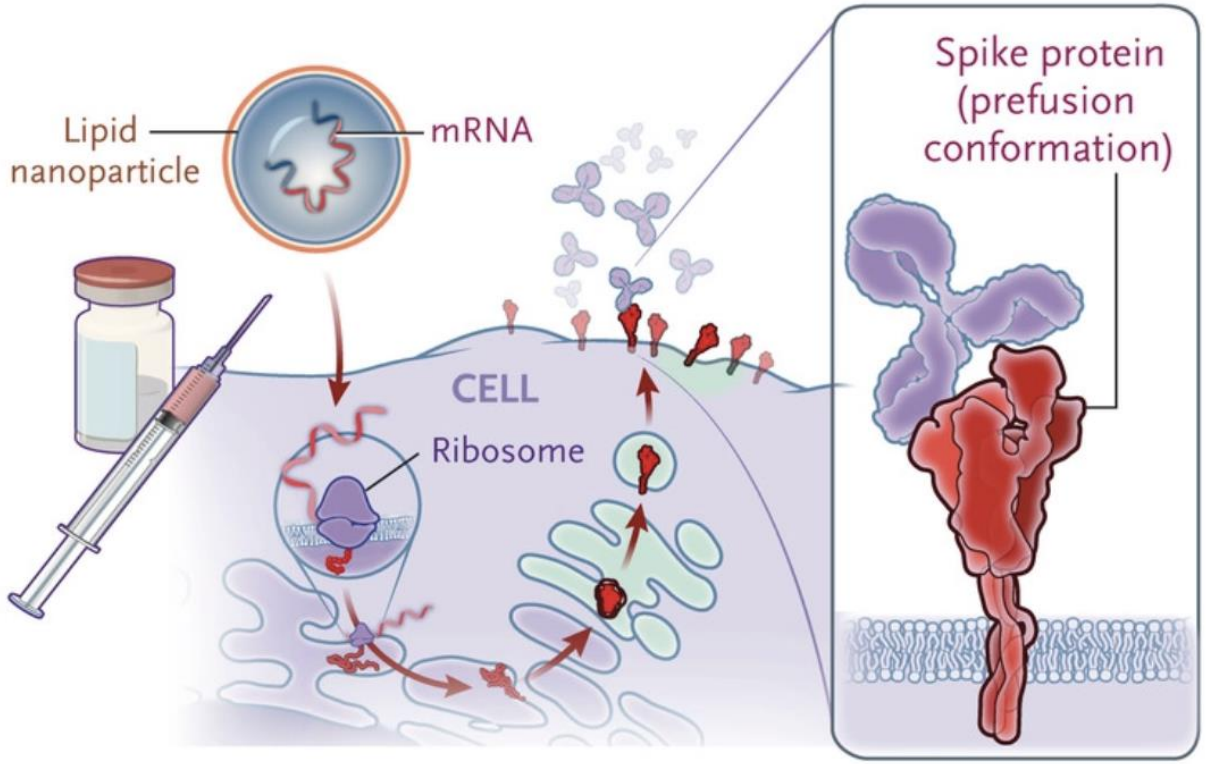
Lancet, The, 2017-09-23, Volume 390, Issue 10101, Pages 1511-1520, Copyright © 2017 Elsevier Ltd

A brief trip back to high school science class…



mRNA Vaccines (Pfizer/ Moderna)

- mRNA is labile
  - Cold storage
  - Short lived in the cell
- Studied for over a decade



Polack NEJM 2020;383:2603-15.

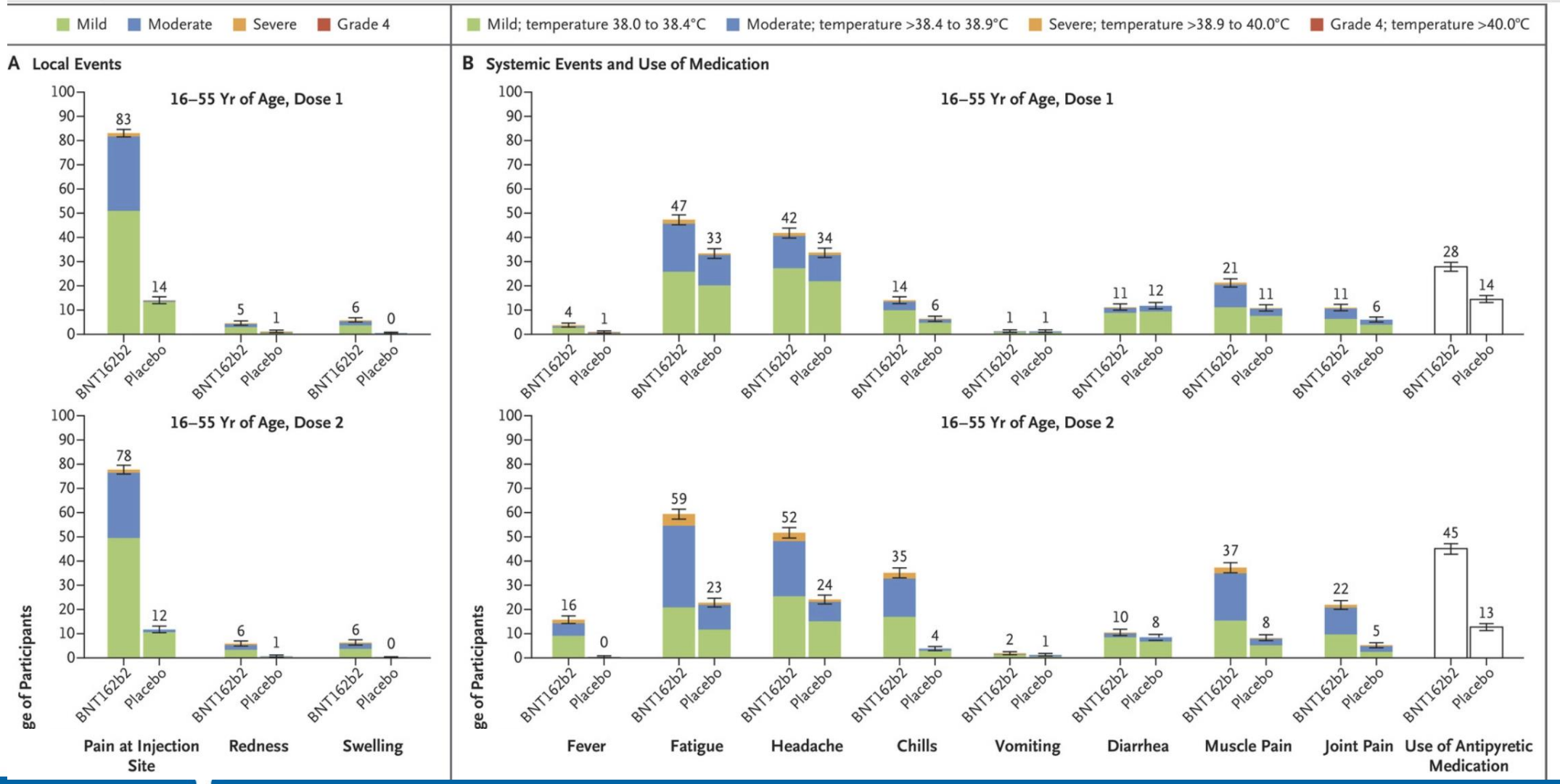
Facts

- mRNA does not live inside you forever
- mRNA does not go into your cell nucleus
- mRNA does not go into your DNA

Safety

Characteristic	BNT162b2 (N=18,860)	Placebo (N=18,846)	Total (N=37,706)
Race or ethnic group — no. (%)†			
White	15,636 (82.9)	15,630 (82.9)	31,266 (82.9)
Black or African American	1,729 (9.2)	1,763 (9.4)	3,492 (9.3)
Asian	801 (4.2)	807 (4.3)	1,608 (4.3)
Native American or Alaska Native	102 (0.5)	99 (0.5)	201 (0.5)
Native Hawaiian or other Pacific Islander	50 (0.3)	26 (0.1)	76 (0.2)
Multiracial	449 (2.4)	406 (2.2)	855 (2.3)
Not reported	93 (0.5)	115 (0.6)	208 (0.6)
Hispanic or Latinx	5,266 (27.9)	5,277 (28.0)	10,543 (28.0)
Age group — no. (%)			
16–55 yr	10,889 (57.7)	10,896 (57.8)	21,785 (57.8)
>55 yr	7,971 (42.3)	7,950 (42.2)	15,921 (42.2)

Safety



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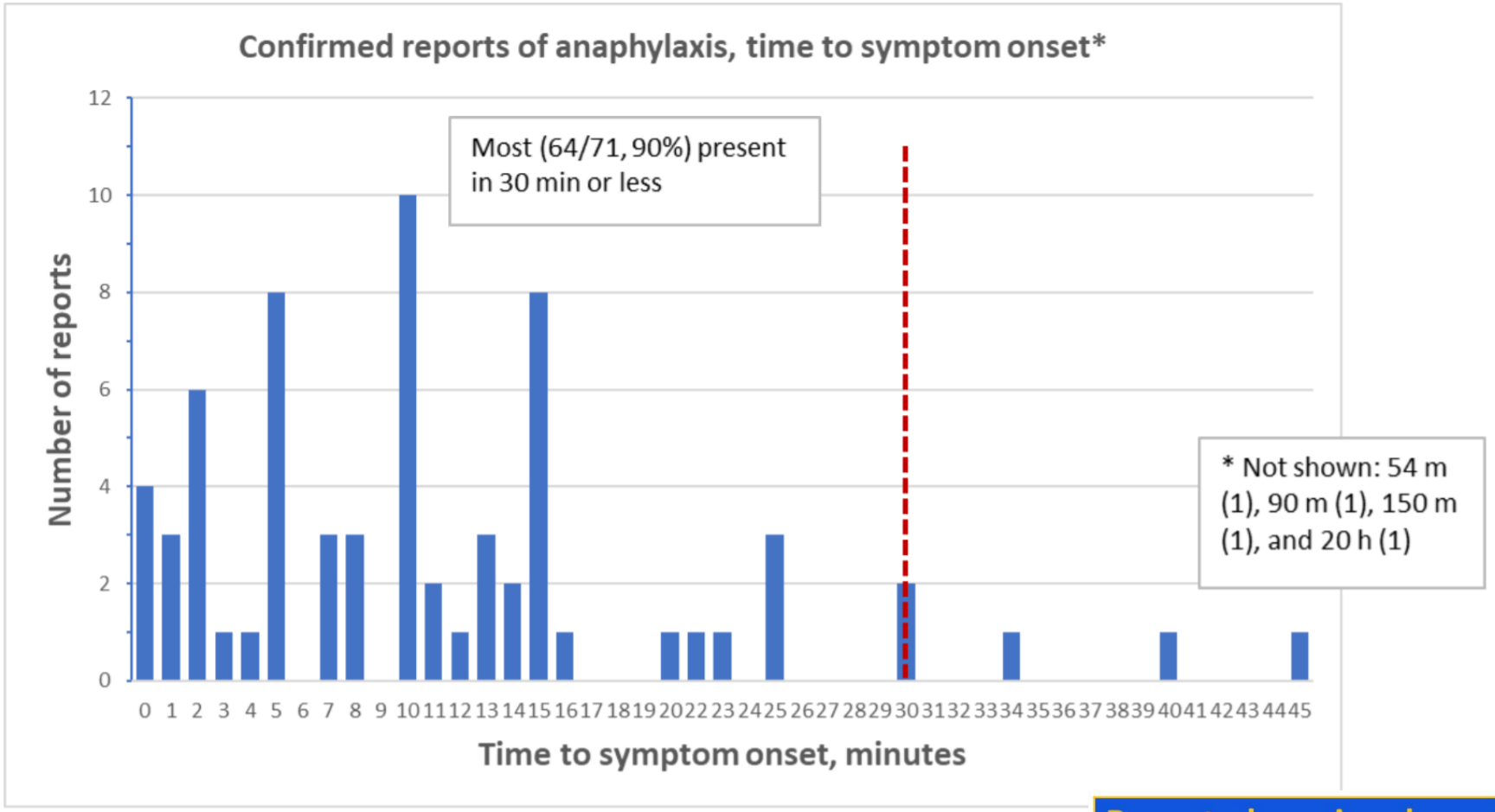


Data through January 18, 2021

Reported vaccine doses administered	Anaphylaxis cases	Reporting rate (analytic period Dec 14-Jan 18)
Pfizer-BioNTech: **9,943,247**	50	5.0 per million doses admin.
Moderna: **7,581,429**	21	2.8 per million doses admin.

Fact

- These vaccines are SAFE
- People from a variety of ages, races, and ethnic backgrounds were included
- People with a history of COVID-19 were included

V-safe After Vaccination Health Checker

Updated Jan. 21, 2021 Languages Print

V-safe data as of 1/20/2021

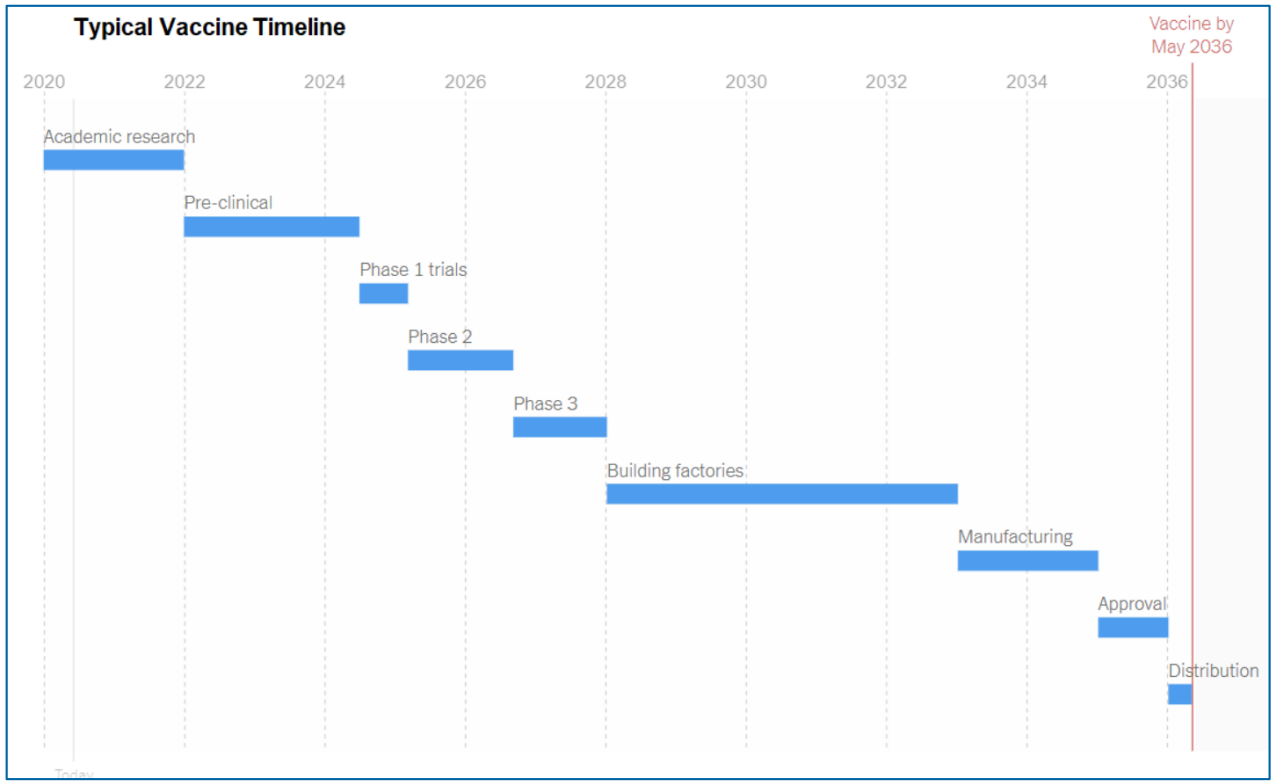
	Pfizer-BioNTech	Moderna	All COVID-19 vaccines
People receiving 1 or more doses in the United States*	12,153,536	9,689,497	21,843,033
Registrants completing at least 1 v-safe health check-in†	997,042	1,083,174	2,080,216
Pregnancies reported to v-safe	8,633	6,498	15,131

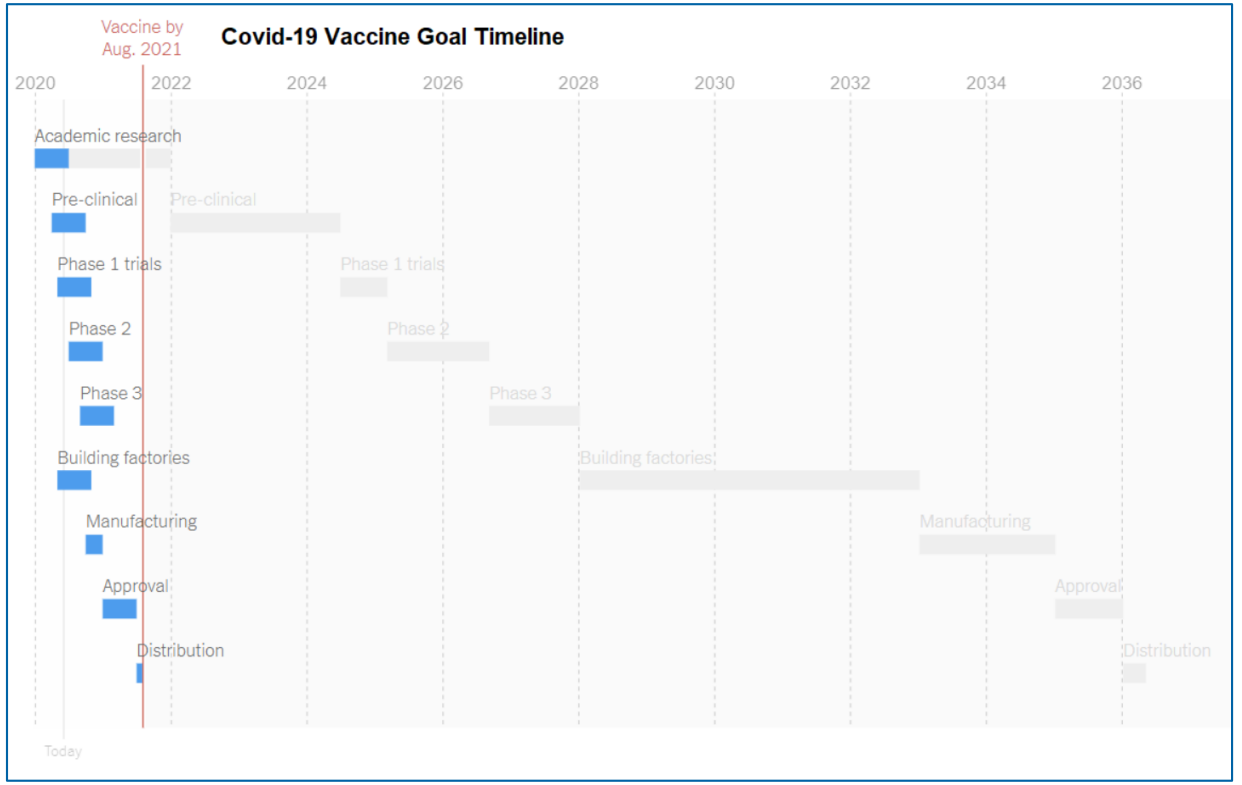
Reactogenicity reported to v-safe

Local and systemic reactions, day 0-7*,†	All vaccines %	Pfizer- BioNTech dose 1 %	Pfizer-BioNtech dose 2 %	Moderna dose 1 %
Pain	70.7	67.7	74.8	70.1
Fatigue	33.4	28.6	50.0	29.7
Headache	29.4	25.6	41.9	26.0
Myalgia	22.8	17.2	41.6	19.6
Chills	11.5	7.0	26.7	9.3
Fever	11.4	7.4	25.2	9.1
Swelling	11.0	6.8	26.7	13.4
Joint pain	10.4	7.1	21.2	8.6
Nausea	8.9	7.0	13.9	7.7

https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2021-01/06-COVID-Shimabukuro.pdf

Fact: no steps were skipped in making the vaccines





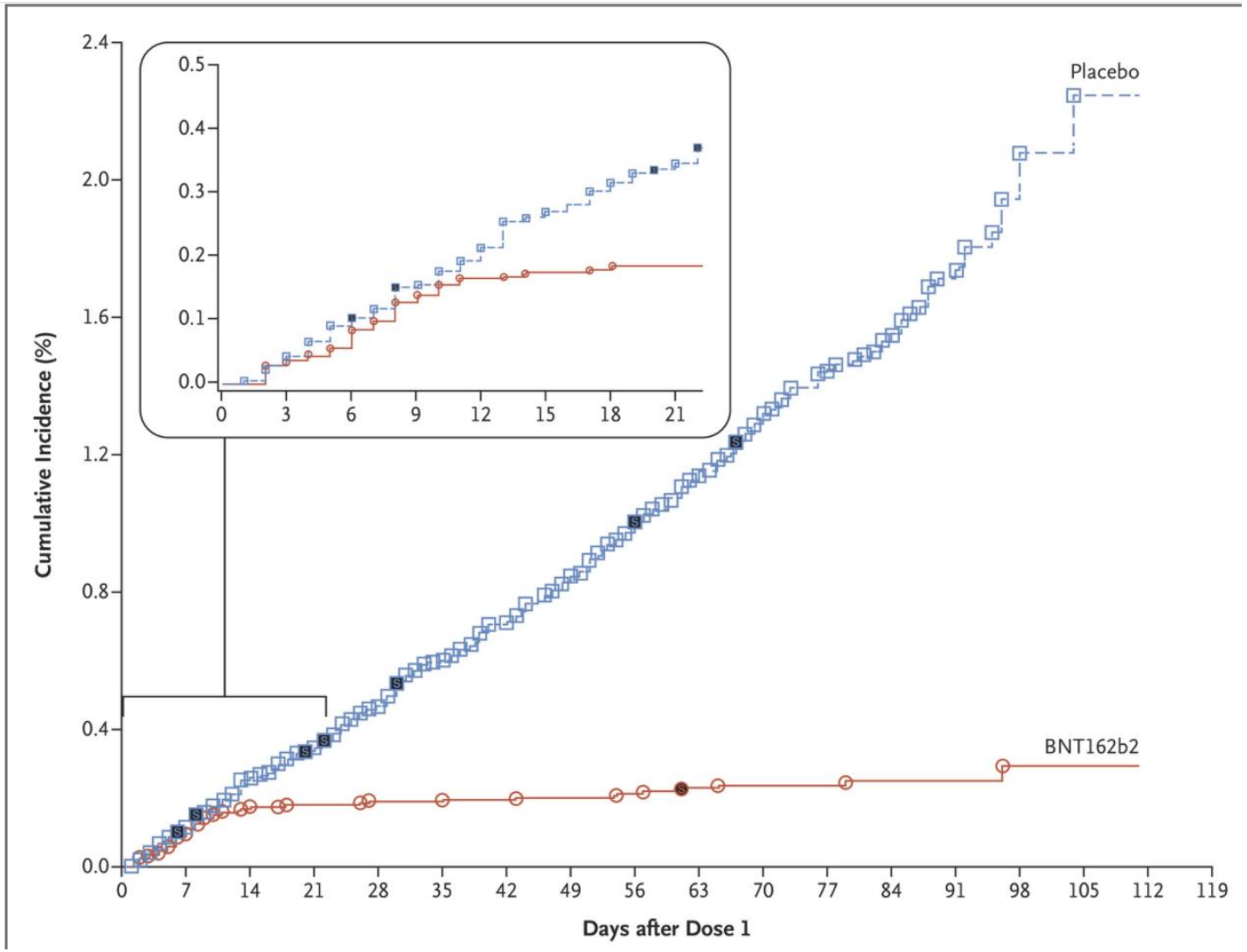
Fact

- The COVID-19 vaccines have NOT been linked to miscarriages or infertility

- The CDC, WHO, and ACOG **do not recommend withholding** COVID-19 vaccine in pregnant and lactating women

Efficacy

Both mRNA vaccines are ~95% effective in preventing COVID-19



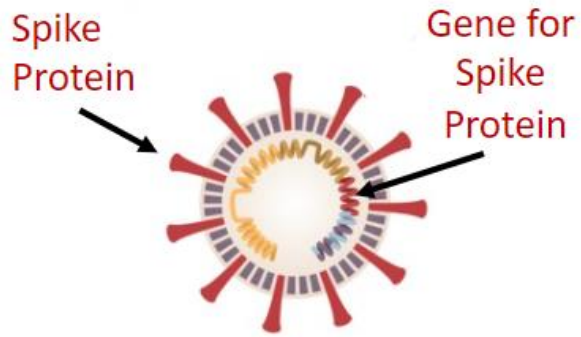
Fact

- These vaccines are really good at preventing severe disease
  - Pfizer: 1 (vaccine) vs 9 (placebo)
  - Moderna: 0 (vaccine) vs 30 (placebo)

Fact: The vaccine ingredients are readily available

WHAT ARE THE INGREDIENTS IN THE PFIZER-BIONTECH COVID-19 VACCINE?
The Pfizer-BioNTech COVID-19 Vaccine includes the following ingredients: mRNA, lipids ((4-hydroxybutyl)azanediyl)bis(hexane-6,1-diyl)bis(2-hexyldecanoate), 2 [(polyethylene glycol)-2000]-N,N-ditetradecylacetamide, 1,2-Distearoyl-sn-glycero-3-phosphocholine, and cholesterol), potassium chloride, monobasic potassium phosphate, sodium chloride, dibasic sodium phosphate dihydrate, and sucrose.

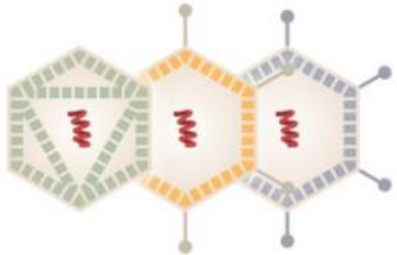
WHAT ARE THE INGREDIENTS IN THE MODERNA COVID-19 VACCINE?
The Moderna COVID-19 Vaccine contains the following ingredients: messenger ribonucleic acid (mRNA), lipids (SM-102, polyethylene glycol [PEG] 2000 dimyristoyl glycerol [DMG], cholesterol, and 1,2-distearoyl-sn-glycero-3-phosphocholine [DSPC]), tromethamine, tromethamine hydrochloride, acetic acid, sodium acetate, and sucrose.



SARS-CoV-2

COVID-19 Prevention Network

Genetic Vaccines
- mRNA



Recombinant Viral Vector Vaccines
- Ad5
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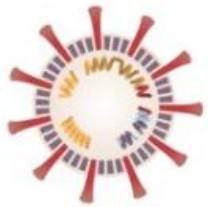
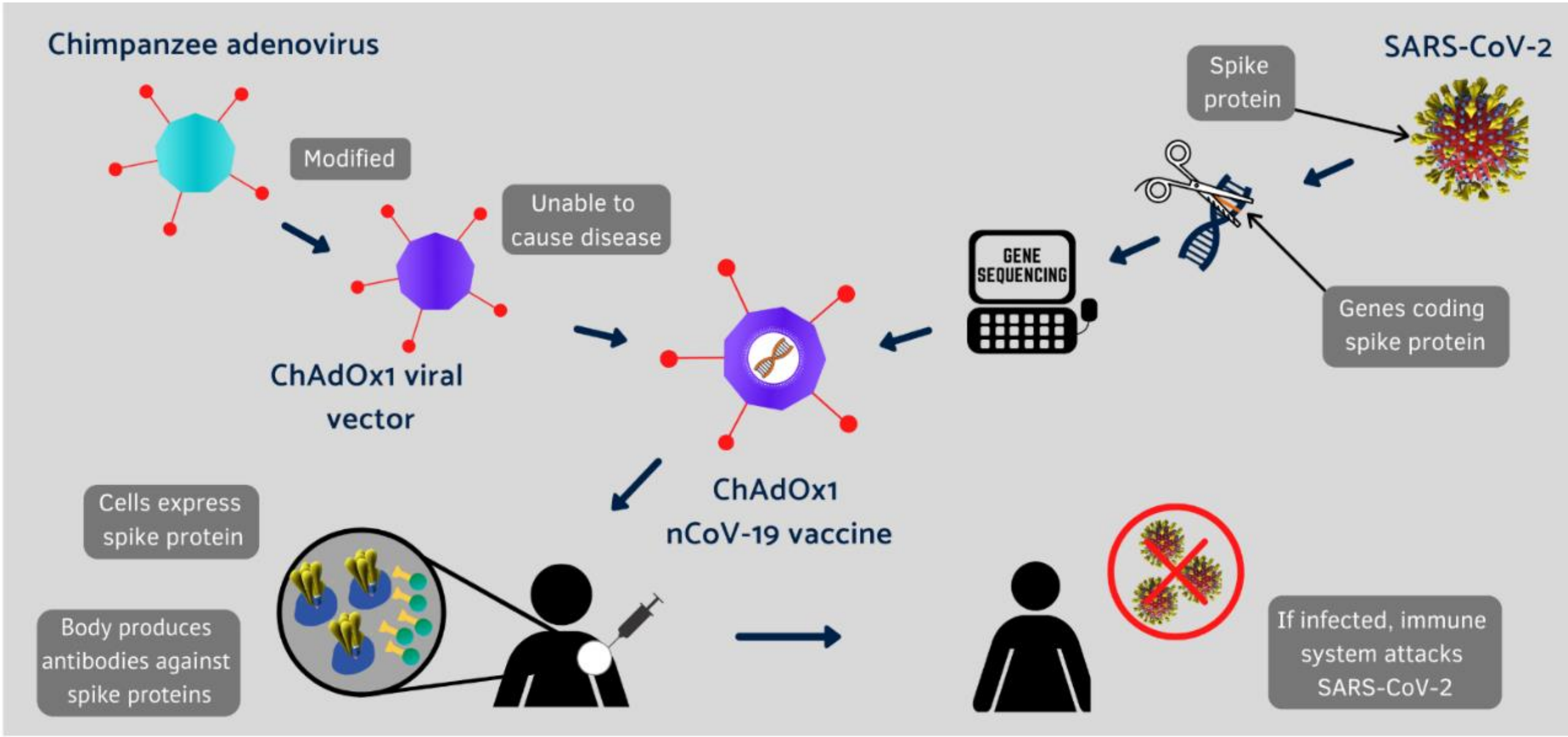
Recombinant Protein Vaccines
- Spike
- Receptor Binding Domain



Inactivated Whole Virus Vaccines

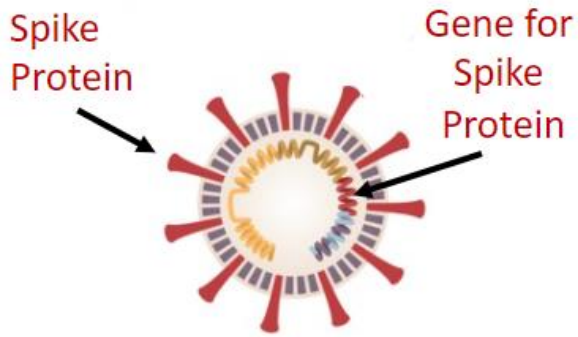
Adapted from New York Times Coronavirus Vaccine Tracker
nytimes.com/vaccinetracker

COVID-19 Astra Zeneca/ Oxford Vaccine



Viral vector vaccines

- AstraZeneca results
  - 2 dose series, easily distributable
  - 60% effective
  - 0 cases of severe disease
- Janssen/ Johnson and Johnson
  - 1 dose series, easily distributable
  - 66% effective (72% in US)
  - 85% effective against severe disease (hospitalization)



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COVID-19 Prevention Network

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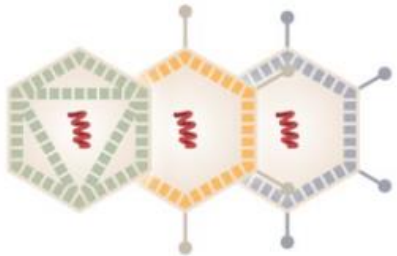

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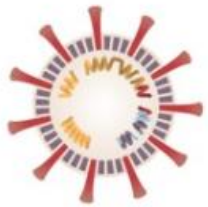
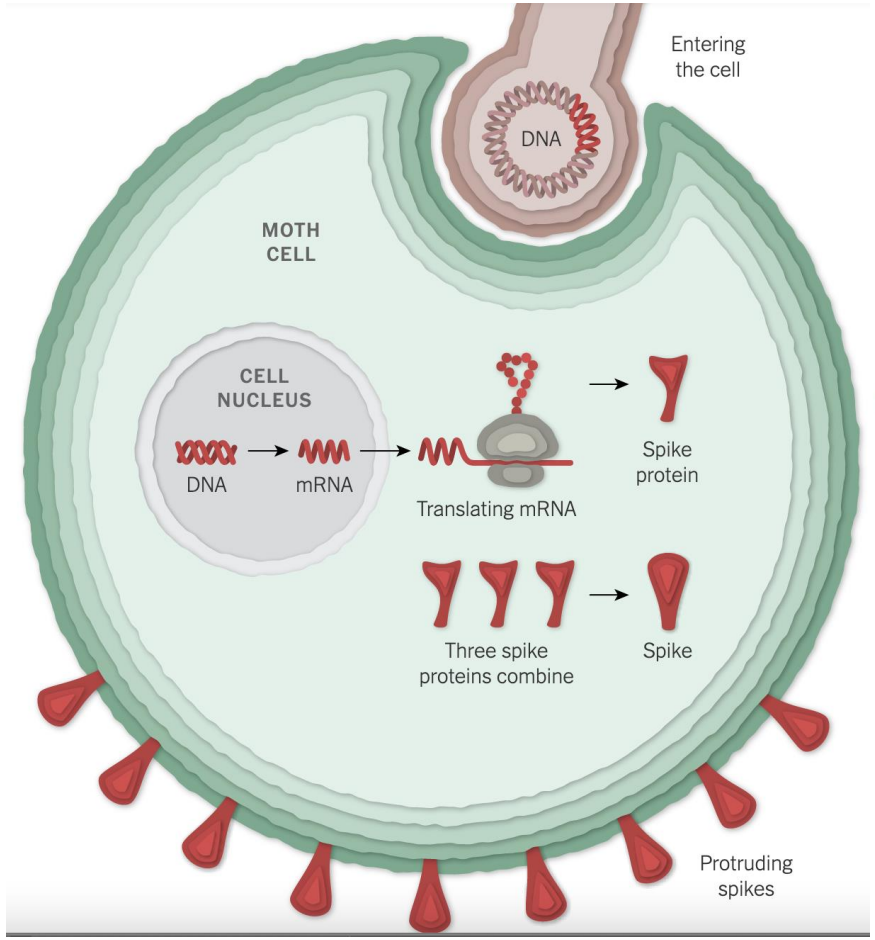
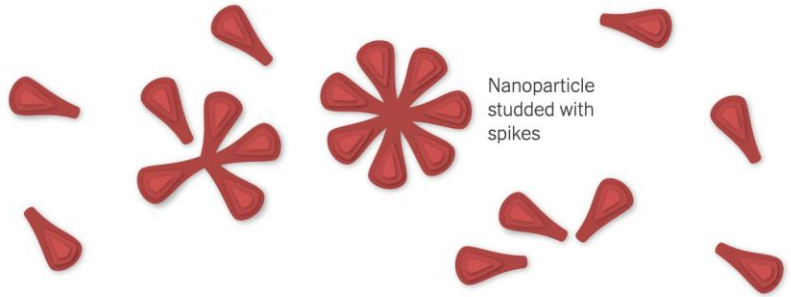


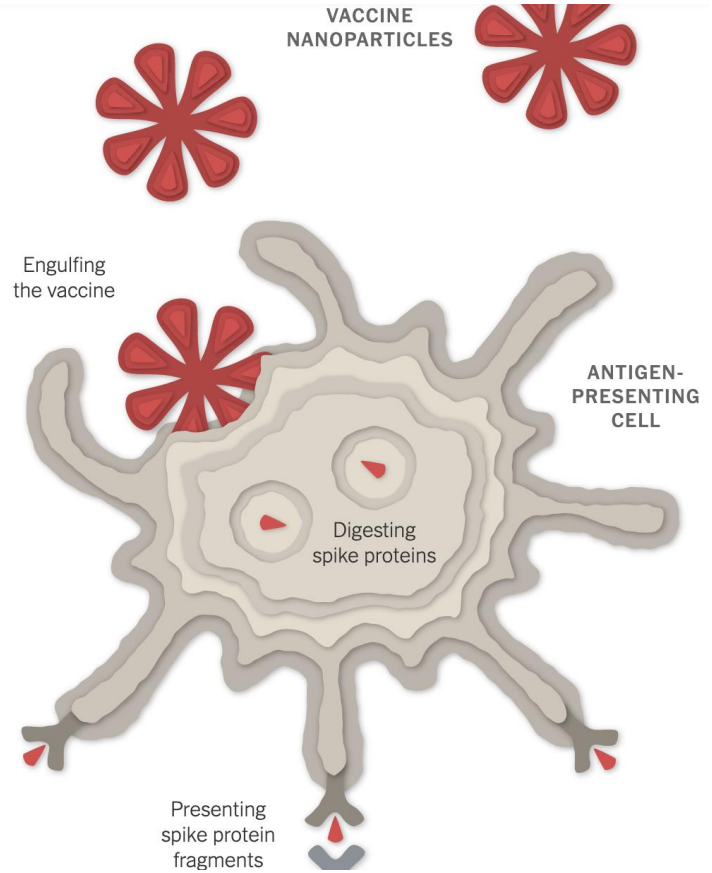
Inactivated Whole Virus Vaccines

Adapted from New York Times Coronavirus Vaccine Tracker
nytimes.com/vaccinetracker

Novavax


Entering
the cell
DNA
MOTH
CELL
CELL
NUCLEUS
DNA
mRNA
Translating mRNA
Spike
protein
Three spike
proteins combine
Spike
Protruding
spikes


Nanoparticle
studded with
spikes


VACCINE
NANOPARTICLES
Engulfing
the vaccine
ANTIGEN-
PRESENTING
CELL
Digesting
spike proteins
Presenting
spike protein
fragments

Protein subunit vaccines

- Novavax
  - 89% efficacy (6 cases in vaccine group vs 56 cases in placebo group)
    - Includes UK data
  - 60% efficacy in S. Africa
    - 15 cases in vaccine group vs 29 cases (1 severe) in placebo group

Fact

- The vaccines do NOT give you COVID-19
- The vaccines do NOT cause a positive respiratory COVID-19 test
- Some people have side effects
  - This is your body practicing fighting infection
  - It is OK to take fever/ pain relievers to feel better
  - Most go away within 24-36 hours

How will variants affect vaccines?

mRNA-1273 vaccine induces neutralizing antibodies against spike mutants from global SARS-CoV-2 variants

Kai Wu, Anne P. Werner, Juan I. Moliva, Matthew Koch, Angela Choi, Guillaume B. E. Stewart-Jones, Hamilton Bennett, Seyhan Boyoglu-Barnum, Wei Shi, Barney S. Graham, Andrea Carfi, Kizzmekia S. Corbett, Robert A. Seder, Darin K. Edwards

doi: https://doi.org/10.1101/2021.01.25.427948

This article is a preprint and has not been certified by peer review [what does this mean?].

Abstract | Full Text | Info/History | Metrics | Preview PDF

Neutralization of N501Y mutant SARS-CoV-2 by BNT162b2 vaccine-elicited sera

Xuping Xie, Jing Zou, Camila R. Fontes-Garfias, Hongjie Xia, Kena A. Swanson, Mark Cutler, David Cooper, Vineet D. Menachery, Scott Weaver, Philip R. Dormitzer, Pei-Yong Shi

doi: https://doi.org/10.1101/2021.01.07.425740

This article is a preprint and has not been certified by peer review [what does this mean?].

Abstract | Full Text | Info/History | Metrics | Preview PDF

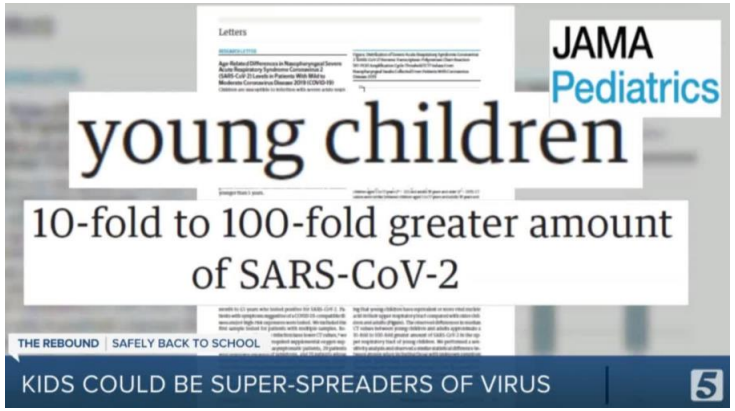
In-person school during a pandemic

Can in-person school be safe during the COVID-19 pandemic?

YES…..only with a developed plan and mitigation strategies in place

Spring 2020

- Schools closed
- No data available on COVID-19 transmission in schools
- Children considered to be potential super spreaders
- Extrapolating from other viruses



Summer/Fall 2020

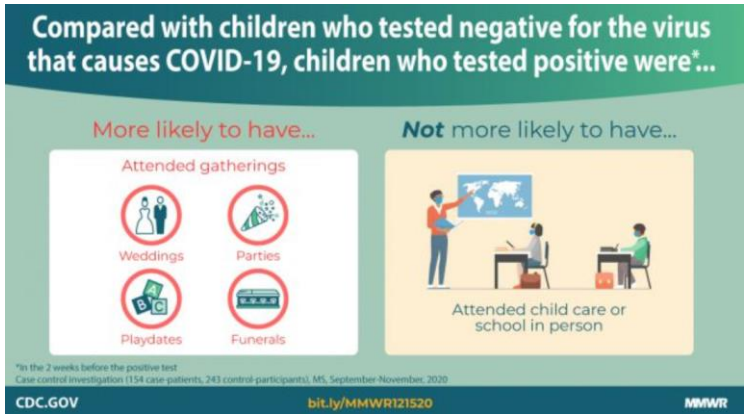
- Some schools begin to open
- Data become available on COVID-19 transmission with mitigation strategies
- Some in-person school transmission data

Transmission of SARS-CoV-2 in Australian educational settings: a prospective cohort study

*Kristine Macartney, Helen E Quinn, Alexis J Pillsbury, Archana Koirala, Lucy Deng, Noni Winkler, Anthea L Katelaris, Matthew V N O'Sullivan, Craig Dalton, Nicholas Wood, and the NSW COVID-19 Schools Study Team**

Winter 2020/2021

- Readily available data from many sources about the effectiveness of mitigation strategies in schools to decrease COVID-19 transmission
- Examples of increased transmission in schools when mitigation strategies are not followed



Fact – Children get COVID-19

Children and COVID-19: 1/28/21
Summary of State-Level Data Provided in this Report

Detail and links to state/local data sources provided in Appendix

Cumulative Number of Child COVID-19 Cases*

- 2,816,775 total child COVID-19 cases reported, and children represented 12.8% (2,816,775/21,963,445) of all cases
- Overall rate: 3,742 cases per 100,000 children in the population

Hospitalizations (24 states and NYC reported)*

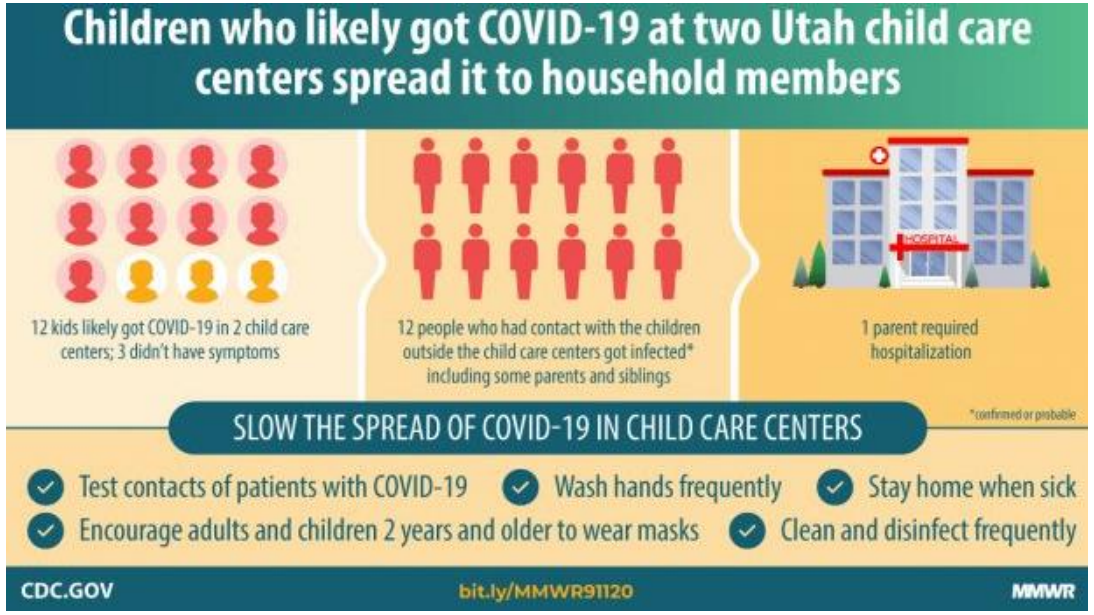
- Children were 1.2%-2.9% of total reported hospitalizations, and between 0.1%-2.5% of all child COVID-19 cases resulted in hospitalization

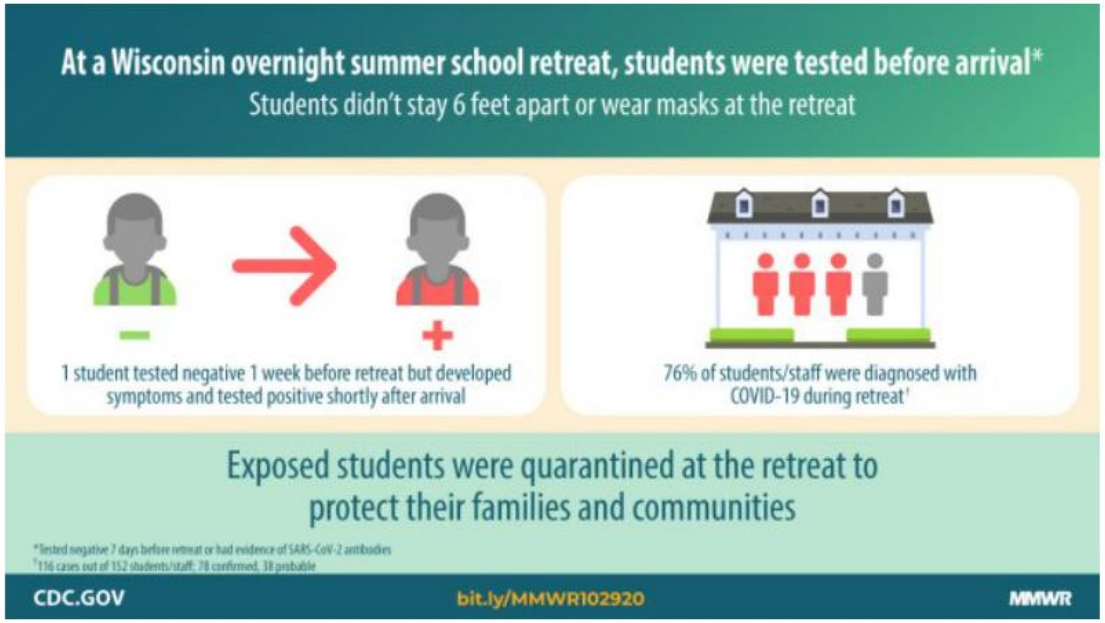
Mortality (43 states, NYC and Guam reported)*

- Children were 0.00%-0.21% of all COVID-19 deaths, and 11 states reported zero child deaths
- In states reporting, 0.00%-0.05% of all child COVID-19 cases resulted in death

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

Fact – Children can transmit SARS-CoV-2





Lopez AS et al. MMWR Weekly. September 18, 2020.
Pray IW et al. MMWR Weekly. October 30, 2020.

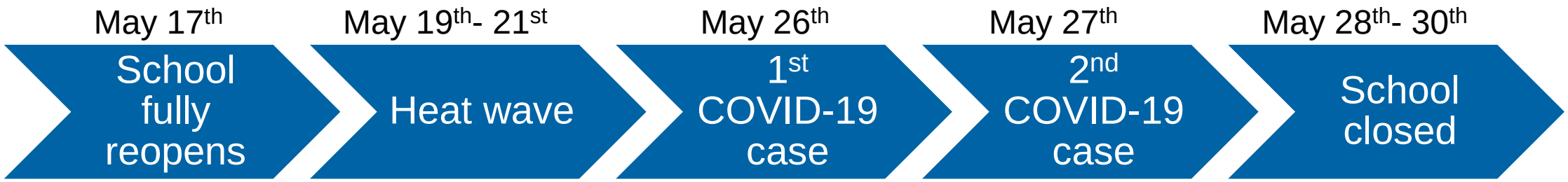
RAPID COMMUNICATION

A large COVID-19 outbreak in a high school 10 days after schools' reopening, Israel, May 2020

Chen Stein-Zamir[1,2] , Nitza Abramson[1] , Hanna Shoob[1] , Erez Libal[3] , Menachem Bitan[4] , Tanya Cardash[5] , Refael Cayam[6] , Ian Miskin[3]

1. Jerusalem District Health Office, Ministry of Health, Jerusalem, Israel
2. The Hebrew University of Jerusalem, Faculty of Medicine, Braun School of Public and Community Medicine, Jerusalem, Israel
3. Clalit health services, Jerusalem District, Jerusalem, Israel
4. Meuchedet health services, Jerusalem District, Jerusalem, Israel
5. Maccabi Healthcare services, Jerusalem and Shfela Region, Israel
6. Leumit Health Services, Jerusalem District, Jerusalem, Israel

Correspondence: Chen Stein-Zamir (chen.zamir@lbjr.health.gov.il)

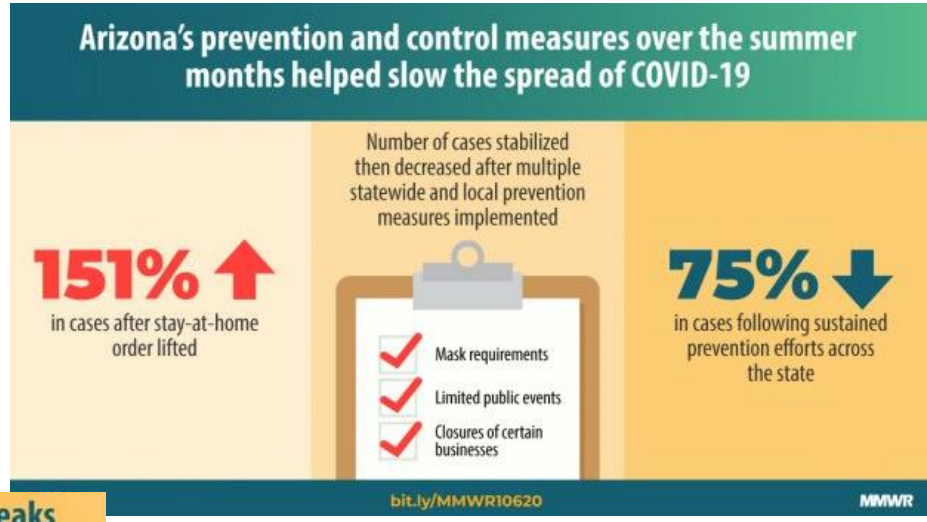


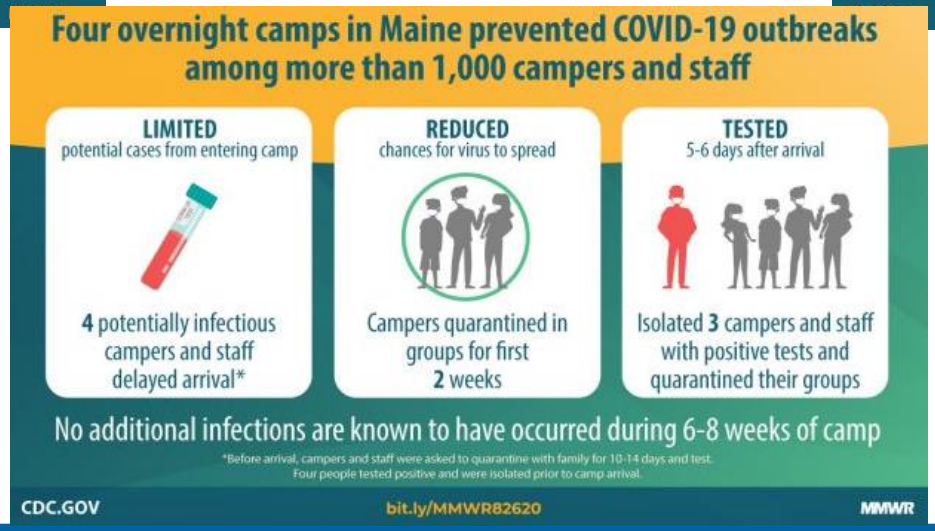
- School community tested
  - 25/151 (16.5%) staff
  - 153/1,161 (13%) students

Lessons learned

- Wear masks
  - Exempt during heat wave
- Physically distance
  - 35-38 students/ class, <3 feet apart
- Don’t come to school sick
  - Index cases were sick
- Students should be cohorted for school activities
  - Extracurricular activities, sports teams and dance classes, were mixed with high participation rates

Fact – Mitigation strategies decrease transmission of SARS-CoV-2





LOVE WILL.

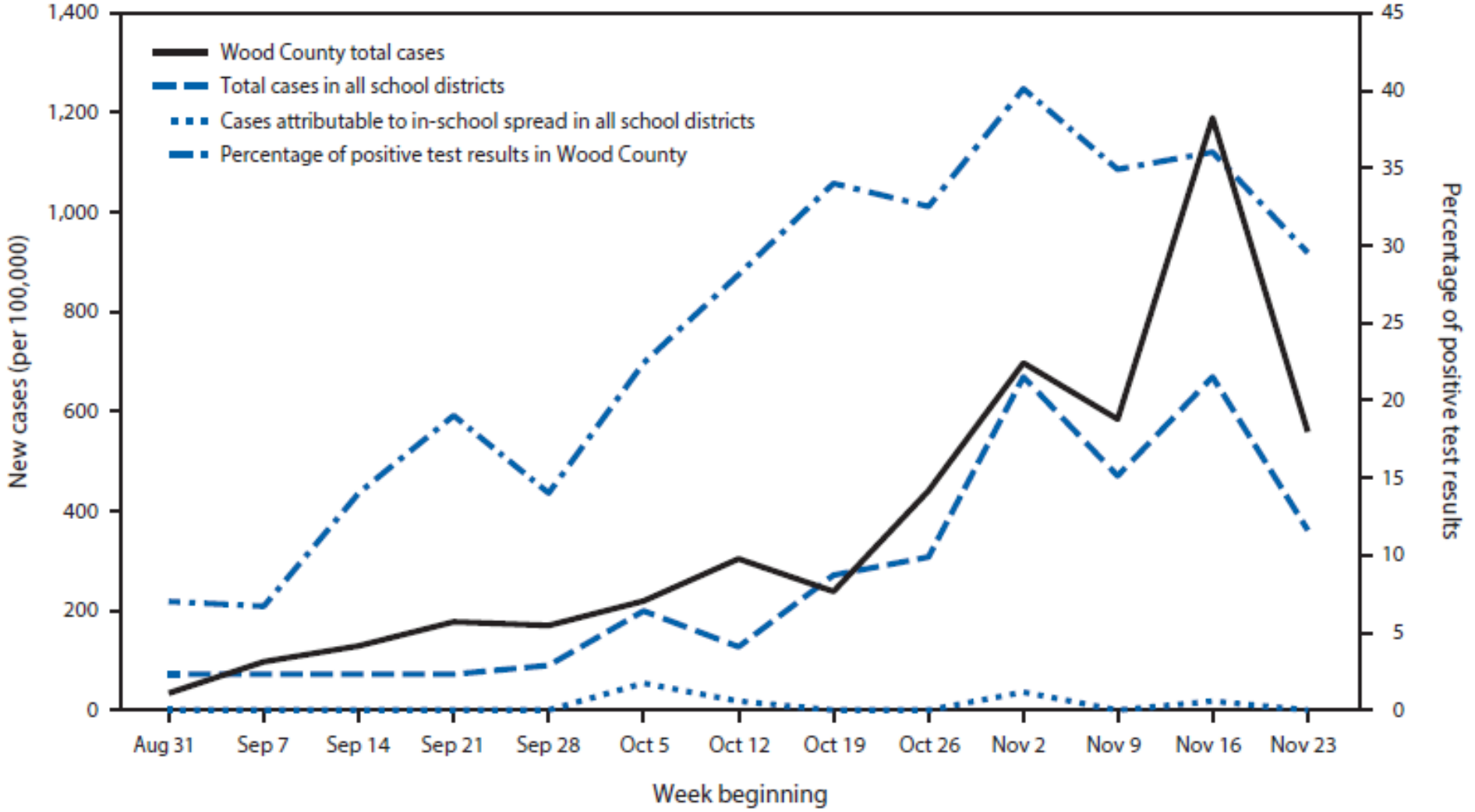
Hendrix MJ et al. MMWR Weekly. July 17, 2020.
Blaisdell LL et al. MMWR Weekly. September 4, 2020.
Gallaway MS et la. MMWR Weekly. October 9, 2020.

Children's Mercy

Fact – Mitigation strategies decrease transmission of SARS-CoV-2 in schools

MASK
PHYSICAL DISTANCE
HAND HYGIENE
CLEANING
CONTACT TRACING

FIGURE 2. Community and school-associated COVID-19 incidence (cases per 100,000) and percentage of positive test results, by week — Wood County, Wisconsin, August 31–November 29, 2020



Abbreviation: COVID-19 = coronavirus disease 2019.

K-12 schools can have in-person learning with limited in-school COVID-19 spread

17 K-12 schools in rural Wisconsin opened and implemented measures to limit spread:

- Used masks
- Established groups of 11-20 students
- Staff maintained 6 feet of distance, if possible
- Quarantined after exposures

* Weekly incidence of 34 to 1,189 per 100,000 persons in the community; 7-40% positive COVID-19 tests

Teachers reported more than 92% of students used masks

During 13 weeks of in-person learning

7 of 4,876 students
and
0 of 654 staff
are known to have gotten COVID-19 at school

No spread is known to have occurred to or from staff in school despite some times with high community spread*

CDC.GOV bit.ly/MMWR12621 MMWR

PEDIATRICS

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

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

11 school districts were open for in-person instruction for all 9 weeks of the first quarter

>90,000 students and staff attended school in-person
773 community-acquired SARS-CoV-2 infections were documented
32 infections were acquired within schools
No child-to-adult transmission of SARS-CoV-2

Morbidity and Mortality Weekly Report

Factors Associated with Positive SARS-CoV-2 Test Results in Outpatient Health Facilities and Emergency Departments Among Children and Adolescents Aged <18 Years — Mississippi, September–November 2020

Charlotte V. Hobbs, MD[1]; Lora M. Martin, MSN[1,2]; Sara S. Kim, MPH[3]; Brian M. Kirmse, MD[1]; Lisa Haynie, PhD[2]; Sarah McGraw, MSN[1,2]; Paul Byers, MD[4]; Kathryn G. Taylor, MD[4]; Manish M. Patel, MD[3]; Brendan Flannery, PhD[3]; CDC COVID-19 Response Team

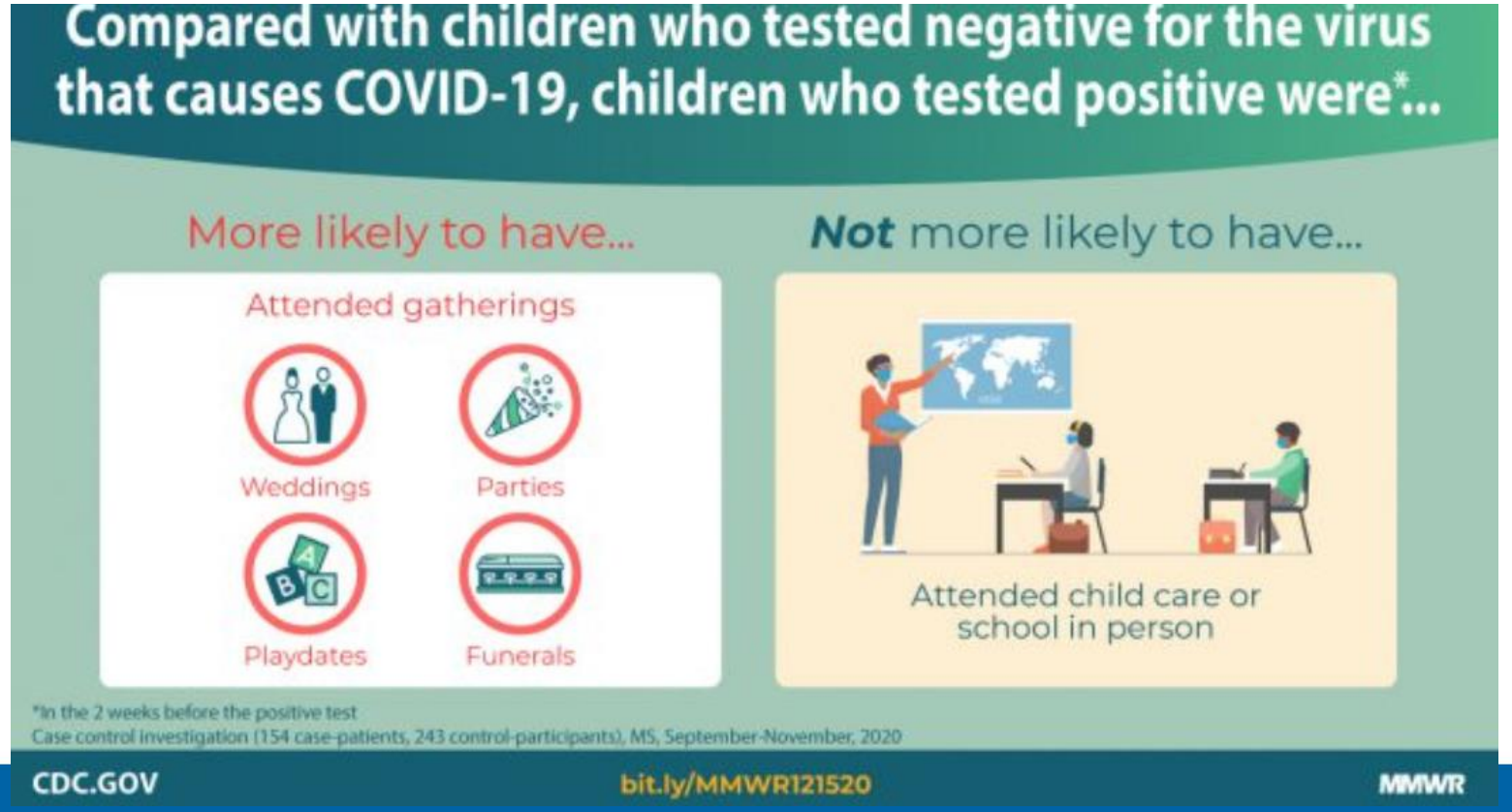


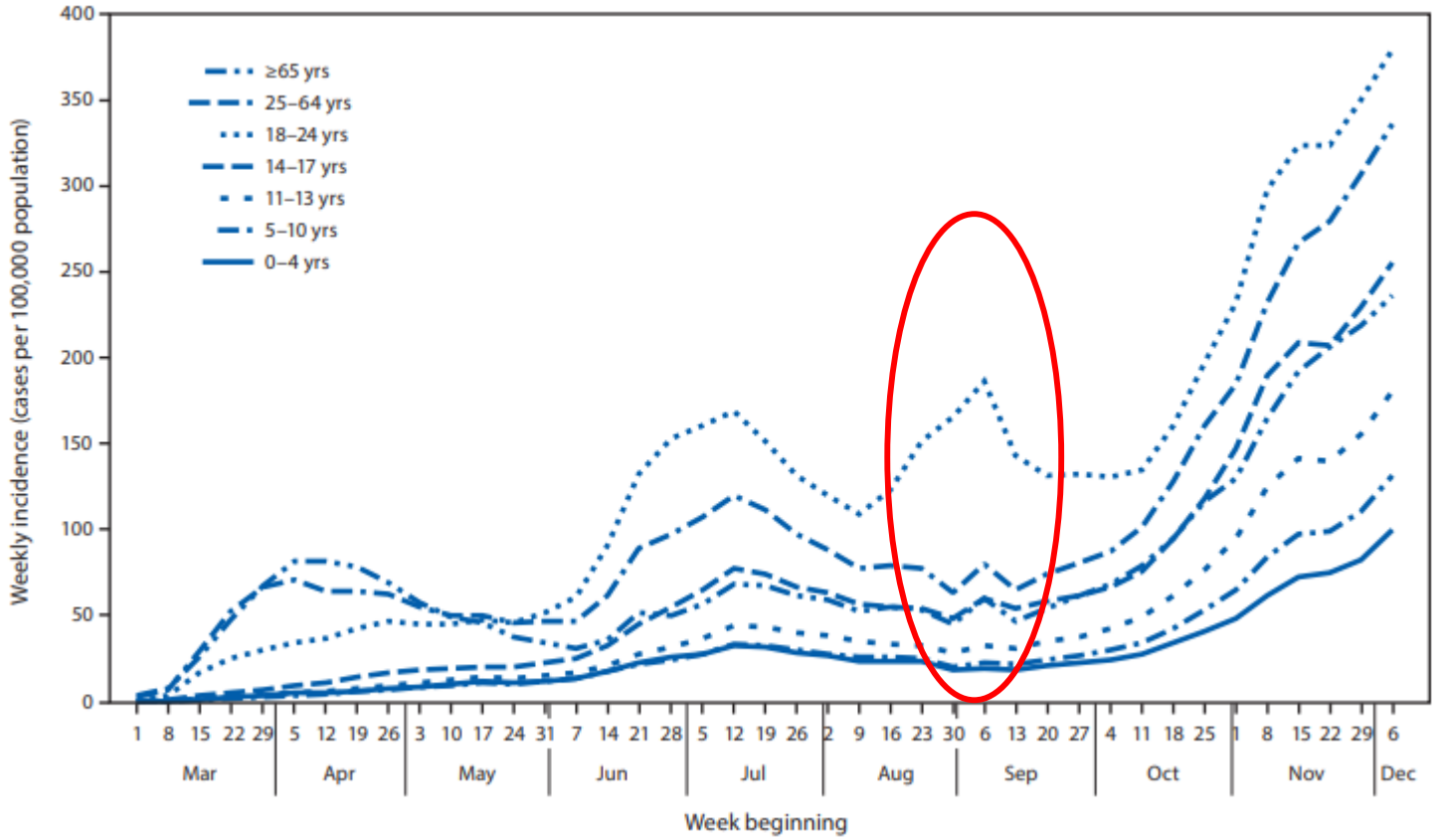
TABLE. Characteristics of children and adolescents aged <18 years who received positive and negative SARS-CoV-2 test results (N = 397)* — Mississippi, September–November 2020

Return

Characteristic	No. (%) Case-patients (n = 154)	Control-participants (n = 243)	P-value†
Relationship to close contact with known COVID-19§ (n = 204)			
Family member	67 (64)	48 (48)	0.02
Friend	8 (8)	15 (15)	0.10
School classmate	16 (15)	27 (27)	0.04
School or child care exposure ≤14 days before SARS-CoV-2 test¶ (missing = 7)			0.24
In classroom or child care	95 (62)	161 (68)	
At home	58 (38)	76 (32)	
Among participants attending school or child care (n = 256)¶			
Days per week, mean	4.6 (0.9)	4.5 (1.0)	0.24
Hybrid model with some days at home	18 (19)	36 (23)	0.46
>10 students per classroom	60 (76)	96 (72)	0.45
Indoor school activities	17 (19)	29 (19)	1.00

COVID-19 Trends Among Persons Aged 0–24 Years — United States, March 1–December 12, 2020

FIGURE 1. COVID-19 weekly incidence,*,† by age group — United States, March 1–December 12, 2020§



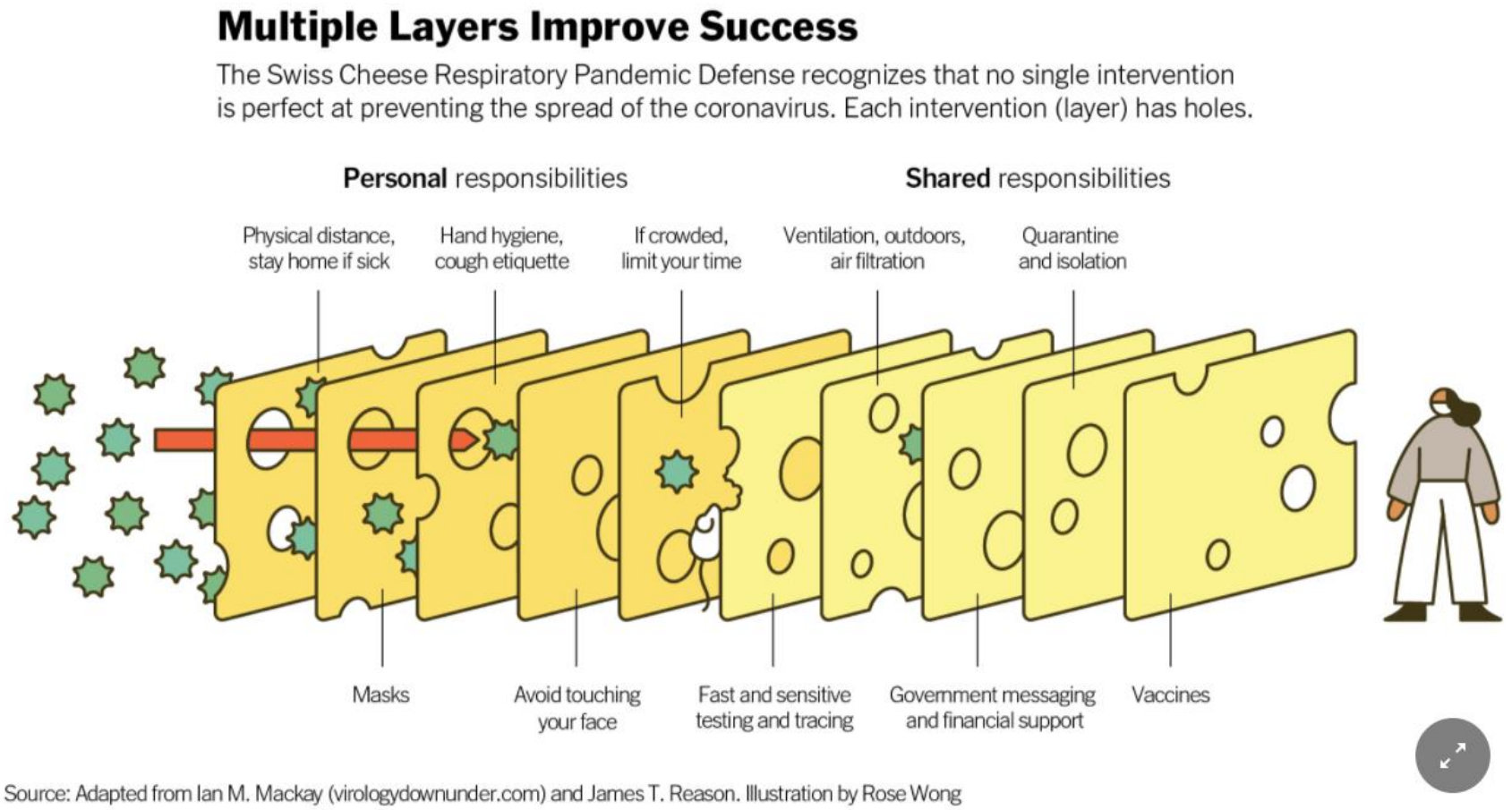
- 62% K–12 offered full or partial in-person learning
- COVID-19 incidence in general population with:
  - in-person education (401 per 100,000)
  - virtual/online education (418 per 100,000)

Morbidity and Mortality Weekly Report

COVID-19 Trends Among Persons Aged 0–24 Years — United States, March 1–December 12, 2020

- Schools provide a structured environment that can support adherence to mitigation strategies
- When community transmission is high, cases in schools should be expected, and as with any group setting, schools can contribute to COVID-19 transmission, especially when mitigation measures are not implemented

The Swiss Cheese Model



Racial and Ethnic Differences in Parental Attitudes and Concerns About School Reopening During the COVID-19 Pandemic — United States, July 2020

Leah K. Gilbert, MD[1]; Tara W. Strine, PhD[1]; Leigh E. Szucs, PhD[1]; Tamara N. Crawford, DBH[1]; Sharyn E. Parks, PhD[1]; Danielle T. Barradas, PhD[1]; Rashid Njai, PhD[1]; Jean Y. Ko, PhD[1]

TABLE 3. Parental attitudes and concerns about school reopening strategies and mask mandates, by race/ethnicity — ENGINE Insights, United States, 2020

Questions and responses	Racial/Ethnic group, % (95% CI)				
	Overall*	White, non-Hispanic*	Black, non-Hispanic *	Hispanic or Latino*	Other,† non-Hispanic*
In light of the COVID-19 pandemic, how comfortable would you be with the following:					
Your children's school(s) reopening at full capacity in the fall					
Very comfortable/Somewhat comfortable	52.7 (48.9–56.4)	57.1 (52.4–61.8)	43.0 (32.0–53.9)§	53.3 (44.7–61.9)	32.5 (20.1–44.9)§,¶
Your children's school(s) reopening at 50% capacity in the fall, with the other 50% dedicated to virtual learning					
Very comfortable/Somewhat comfortable	66.2 (62.6–69.8)	67.9 (63.5–72.4)	58.2 (47.1–69.3)	67.1 (59.0–75.2)	64.8 (52.1–77.6)
Your children's school(s) reopening in the fall exclusively with virtual learning					
Very comfortable/Somewhat comfortable	69.7 (66.2–73.2)	69.1 (64.7–73.6)	73.3 (63.7–82.9)	69.8 (61.8–77.9)	66.7 (53.9–79.6)
When school resumes in the fall, do you believe wearing masks/facial coverings should be mandated for everyone (both students and staff)?					
Yes, at all times	68.3 (64.8–71.8)	62.5 (57.9–67.1)	73.1 (63.4–82.7)	79.5 (72.7–86.4)§	66.9 (54.2–79.5)§

School closure significantly increases the risks for:

(1) physical health
(2) addiction to video games and binge watching
(3) alteration of circadian rhythms
(4) profound effect on academic achievement

November 23, 2020

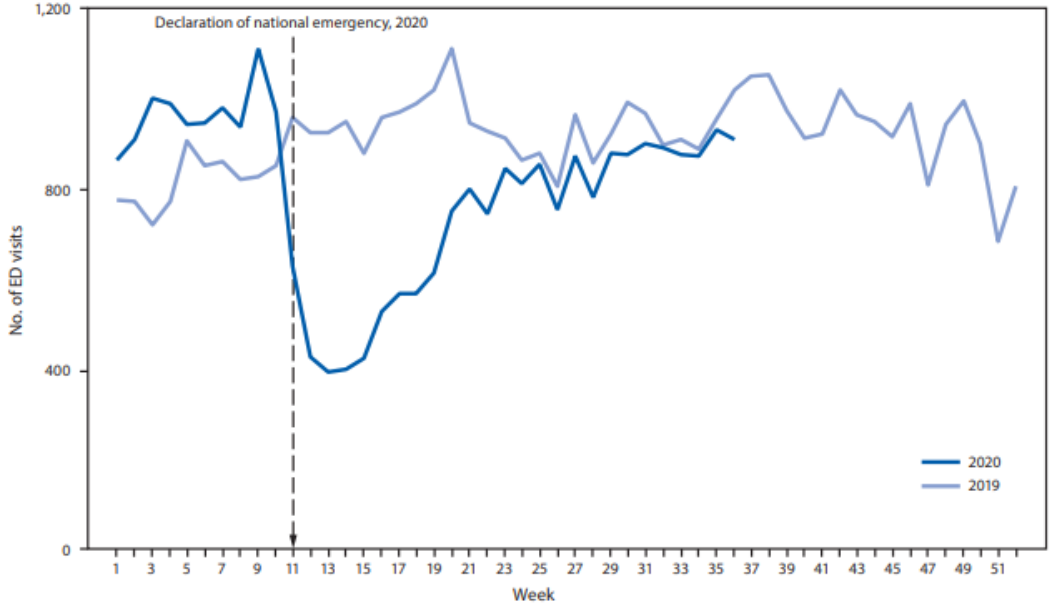
Coronavirus Disease 2019 and Effects of School Closure for Children and Their Families

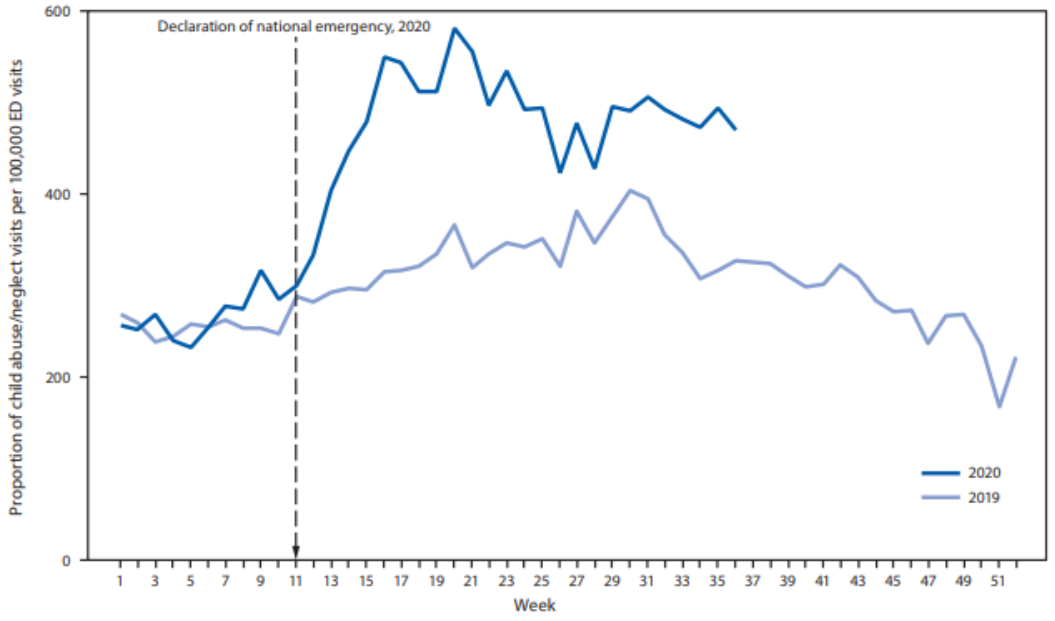
Michele Poletti, PsyD[1]; Andrea Raballo, MD, PhD[2,3]

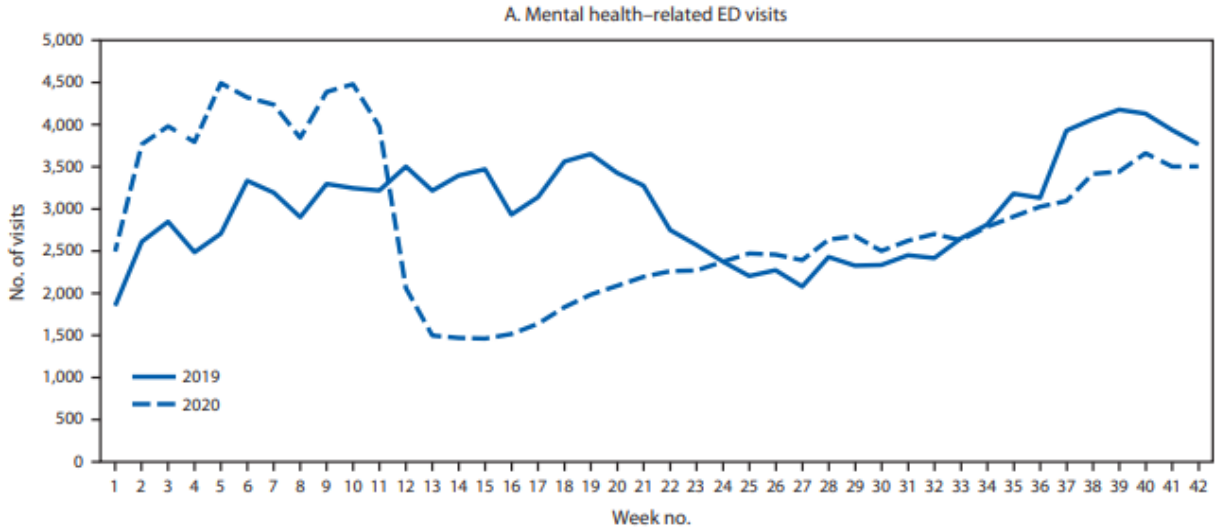
» Author Affiliations | Article Information

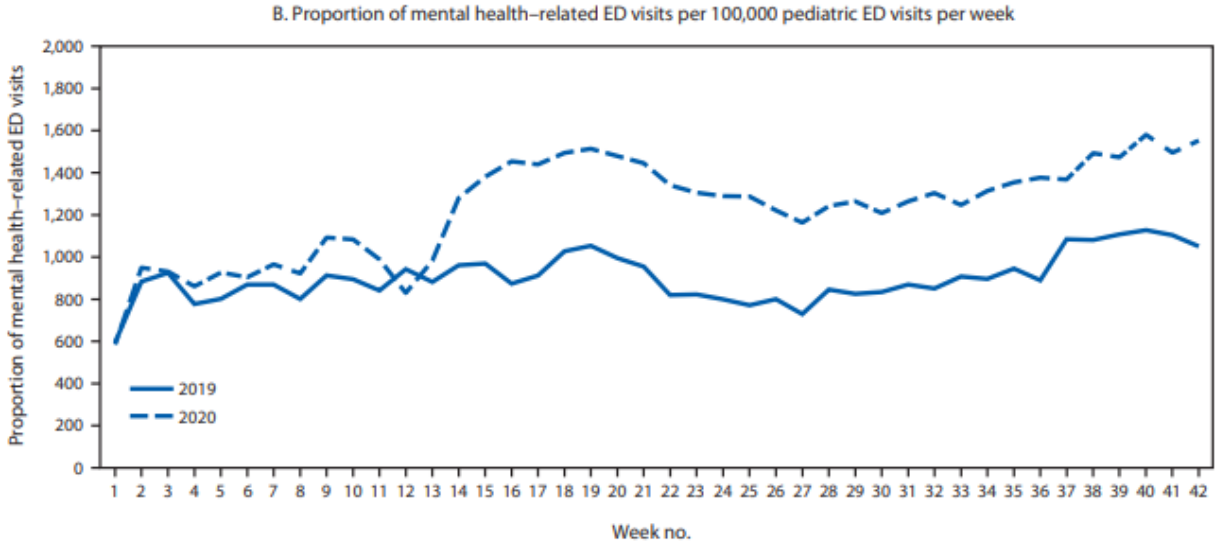
JAMA Pediatr. Published online November 23, 2020. doi:10.1001/jamapediatrics.2020.3586

Trends in ED Visits Related to Abuse/Neglect & Mental Health in Children < 18









Conclusions

- COVID-19 vaccines are safe and effective
- Mitigation strategies work
- Mitigation strategies work in the school setting
- Be ready to address the pandemic effects on children

Sports Medicine at Children's Mercy

COVID – 19 and Return to Sports Recommendations

Amol Purandare, MD

Brian Harvey, DO

Sports Medicine Center
CHILDREN'S MERCY KANSAS CITY

UMKC School of Medicine

BEST CHILDREN'S HOSPITALS U.S.News WORLD REPORT ORTHOPEDICS 2017-18

COVID – 19 (SARS-CoV2)

- Changed sports as we knew it
- Affects all organs
- For athletes there are 2 primary health concerns
  - Physical Deconditioning
  - Potential heart involvement

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Physical Deconditioning

- COVID-19 has affected fitness in two ways
  - Reduced or limited training for infection prevention
  - Reduced or limited play after symptomatic infection
- Effects may not be obvious
- Children are at risk for long term complications

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COVID-19: Cardiac (Heart)

- Heart Concerns
  - Inflammation of the heart
  - Arrhythmia
  - Cardiac arrest on the field of play
- Heart Symptoms
  - Chest Pain, Shortness of Breath
  - Dizziness, passing out, near passing out, fatigue

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What to do after a SARS-CoV2 (COVID-19) Infection

- Recommendations may differ
  - American Academy of Pediatrics
  - American College of Cardiology
  - Professional
  - Collegiate
  - High School, Middle School, Elementary school
  - State to state

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Children's Mercy Recommendations

- Severity Broken down into groups
  - Age
    - Less Than 12 years old
    - Greater Than 12 years old
  - Symptom Duration (cough, sore throat, fever, fatigue, diarrhea etc)
    - Mild - Less than 4 days
    - Moderate - Greater than 4 days, non-ICU hospitalization
    - Severe – MIS-C, ICU hospitalization

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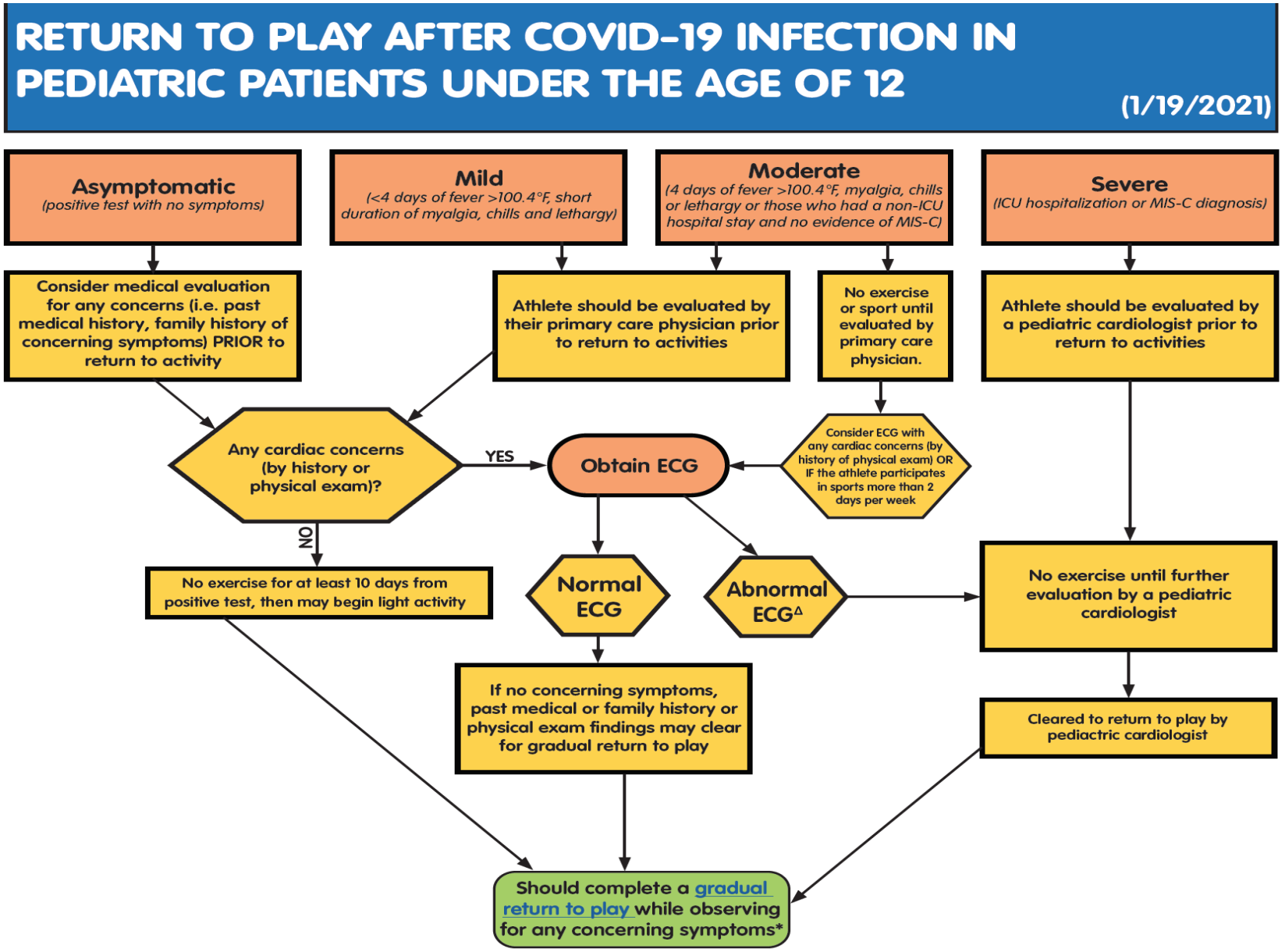
Children's Mercy – Under 12



COVID–19: Asymptomatic (no symptoms)

- Consider an evaluation by their primary care physician prior to the return to sport
- Cleared to do light exercise after 10 days from positive test
  - Monitoring for symptoms during this 10-day isolation period
- A gradual return to play while observing for cardiac (heart) symptoms is recommended

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COVID–19: Mild Infection

- Athletes should be evaluated by their primary care physician **PRIOR** to the return to sport
- Cleared to do light exercise after 10 days from positive test
  - Monitoring for symptoms during this 10-day isolation period
- Once cleared, a gradual return to play while observing for cardiac (heart) symptoms is recommended

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COVID-19: Moderate

- Athlete should be evaluated by their primary care physician **PRIOR** to the return to sport
- No exercise until cleared by their primary care physician
  - Monitoring for symptoms during this 10 day isolation period
- Once cleared, a gradual return to play while observing for cardiac (heart) symptoms is recommended

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COVID-19: Severe

- Athlete should be evaluated by a pediatric cardiologist
- **No exercise** until further evaluation by pediatric cardiologist
- If cleared by cardiology may then begin a gradual return to play while observing for any cardiac (heart) symptoms

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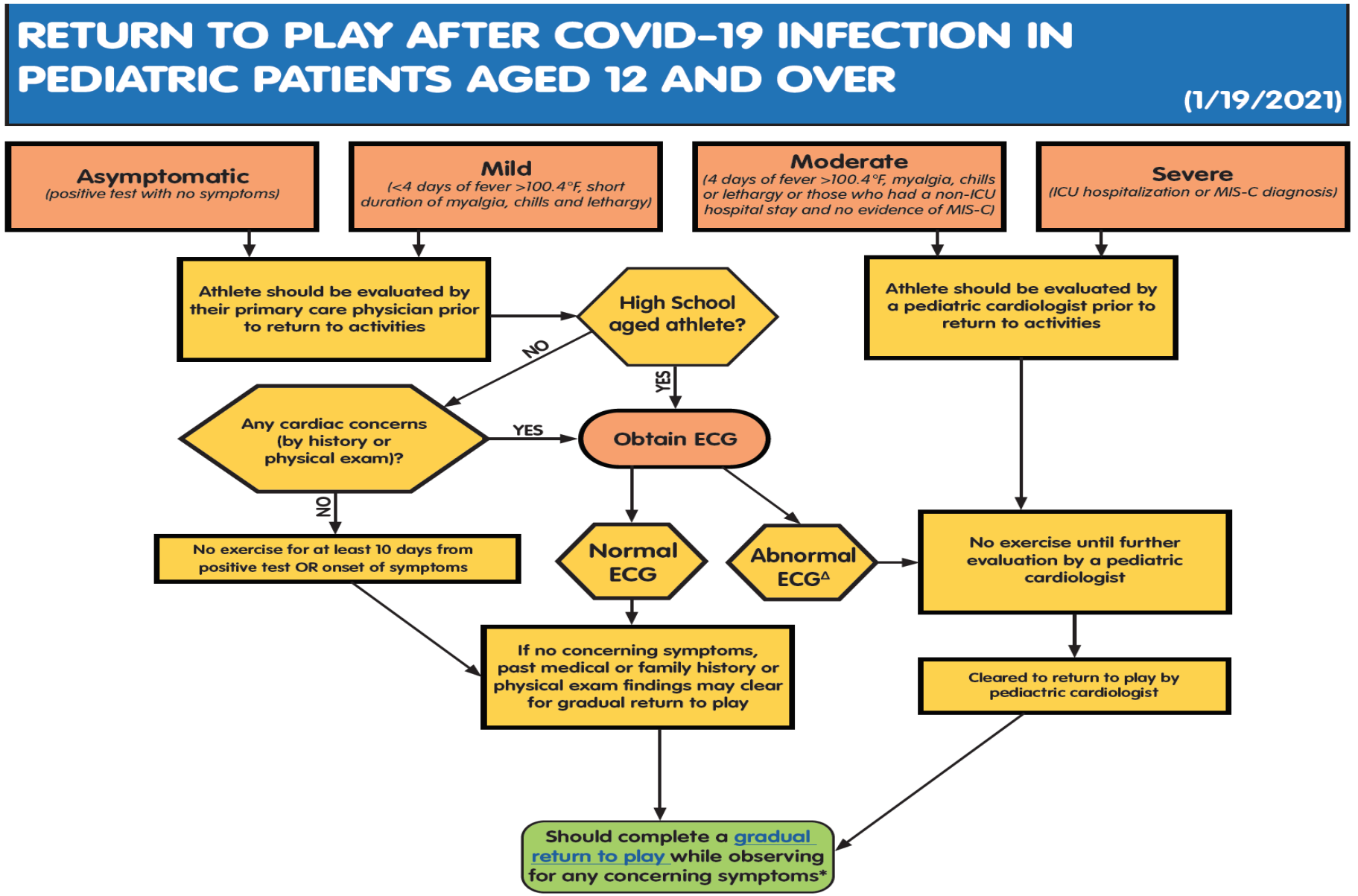
Children's Mercy - Over 12



COVID–19: Asymptomatic (No symptoms)

- Athlete should be evaluated by their primary care physician **PRIOR** to the return to sport
- Cleared to do light exercise after 10 days from positive test
  - Monitoring for symptoms during this 10 day isolation period
- Once cleared, a gradual return to play while observing for cardiac (heart) symptoms is recommended

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COVID-19: Mild Infection

- Athlete should be evaluated by their primary care physician **PRIOR** to the return to sport
  - They may need further testing to be done pending their exam with their primary care physician
- If cleared: Start light exercise after 10 days from onset of symptoms or positive test
- Once cleared, a gradual return to play while observing for cardiac symptoms is recommended

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COVID-19: Moderate/Severe Infection

- Athlete should be evaluated by a pediatric cardiologist
- **No exercise** until further evaluation by pediatric cardiologist
- If cleared by cardiology may then begin a gradual return to play while observing for any cardiac (heart) symptoms

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Return to Play – What am I looking for?

- Observe for cardiac (heart) symptoms:
  - Chest pain
  - Dizziness
  - Shortness of breath
  - Fainting/Syncope
  - Decreased exercise tolerance

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Return to Play/Sport

- Phase 1 – 2 days
  - Light aerobic activity
    - Brisk Walk, Exercise Bike, light jog
    - No strength training
  - 70% max heart rate
  - 15 minutes
- Phase 2 – at least 1 day
  - Aerobic Exercise
    - Running drills
    - No strength training
  - 80% max heart rate
  - 30 minutes

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Return to Play/Sport

- Phase 3 – at least 1 day
  - Increased exercise
    - Sport specific drills
    - Strength training
  - 80% max heart rate
  - 45 minutes
- Phase 4 – at least 2 days
  - Increased Sport Specific Exercise
  - 80% max heart rate
  - 60 minutes

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Return to Play/Sport

- **Phase 5 – 1 day**
  - **Resume normal training activities and duration**
- **Phase 6**
  - **Return to competition with no restrictions**

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What about those with "persistent" symptoms

- If not previously cleared by Cardiology and still symptomatic, athlete should reach out to their licensed health care provider
- If patient has been cleared by Cardiology and has persistent symptoms: Reconditioning can take twice as long as their symptoms last
  - Time
  - Patience
  - Return to play is slow

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Algorithm Caveat

- This algorithm is designed for athletes and return to sport.
- Everyday play and PE are not included
  - Be aware of symptoms
  - Monitor for decreased play and shortness of breath

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Summary/Highlights

- All symptomatic patients under 12 who have tested positive should be evaluated and cleared by a licensed health care provider prior to return to activities.
- All patients over 12 who have tested positive should be evaluated and cleared by a licensed health care provider prior to returning to sports activities
- All patients need to complete a gradual return to play once they have been cleared to return to activities

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As a Reminder

- Please complete the feedback survey emailed to you post-webinar
- For additional resources and to request support, see the **Returning to School and the Community Safely page** on the CM website (www.cmh.edu)
  - Webinar recording and slides
  - **Returning to School During COVID-19 Guidelines, Return to sports,** and other materials
  - **COVID-19 School Assistance form**
- To receive the latest updates on COVID-19 and schools, subscribe to our COVID-19 newsletter **here**

Q & A

Thank you for joining us!

"We're not going to get back to normal until we get children back into school, for the good of the parents and the good of the community"

Anthony Fauci, MD