



Wisconsin Counties Association Annual Conference

# COVID-19: Where are we now?

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United  
Healthcare®

# Who I am...

UHC CMO E&I WI/MI

- Jan 2020

Family Physician

- June 2003

Married to Scott

- June 2000

Mom

- Aug 2006 (Gavin), Aug 2008 (Ariana)
- Nov 2020 (Bolt), Dec 2020 (Kimber)

COVID Vaccinated

- Jan 2021



# Agenda

Where were we...

- COVID 2020 (& Flu 2019)

Where are we now...

- COVID Now
- COVID Vaccines
- COVID Variants
- COVID Treatment

Where are we going...

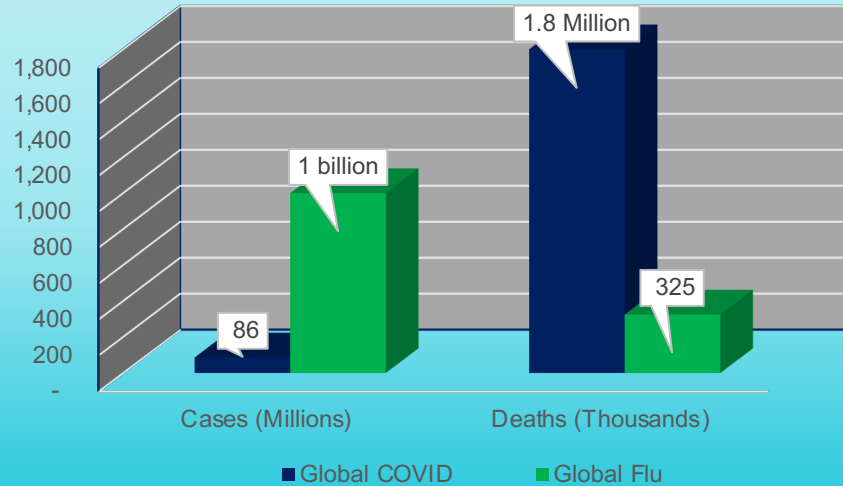


**Where were we...**  
**COVID 2020 & Flu 2019**

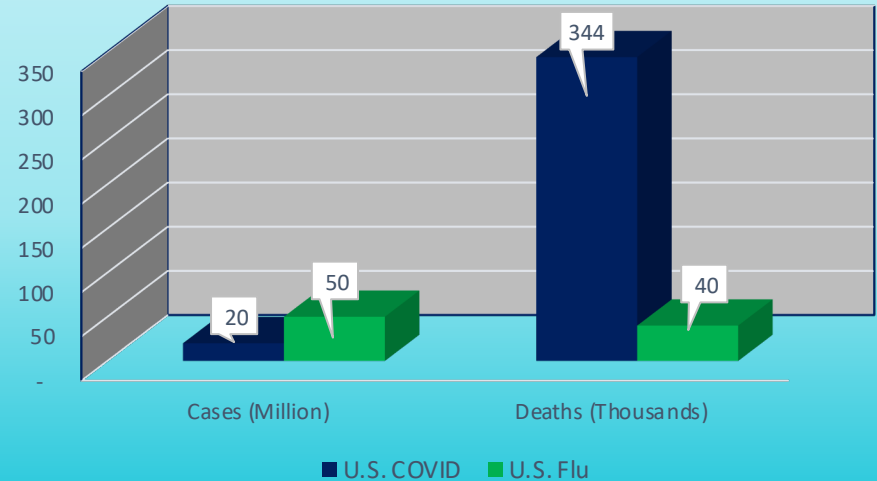


# COVID 2020 vs Flu 2019

## Global



## United States



[Coronavirus \(COVID-19\) Cases - Statistics and Research - Our World in Data](#)



# COVID 2020 vs Flu 2019

## COVID

Cases 520,000 (10% pop.)  
Deaths 5,200 (1% fatality rate)

## Flu

Cases  
2019-2020 36,175 \*lab confirmed  
2020-2021 83  
Deaths  
2019-2020 183 (0.5%)  
2020-2021 0

# COVID 2020

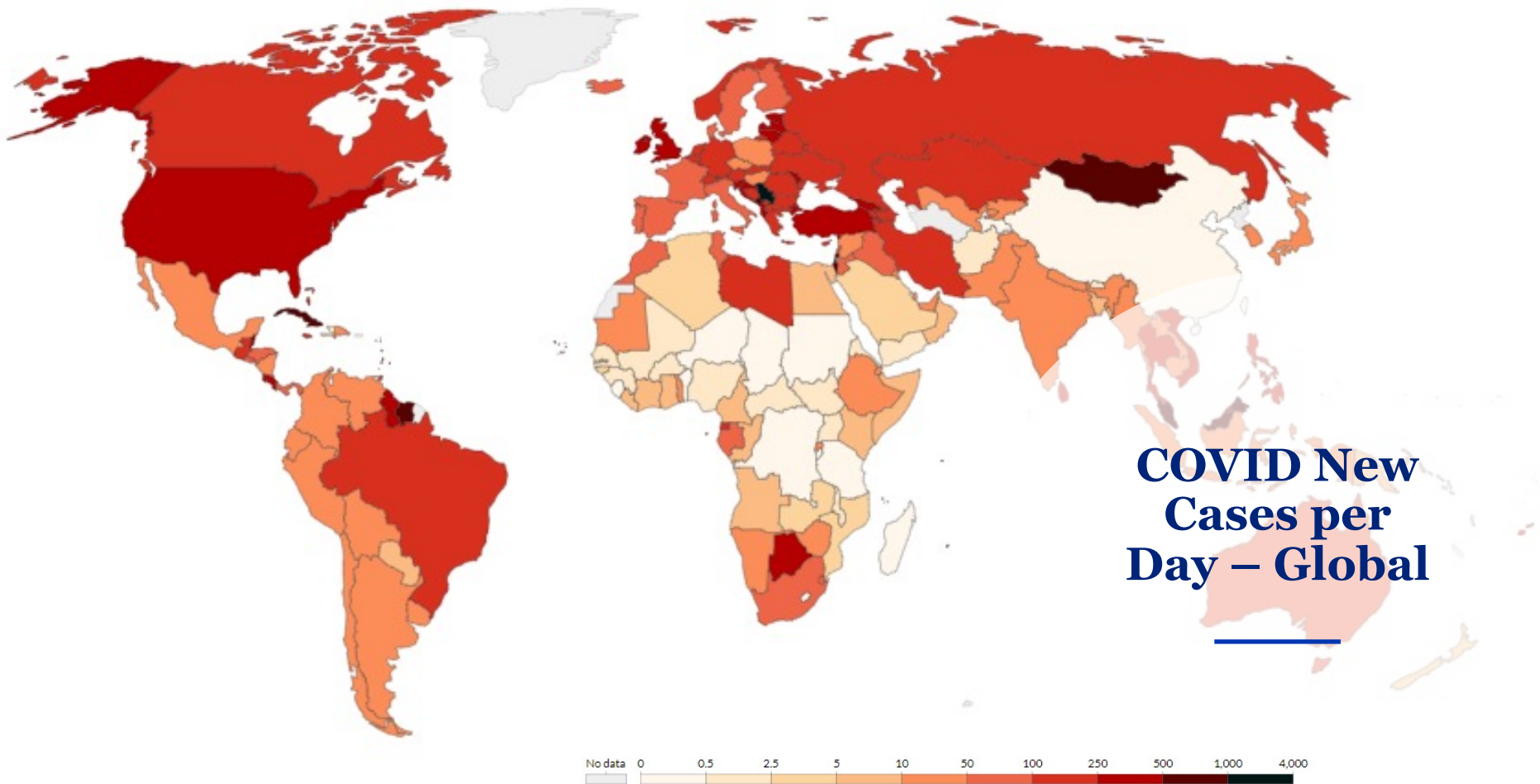
In 2020, COVID-19 was the third leading cause of death in the U.S.\*

PROVISIONAL 2020 DEATHS





**Where are we now...**  
**COVID Now**



## COVID New Cases per Day – Global



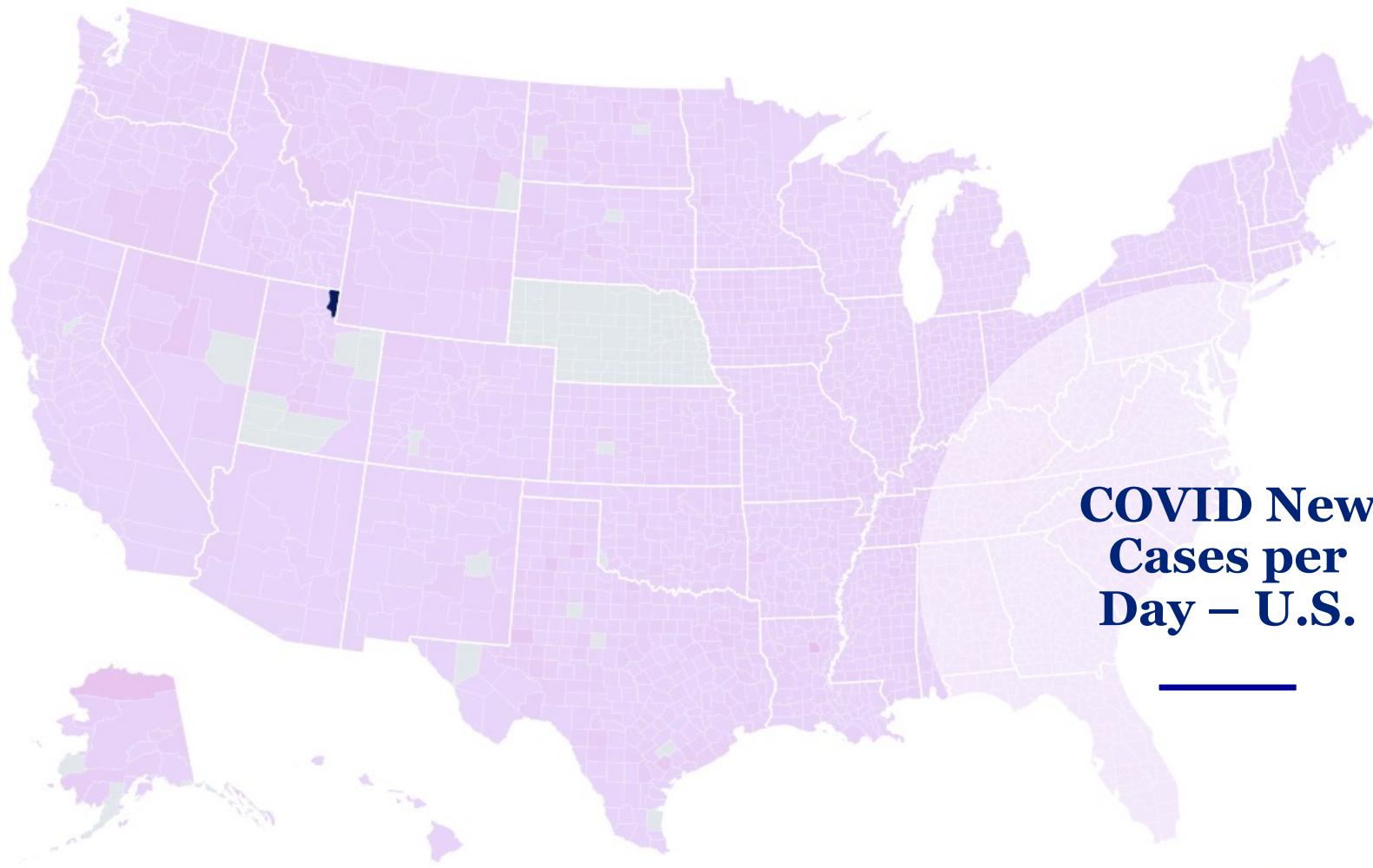
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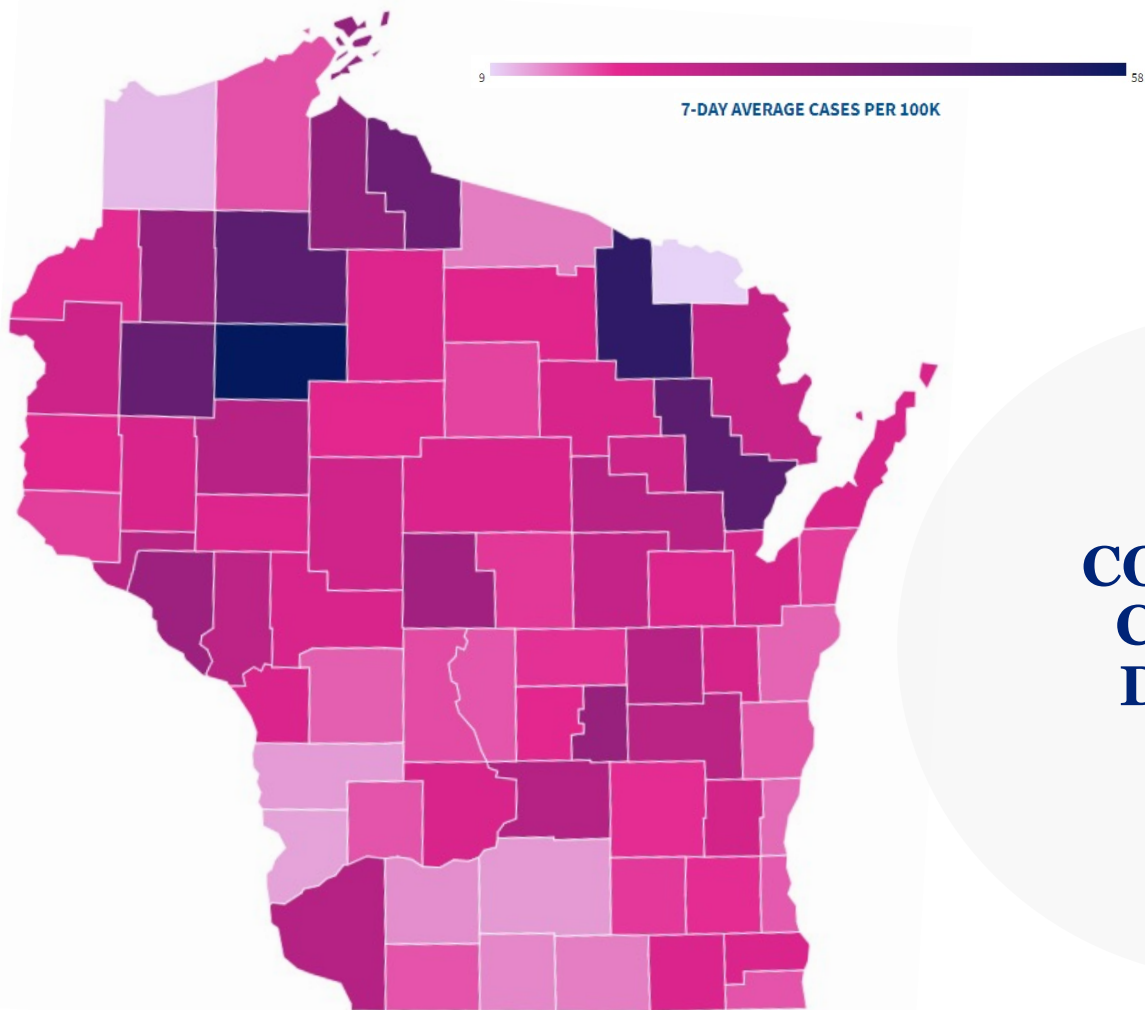
Source: Johns Hopkins University CSSE COVID-19 Data

CC BY

▶ Jan 28, 2020

○ Sep 21, 2021





## COVID New Cases per Day – WI

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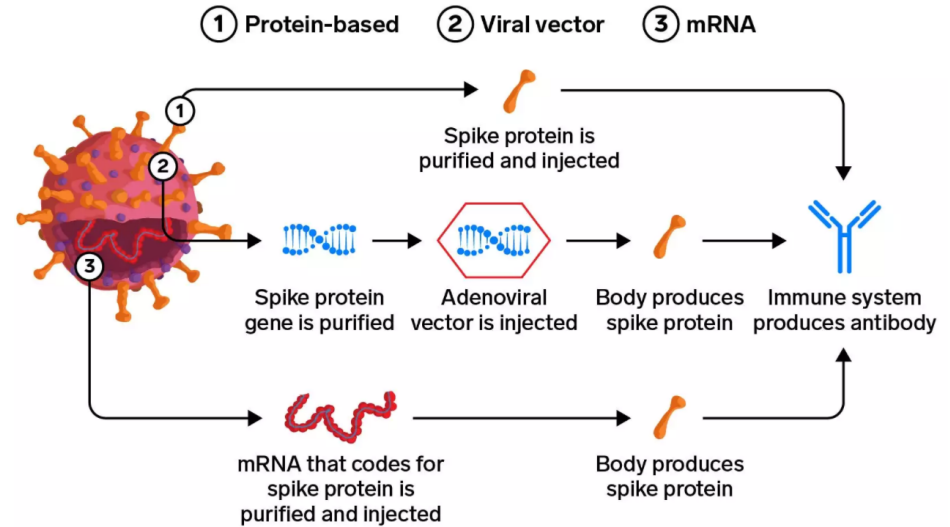
# **Where are we now...**

## **COVID Vaccines**



# COVID Vaccines: Types

## Three types of coronavirus vaccines in development



Source: National Institutes of Health presentation at Senate hearing on September 9, 2020

### Protein-based

- Novavax
- Tetanus
- Hepatitis B

### mRNA

- Pfizer/BioNTech
- Moderna
- Zika, Rabies in development

### Viral Vector

- Johnson & Johnson
- Astra-Zeneca
- Ebola

# COVID Vaccines: Risks vs Benefits

## Risk of COVID Vaccine in the U.S.

### Myocarditis/Pericarditis: mild and resolves quickly

- Pfizer/Moderna
- 1000 cases in 177 million people vaccinated (0.0005%)
- Teens, Young adults, males

### Thrombosis with thrombocytopenia (TTS)

- Johnson & Johnson
- 7 per 1 million women 18-49yo (0.0007%)
- Women <50yo

### Allergic Reactions

- All vaccines
- 1-10 per 1 million doses (0.0001-0.001%)
- All eligible age groups

## Risk of COVID Illness in the U.S.

Age Group (years)	Hospitalization Rate	Death Rate
0-17	0.8%	0.001%
18-49	2.5%	0.05%
50-64	7.9%	0.26%
65+	22.8%	5%
All Ages	5.2%	0.63%



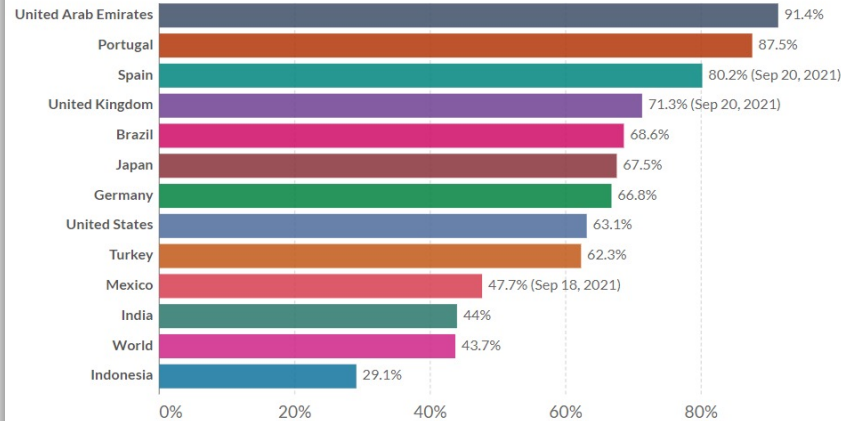
# COVID Vaccines: Global

## Share of people who received at least one dose of COVID-19 vaccine, Sep 21, 2021

Total number of people who received at least one vaccine dose, divided by the total population of the country.

Our World  
in Data

+ Add country



Source: Official data collated by Our World in Data - Last updated 22 September 2021, 08:40 (London time)

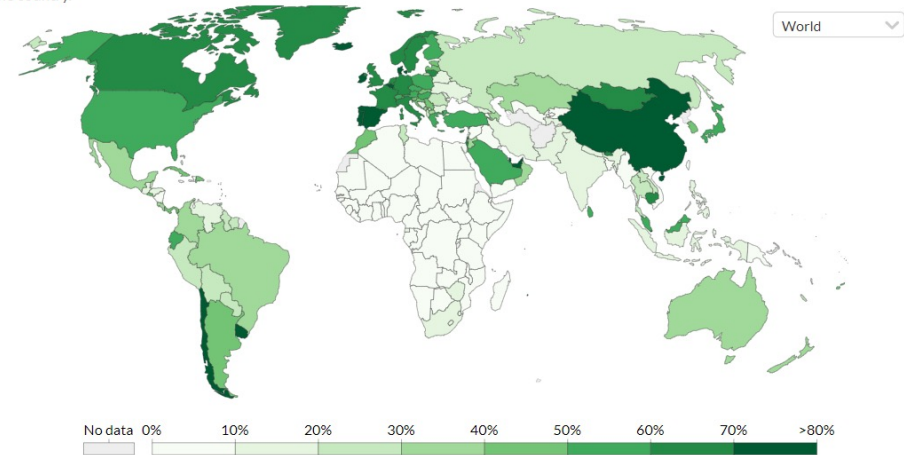
OurWorldInData.org/coronavirus • CC BY

Dec 1, 2020 Sep 21, 2021

## Share of the population fully vaccinated against COVID-19, Sep 21, 2021

Total number of people who received all doses prescribed by the vaccination protocol, divided by the total population of the country.

Our World  
in Data



Source: Official data collated by Our World in Data - Last updated 22 September 2021, 08:40 (London time)

OurWorldInData.org/coronavirus • CC BY

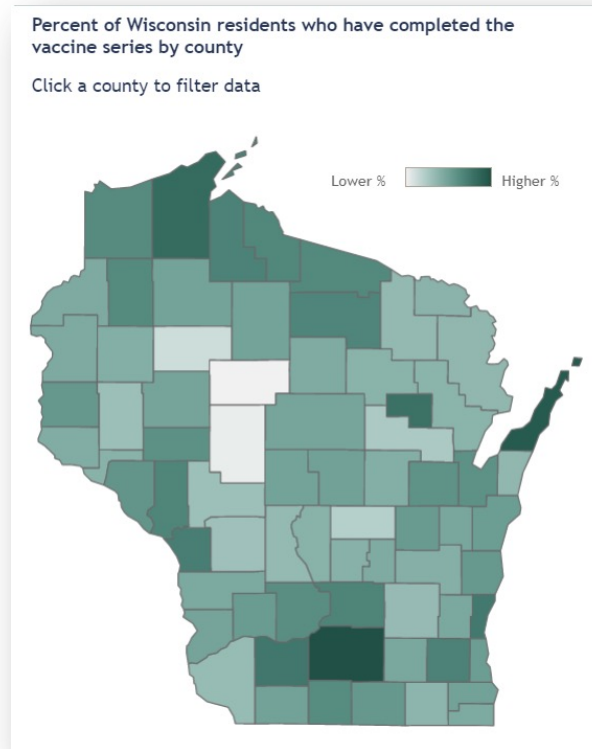
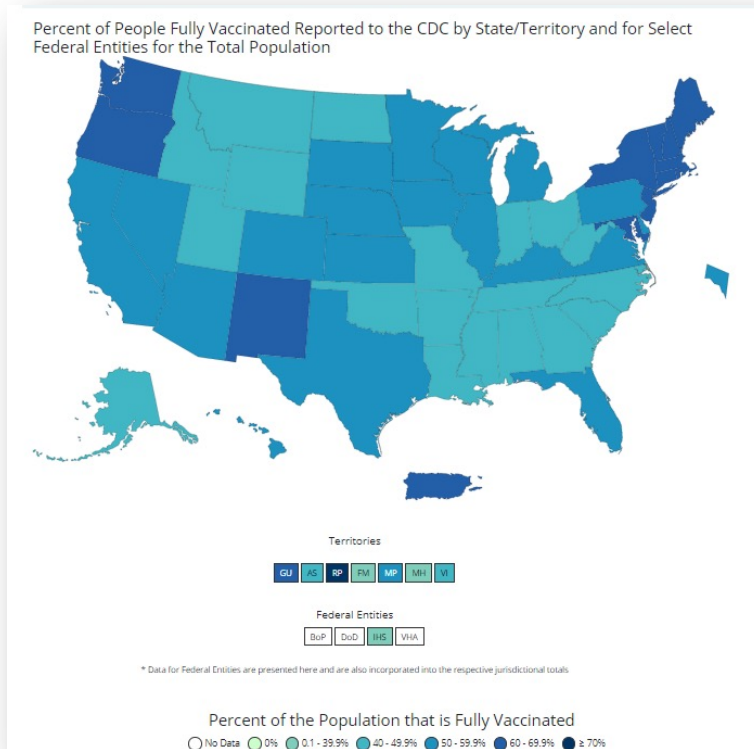
Note: Alternative definitions of a full vaccination, e.g. having been infected with SARS-CoV-2 and having 1 dose of a 2-dose protocol, are ignored to maximize comparability between countries.

Dec 27, 2020 Sep 21, 2021

[Coronavirus \(COVID-19\) Vaccinations - Statistics and Research - Our World in Data](https://ourworldindata.org/coronavirus-vaccinations)

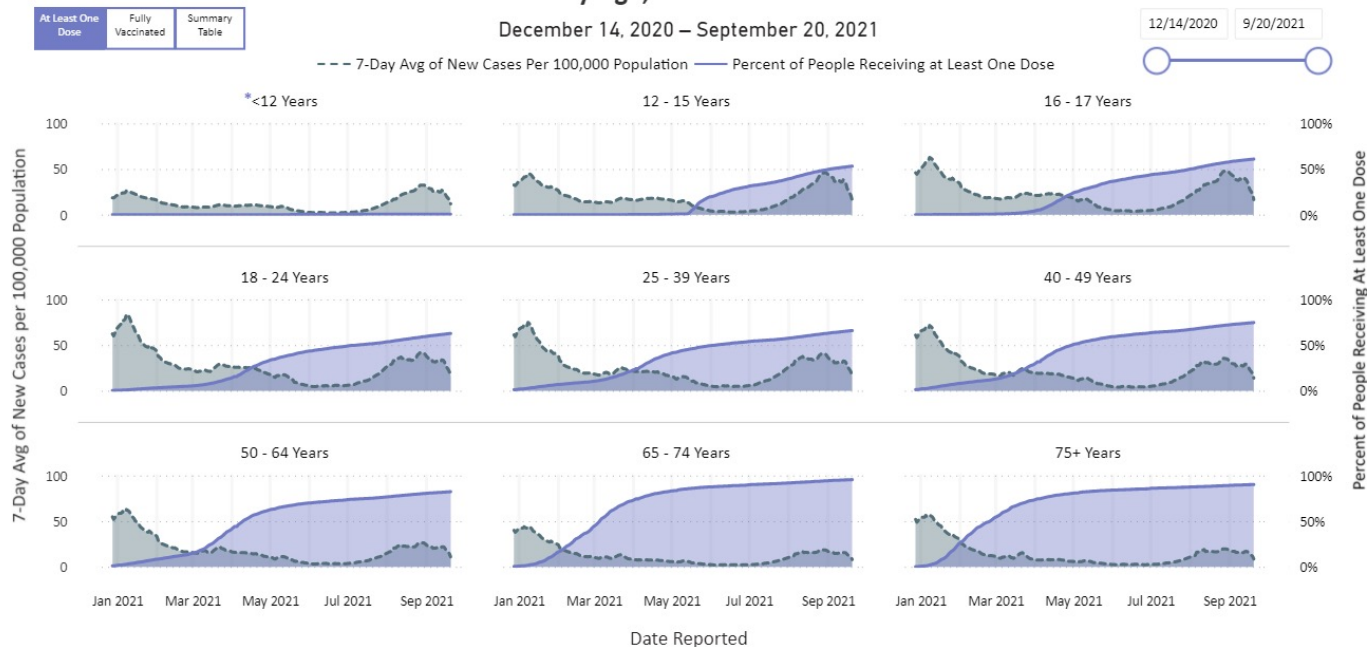


# COVID Vaccines: Local



# COVID Vaccines: Rate vs Cases

## Percent of People Receiving at Least One Dose and Cases per 100,000 Population, by Age, United States



\*Currently, persons under age 12 are not eligible to be vaccinated.

Last Updated: Sep 21, 2021

Data source: VTricks, IIS, Federal Pharmacy Program, Federal Entities Program, U.S. Census Bureau 10-year July 2019 National Population Estimates; Visualization: CDC CPR DEO Situational Awareness Public Health Science Team



# COVID Vaccines: Third Dose vs Boosters

## •Third Dose

*A scheduled dose of a vaccine to help the body achieve the desired immunity.*

- Those with a moderately to severely compromised immune systems may not build the same level of immunity to 2-dose vaccine series compared to people who are not immunocompromised.
- CDC recommends they receive a 3<sup>rd</sup> dose at least 28 days after their second dose of an mRNA vaccine.
- Currently recommended.

## •Boosters

*A dose of vaccine given to a fully vaccinated individual after immunity has waned in order to return immunity to previous levels.*

- August: HHS has plan to administer boosters
- September: FDA authorized 6m booster of Pfizer-BioNTech for high-risk groups.
- September: ACIP

# COVID Vaccines: As a Term of Employment\*

*\*mandate is such a bad word*

- 
- Advocate Aurora
  - Ascension
  - Children's Hospital of WI
  - Essentia Health
  - Froedtert Health System
  - Gunderson Health
  - Holy Family Memorial
  - Marshfield Clinic Health System
  - **ALL NURSING HOMES**

- 
- Mayo Clinic
  - Medical College of WI
  - Prevea
  - ProHealth Care
  - SSM Health
  - UW Hospitals and Clinics
  - Veterans Administration
  - **ALL FEDERAL EMPLOYEES & CONTRACTORS**

- 
- Epic
  - Walmart
  - Disney
  - Google
  - Facebook
  - Delta Airlines
  - Netflix
  - Tyson Foods

• **ALL FACILITIES RECEIVING  
MEDICARE/MEDICAID**

- 
- United Airlines
  - Morgan Stanley
  - Goldman Sachs
  - DoorDash
  - Lyft
  - Uber
  - Microsoft
  - **ALL COMPANIES WITH  
>100 EMPLOYEES**

# COVID Vaccines: Myths vs Facts

## Myth: COVID vaccines cause infertility.

- **Fact:** There are very small similarities between a developing placenta's Syncytin-1 protein and the COVID-19 spike protein. These are far too small for the body to get confused. Studies show no link between vaccines and infertility, adverse pregnancy outcomes, fetal harm or male infertility.
- **Fact:** COVID-19 illness increases risk of severe illness, premature delivery, pregnancy loss and can potentially impact male fertility.

## Myth: COVID vaccines alter a person's DNA.

- **Fact:** mRNA and viral vector vaccines deliver the instructions (genetic material) to the cytoplasm of the cell and do not enter the nucleus of our cell where our own DNA is stored.

## Myth: COVID vaccines don't protect against new variants.

- **Fact:** As the Delta variant has become dominant, current vaccines remained  $\geq 94\%$  effective for those  $<75$ yo and  $> 80\%$  for those  $>75$ yo at preventing hospitalizations, a rate that has remained steady for months. 72-85% effective at preventing symptomatic disease in all age groups





# COVID Vaccines: Myths vs Facts

## Myth: COVID vaccines don't really work.

- **Fact:** The risk of a fully vaccinated person getting COVID illness is 0.01-0.54%.
- **Fact:** Over the summer, 94-100% of COVID cases occurred in the unvaccinated, depending on the state.
- **Fact:** Over the summer, the unvaccinated accounted for 97-100% of COVID related deaths, depending on the state.

## Myth: Corners were cut to develop the COVID vaccine so quickly.

- **Fact:** Unprecedented financial support allowed development of multiple vaccine across the globe w/o risk of failure or fear of competition; the use of newer, more expensive technology; and simultaneous production while still in clinical trials, saving up to 2 years.
- **Fact:** FDA allowed COVID vaccines to jump the line for approval, avoiding the typical 10 month wait.
- **Fact:** Volunteers for vaccine testing were abundant. It took 2 years less time to recruit participants for Pfizer's final trial than for a 2013 rabies vaccine trial.
- **Fact:** COVID-19 was spreading so fast that proof of efficacy was achieved within 4 months. The HPV vaccine took 1.4 years.
- **Fact:** *In total, 4-6 years of administrative burden was shaved off the normal vaccine development timeline with no compromise in safety protocols.*





# **Where are we now...**

## **COVID Variants**

# COVID Variants

- **Bad**

- More infectious.
- More severe illness.
- Immune to affects of vaccine.

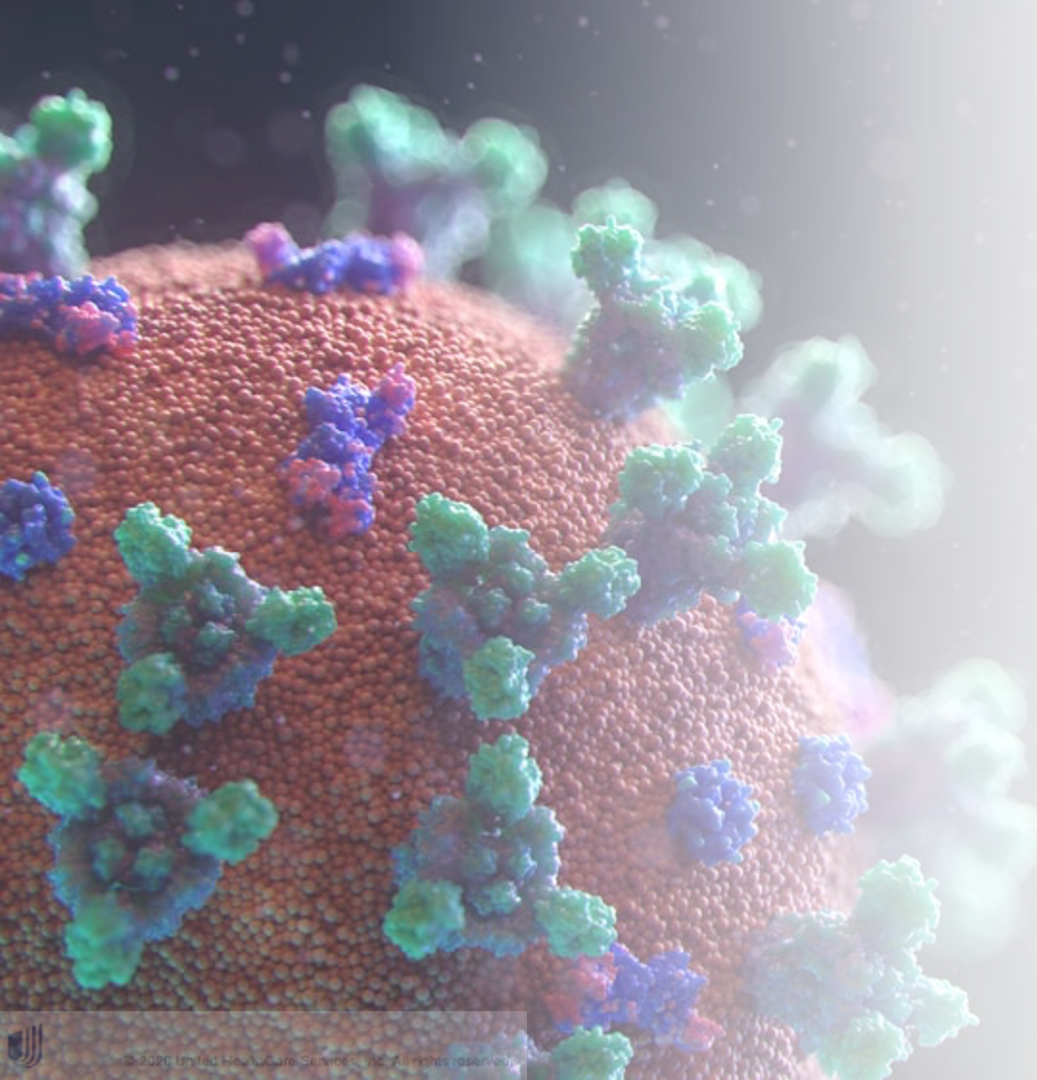
- **Good**

- Less infectious.
- Less severe illness.
- Cross reactivity with other strains of coronavirus
- SARS began 11/2002, virtually eliminated 5/2004. Mutation weakened virus to point of disappearing.

- **Neutral**

- No effect of infectiousness, disease activity or vaccine efficacy.
- *Majority of mutations.*





## COVID Variants

Mutations that affect spike protein have greater potential to affect contagiousness & severity.

**Variants of Concern:** *all spread faster*

Alpha: UK fall 2020

- *Possible increased severity.*

Beta: S. Africa 10/2020

Gamma: Brazil 1/2021.

Delta: India 12/2020

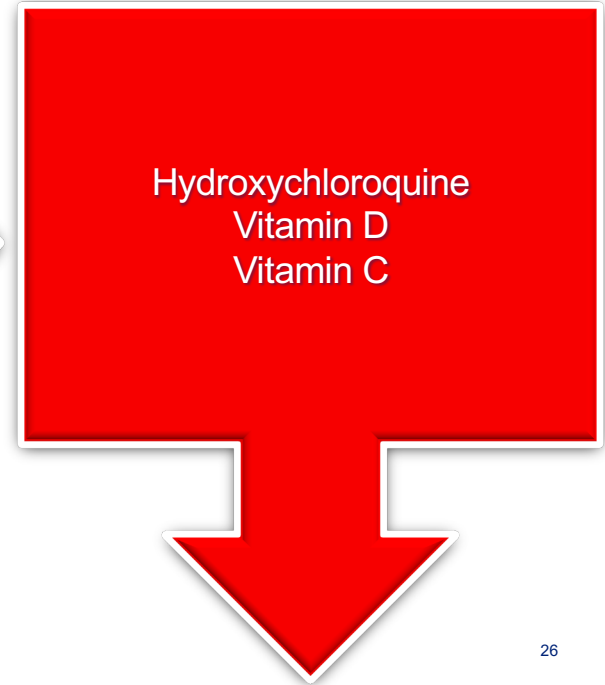
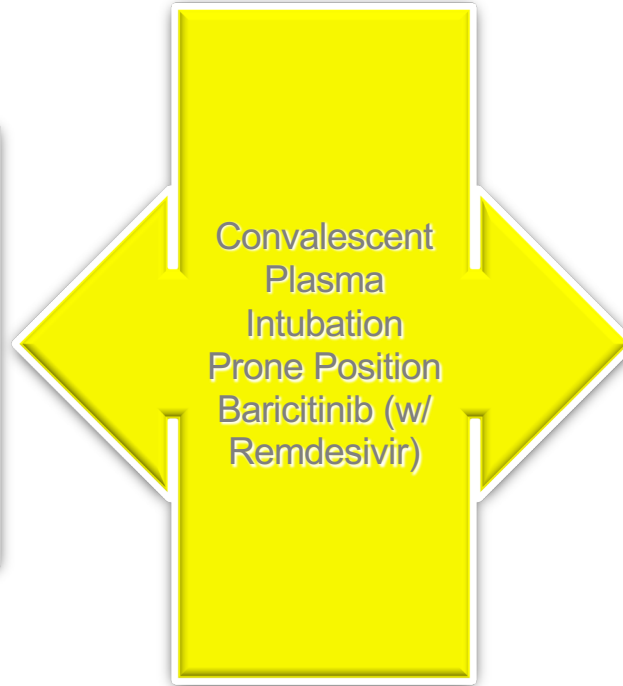
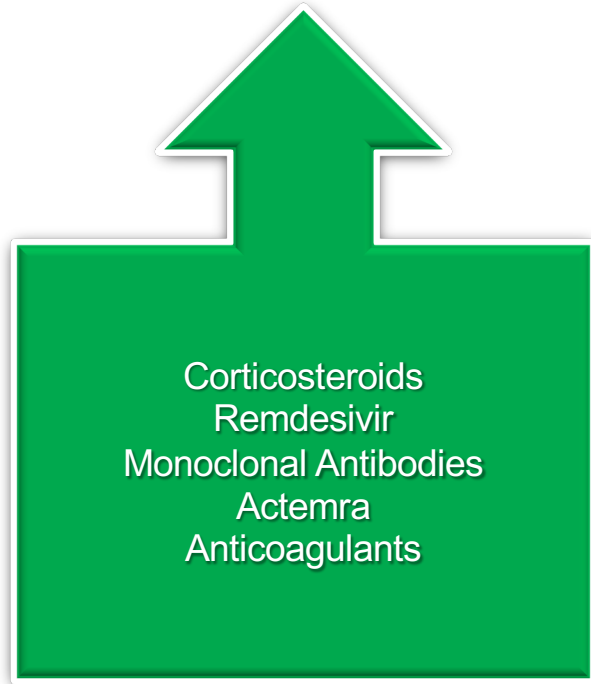
- *Possible increased severity.*

- Certain monoclonal antibody treatments less effective against Beta, Gamma, & Delta.



**Where are we now...**  
**COVID Treatment**

# COVID Treatment: Acute Illness





# COVID Treatment: Long Haulers





**Where are We Going...**



# What does the future hold?

Herd immunity

Eradication

Seasonality

Vaccine boosters

Intermittent lock downs

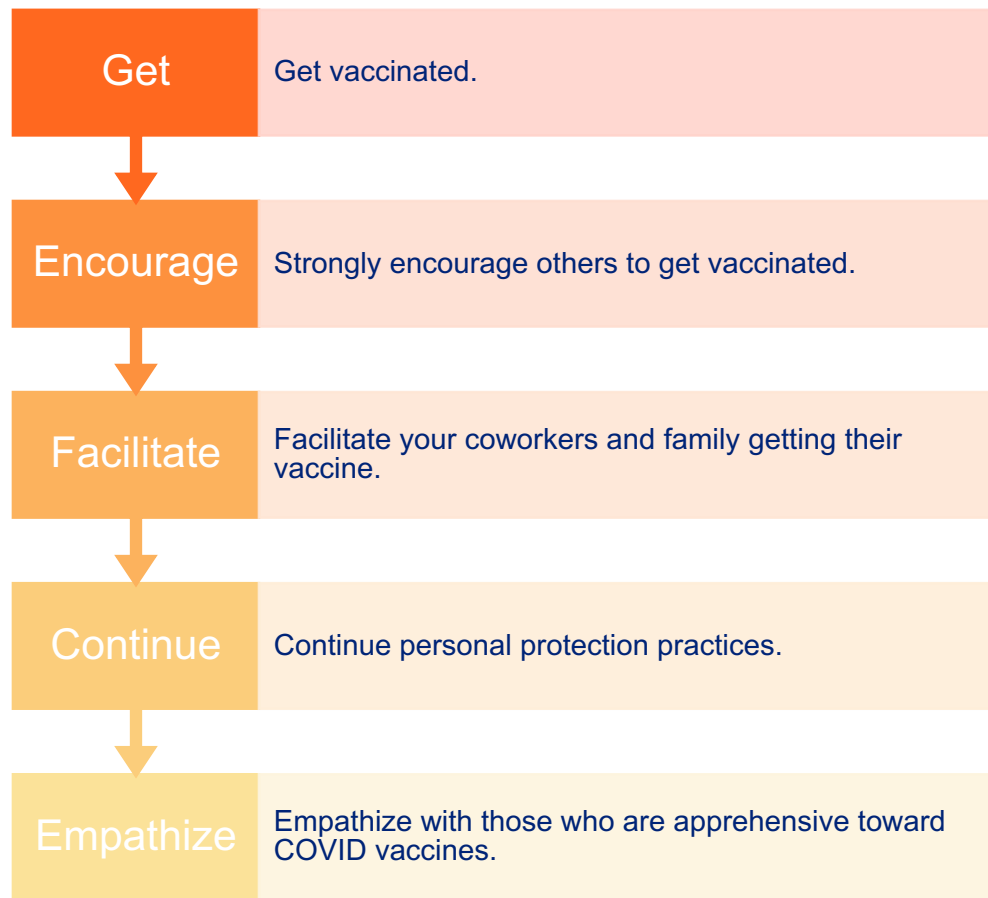
Travel restrictions

Personal protection

Routine childhood illness



# What do we do now?





**Questions?**