

# Adhering to 10 Effective Evidence-Based Interventions Has Helped To Address the COVID-19 Pandemic...

But, it isn't over!!

06/28/2021

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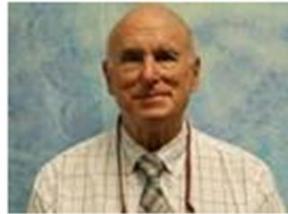
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**COVID-19  
Vaccinations  
in Butte  
County:**



**166,257**

**Total Administered Vaccines\***

\*Statewide Butte County Residents not including Federal Agencies.



**79,910**

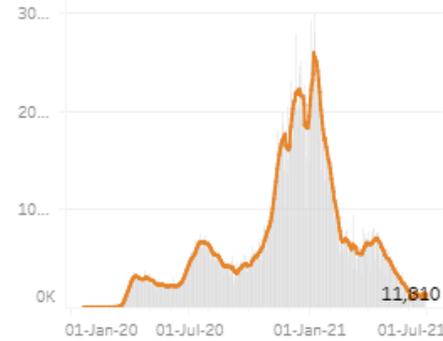
**Total Number of Fully Vaccinated Butte County Residents\***

Eligible population = 180,000; **Coverage = 44%**

## WHAT IS THE SITUATION IN THE UNITED STATES?

**CASES**

■ New — 7-day average



**DEATHS**

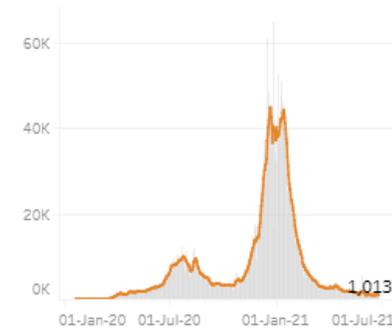
■ New — 7-day average



## WHAT IS THE SITUATION IN CALIFORNIA?

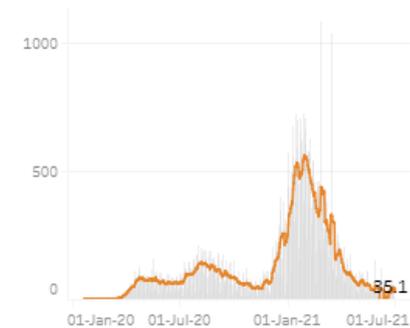
**CASES**

■ New — 7-day average



**DEATHS**

■ New — 7-day average



**CASES**

**3,712,795 total**

**2,251 today**

↗ 2.0 new cases per 100K

**DEATHS**

**62,990 total**

**45 today**

↘ 0.03 new deaths per 100K

# Outline

- It's a **Global Pandemic** – how is Butte County doing (<http://www.buttecounty.net/ph/covid19> and [Tracking COVID-19 in California - Coronavirus COVID-19 Response](#))?
- What is the **COVID-19 sectoral status of Butte County's businesses and schools** in California's Blueprint for a Safer Economy ([Safely reopening California - Coronavirus COVID-19 Response](#) and [Beyond the Blueprint Questions & Answers \(ca.gov\)](#))?
- If adhered to by all of us, what are the **10 evidence-based effective interventions** which would end the COVID-19 pandemic and enable us to fully reopen our economy (<https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6949e2-H.pdf>)?
- **Challenges:**
  - **COVID-19 Vaccine Supplies, Allocation & Hesitancy:** <https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/fully-vaccinated-people.html#print>; [COVID-19 Vaccine Information for Butte County; sabin-aspen-report-2020 meeting the challenge of vaccine hesitancy.pdf](#);
  - **Variant SARS-CoV-2 Strains** ([SARS-CoV-2 Variant Classifications and Definitions \(cdc.gov\)](#)); and
  - **Efforts to Limit the Role and Authority of County Health Officers**  
<http://www.calhealthofficers.org/documents/Health%20Officers%20in%20CA%20Code%202018.pdf>

# Learning Objectives

- Review definitions of key terms related to prevention and control of the COVID-19 Pandemic
- Update SIR members' knowledge about the epidemiology and impact of COVID-19 in Butte County
- Increase SIR members' knowledge about trustworthy sources of evidence and information about 10 effective interventions to prevent SARS-CoV-2 infections and severe or fatal COVID-19 Disease ([Summary of Guidance for Public Health Strategies to Address High Levels of Community Transmission of SARS-CoV-2 and Related Deaths, December 2020 \(cdc.gov\)](#))
- Strengthen SIR members' intentions and abilities to follow the trustworthy recommendations of WHO, CDC, CDPH and BCPH while being able to counter myths, mis-information and dis-information found on the Internet ([Vaccine Truths | Marin County Coronavirus Information \(marinhhs.org\)](#) and <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters> and [WHO's Science in 5 on COVID-19 - Vaccine myths vs science - 5 February 2021 – YouTube](#))
- Help SIR members to obtain an understanding of the role and authorities of County Health Officers (<https://www.cdph.ca.gov/Programs/CCLHO/CDPH%20Document%20Library/HO%20Practice%20Guide%20for%20Communicable%20Disease%20Control%20in%20CA%202013.pdf>), and an appreciation of efforts to limit those authorities <https://www.naccho.org/uploads/downloadable-resources/Proposed-Limits-on-Public-Health-Authority-Dangerous-for-Public-Health-FINAL-5.24.21pm.pdf>

# Epidemiology

## Key Concepts and Terminology

- **Cluster** – an aggregation of cases in a given area over a specific time period without regard to whether the number of cases is more than expected.
- **Epidemic** – an increase, often sudden, in the number of cases of a disease **above what is normally expected** in a given population and in a given area
- **Outbreak**- same definition of epidemic, but is often used for **a more limited geographic area**
- **Pandemic** – an epidemic that has spread over **several countries or continents**, usually affecting a large number of people. (*a global epidemic*)

# Investigating an Outbreak\*

When unusual cases or outbreaks of illnesses, injuries, or deaths hit cities or towns in the U.S. or in other countries -- or when the outbreak spreads across U.S. states or across countries -- CDC disease detectives work closely with local, state, national or international officials.

Like investigators at the scene of a crime, these disease detectives begin by looking for clues. They investigate cases and close contacts by asking questions like:

- WHO is sick, injured, or deceased, and WHO is not – WHY only some are affected?
- WHAT were their symptoms, and WHAT could cause such symptoms?
- WHEN did they get sick, injured, or died?
- WHERE & HOW could they and others have been exposed to the cause of the illness, injury or fatality?

\* See examples of CDC investigations and on-line training opportunities:

<https://www.cdc.gov/cdctv/diseaseandconditions/outbreaks/responding-to-outbreaks.html>;

<https://www.cdc.gov/cdctv/diseaseandconditions/outbreaks/uganda-python-cave.html>; and check out on-

line training in Field Epidemiology at [https://nciph.sph.unc.edu/focus/vol1/issue1/1-1Overview\\_issue.pdf](https://nciph.sph.unc.edu/focus/vol1/issue1/1-1Overview_issue.pdf)

on the UNC web site: Focus on Field Epidemiology, available at: <https://sph.unc.edu/epid/focus/>. When a

health threat appears or a trend becomes evident, we may not know right away why or how many people are affected, but CDC has the world-class expertise and state-of-the-art equipment to find out what is making people sick or die and what to do about it (accessed 2021-04-15).

# Two examples of my work as a CDC Disease Detective:

## 1. Estimation of human dose of staphylococcal enterotoxin A from a large outbreak of staphylococcal food poisoning involving chocolate milk\*

An outbreak of gastroenteritis among students aged 5-19 in a school district in the United States was determined to be staphylococcal food poisoning due to 2% chocolate milk containing staphylococcal enterotoxin A (SEA).

The attack rate for vomiting among those who consumed more than one carton was greater (38.3%) than among those who consumed only one carton (31.5%) with the highest attack rate among those who consumed three or more cartons (44.4%).

The outbreak investigation determined that the amount of SEA in the milk cartons varied from 94 to 184 ng with the average being 144 ng (mean =  $139 \pm 45$ ), and the dose causing illness was 200 ng or less, especially in the younger students (ages 5-9).

### QUESTION:

→ what would you do after determining the cause of the outbreak?

\* See: <https://www.sciencedirect.com/science/article/abs/pii/0168160588900578>

## 2. Investigation and Control of Hazards from the Explosive Eruption of Mt. St. Helens, 18 May 1980\*\*

\*\* See: <https://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.76.Suppl.1> and <https://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.76.Suppl.3> and <http://www.mountsthelens.com/index.html> and several YouTube videos available at: <https://www.youtube.com/watch?v=fArB5Jz2wos>; [https://www.youtube.com/watch?v=IAXh\\_BS0KVU](https://www.youtube.com/watch?v=IAXh_BS0KVU).



# OUR PANDEMIC YEAR—A COVID-19 TIMELINE

On March 11, the WHO declared COVID-19 a pandemic. Here is a look back at a year in disruption.

## A MYSTERIOUS NEW ILLNESS

Images appear of Wuhan in lockdown, where officials attempt to contain a mysterious virus. Soon after, new cases and deaths related to (what's later named) COVID-19 surge in Europe.

## THE WORLD SHUTS DOWN

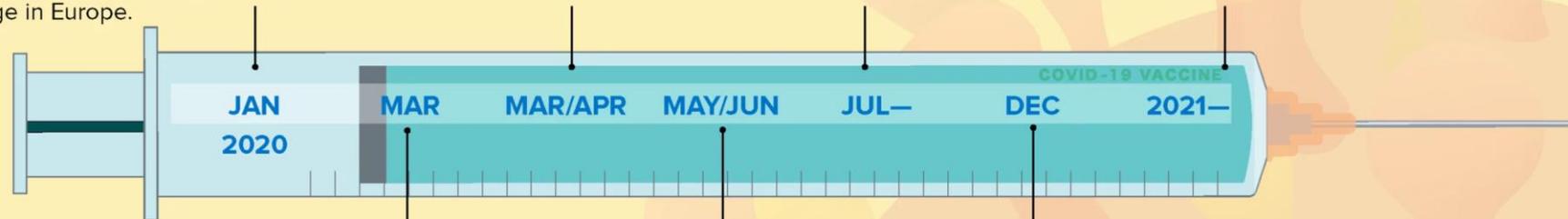
Countries seal borders; sports teams cancel seasons; schools close and employees go home. People start wearing masks and "social distancing."

## UPTICK IN MENTAL HEALTH ISSUES

People struggle as continued unemployment and/or working from home without childcare/school takes its toll. U.S. break records for daily cases/deaths.

## LIGHT AT THE END OF THE TUNNEL?

2021 begins with a race to vaccinate. Cases and deaths begin to fall. But the variants are still a threat, vaccine rollout is uneven, and we are still wearing masks.



## THE VIRUS SPREADS, CASES MULTIPLY

The Grand Princess cruise ship, docked outside of San Fran, has passengers with COVID-19; Bay Area is first in the U.S. to announce shelter-in-place orders; hospitals become overwhelmed as cases grow; there is a nationwide shortage of PPE.

## FLATTENING THE CURVE—FOR A WHILE

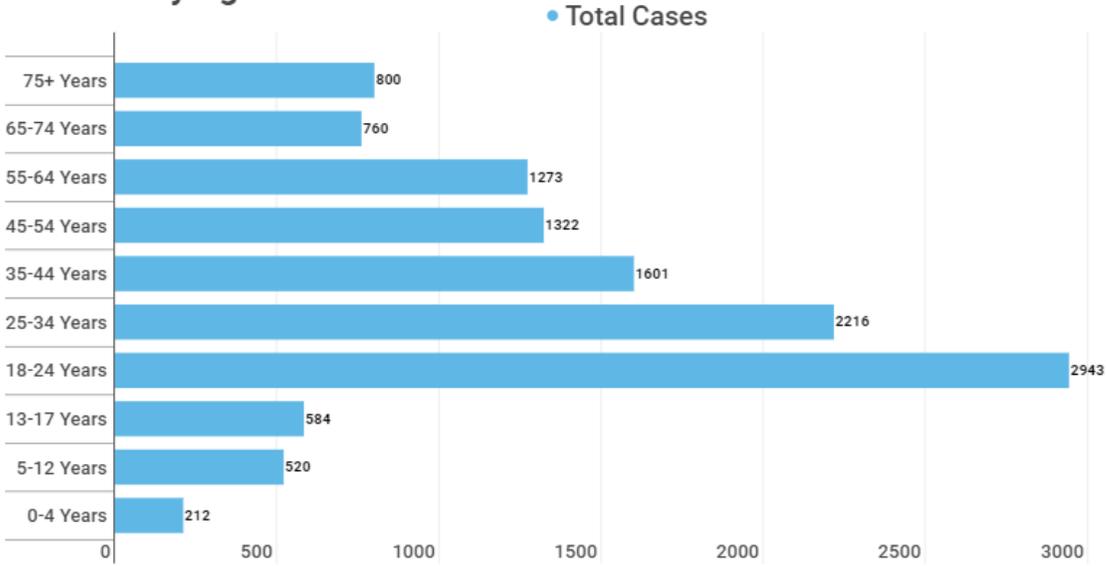
After "flattening the curve," cases begin to skyrocket again as states "reopen" in different phases. Researchers continue to race to identify treatments and make vaccines.

## NEW HOPE, NEW MUTATIONS

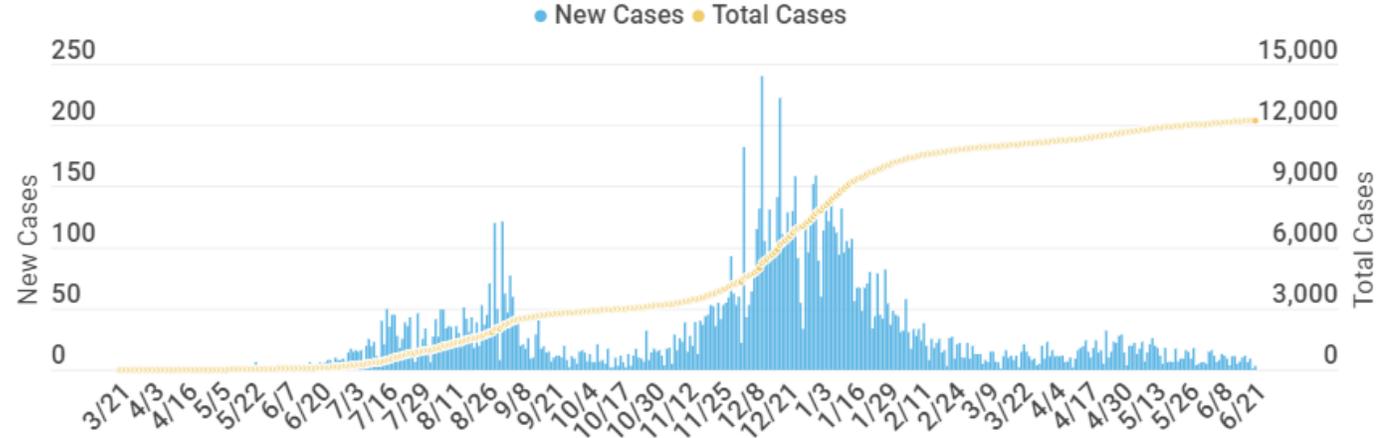
The FDA authorizes two vaccines. Major variants begin to circulate, some of which might impact the effectiveness of vaccines.

## Butte County, CA COVID-19 (Updated weekly each Tuesday by 4 pm)

### Cases by Age



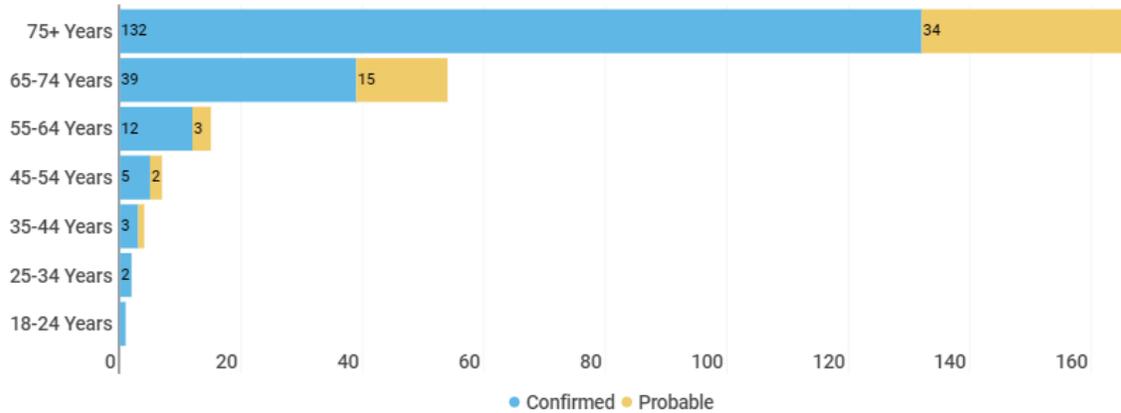
### New vs. Total Confirmed Cases by Day



This graph shows confirmed cases reported each day. A confirmed case is defined as a person with a positive molecular ("PCR") viral test result

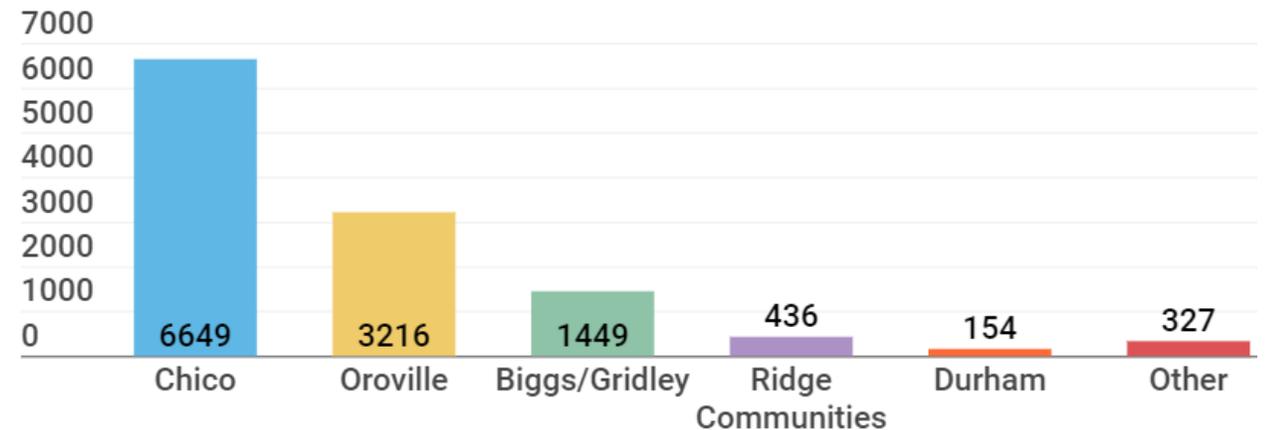
## Butte County, CA COVID-19 (Updated weekly each Tuesday by 4 pm)

### COVID-19 Deaths by Age Group, Butte County 2021



All deaths counted as COVID-19 deaths are reviewed to confirm that COVID-19 is listed as a cause of death on the death certificate. Receipt of death certificates may take days to weeks.

### Cases by Region



# Reported COVID Outbreaks by Setting Type

## Jan 1 – June 14, 2021

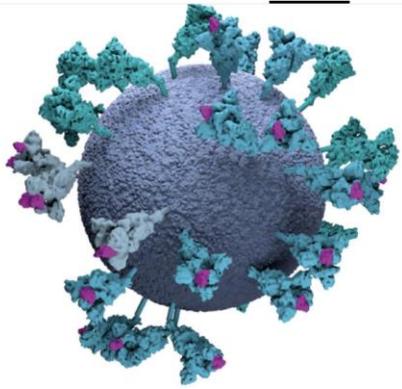
From Jan 1, 2021 - June 14, 2021, a total of 7,715 confirmed COVID-19 outbreaks and 83,956 outbreak-related cases were reported to CDPH.

The most common settings for these outbreaks were:

- Residential care facilities (21.1%)
- Skilled nursing facilities (7.7%)
- Restaurants (6.4%)
- Elementary and secondary schools (4.1%)
- Public safety, including police, fire, and correctional institutions (3.3%)
- Grocery stores (3.2%)
- Construction (3.2%)

# What a Year for Science!

(See: [The best science photos of 2020 \(nationalgeographic.com\)](https://www.nationalgeographic.com/science/2020/12/best-science-photos-2020/) and [Understanding How COVID-19 Vaccines Work | CDC](https://www.cdc.gov/media/releases/2020/s1210-covid-19-vaccine-work.html) and [Latest: China approves use of Sinopharm's COVID-19 vaccine \(nationalgeographic.com\)](https://www.nationalgeographic.com/science/2020/12/china-approves-use-of-sinopharm-covid-19-vaccine/))



Thanks to a Nobel Prize-winning electron microscope technique known as cryo-EM, researchers at England's MRC Lab of Molecular Biology imaged 2D slices of SARS-CoV-2, the virus behind COVID-19. Computers then combined thousands of these slices to yield a 3D model of the virus—one of many essential steps toward making safe Vaccines.

The SARS-CoV-2 spike protein, which allows the virus to break into cells, is a shapeshifter. By making it sit still, scientists uncovered a key to rapidly making coronavirus vaccines. This image is a false-colored, electron-density map acquired via cryogenic electron microscopy.



Currently, there are three main types of COVID-19 vaccines that are FDA-authorized or the subject of ongoing clinical trials: **mRNA vaccines** contain material from the SARS-CoV-2 virus that causes COVID-19 disease. The vaccine gives our cells instructions to make a harmless protein that is unique to the SARS-CoV-2 virus. **Protein subunit vaccines** include harmless protein pieces of the SARS-CoV-2 virus that causes COVID-19 instead of the entire virus. **Vector vaccines** contain a weakened version of a live non-SARS-CoV-2 virus which gives our cells instructions to make a harmless protein that is unique to the SARS-CoV-2 virus. **Our bodies recognize that these vaccine-induced harmless SARS-CoV-2-like proteins should not be there**, and our bodies build T-lymphocytes and B-lymphocytes that will remember how to fight the SARS-CoV-2 virus that causes COVID-19 disease if we are infected in the future.



Scientists are still trying to track down the origins of SARS-CoV-2, and the greater horseshoe bat, pictured here, has been mentioned as a possible host. This preserved sample of *Rhinolophus ferrumequinum*, in the collection of the Natural History Museum of Los Angeles County, was collected in Uzbekistan in 1921.

# 10 Effective Evidence-Based Interventions – And Addressing Myths, Miss-Information and Dis-Information\*

1. Universal use of face masks
2. Physical distancing and limiting contacts
3. Avoiding nonessential indoor spaces and crowded outdoor settings
4. Increased testing, diagnosis, and isolation of cases, and prompt investigation and reporting of outbreaks
5. Prompt case investigation and contact tracing to identify, quarantine, and test close contacts
6. Safeguarding persons most at risk for severe illness or death
7. Protecting essential workers
8. Postponing travel
9. Increased room air ventilation, enhanced hand hygiene, and cleaning and disinfection
10. Widespread availability and use of effective vaccines to achieve and sustain herd immunity

## Summary

### What is already known about this topic?

The United States is experiencing high levels of SARS-CoV-2 transmission.

### What is added by this report?

COVID-19 pandemic control requires a multipronged application of evidence-based strategies while improving health equity: universal face mask use, physical distancing, avoiding nonessential indoor spaces, increasing testing, prompt quarantine of exposed persons, safeguarding those at increased risk for severe illness or death, protecting essential workers, postponing travel, enhancing ventilation and hand hygiene, and achieving widespread COVID-19 vaccination coverage.

### What are the implications for public health practice?

These combined strategies will protect health care, essential businesses, and schools, bridging to a future with high community coverage of effective vaccines and safe return to more activities in a range of settings.

\*See: <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6949e2-H.pdf> and [Research References | Nonpharmaceutical Interventions | CDC](#) and [\(27\) WHO's Science in 5 on COVID-19 - Vaccine myths vs science – YouTube](#) and <https://www.sciencedirect.com/science/article/pii/S1286457920301581/pdf?isDTMRedir=true&download=true>

# COVID-19 Vaccine Facts\*

## ✓❑ Fact: The Coronavirus Vaccines are 95% Effective

The COVID-19 vaccines from Pfizer/ BioNTech and Moderna provide a 95% effectiveness in preventing people from developing coronavirus symptoms. This data is based on clinical trials that included tens of thousands of people from both companies.

## ✓❑ Fact: The COVID-19 Vaccine Will NOT Give You COVID-19

It is impossible for someone to develop COVID-19 through the vaccine injection since the vaccines do not contain the virus. The goal for COVID-19 vaccines is to teach our immune systems how to recognize and fight the virus that causes COVID-19. Sometimes this process can cause side effects, such as fatigue, headache, soreness or redness at the injection site, and muscle or joint pain. These symptoms are normal and are a sign that the body is building immunity.

## ✓❑ Fact: The COVID-19 Vaccine Does NOT Include A Little Bit of the Virus

Neither the Moderna nor Pfizer vaccine includes the virus that causes COVID-19, SARS-CoV-2. Unlike vaccines for other diseases that include an inactivated or weakened strain of a virus to build an immune response, the COVID-19 vaccine includes mRNA (messenger RNA) that teaches a person's body to build proteins to combat the virus.

## ✓❑ Fact: The Coronavirus Vaccines Were Not Rushed to Market

Development of the vaccines were well underway before the COVID-19 pandemic. How? Since SARS-CoV-2 comes from a family of viruses, including the SARS coronavirus of 2002 and the MERS coronavirus of 2012, scientists had already been developing new vaccines to treat a new virus from the family. In addition, the use of mRNA vaccines to treat diseases had been studied for the past several decades. The vaccine also went through the same rigorous Food and Drug Administration (FDA) process as every other vaccine, meeting all safety standards. No steps were skipped. The clinical trials and safety reviews actually took about the same amount of time as other vaccines.

## ✓❑ Fact: The COVID-19 Vaccine Will NOT Change Your DNA

[The mRNA vaccine has no impact on a person's DNA.](#) Messenger RNA allows cells to make proteins that trigger an immune response to the coronavirus, stopping it from entering a person's cells. The first vaccines granted emergency use authorization contain messenger RNA (mRNA), which instructs cells to make the "spike protein" found on the new coronavirus. When the immune system recognizes this protein, it builds an immune response by creating antibodies — teaching the body how to protect against future infection. The mRNA never enters the nucleus of the cell, which is where our DNA (genetic material) is kept. That means the mRNA does not affect or interact with your DNA in any way. COVID-19 vaccines that use mRNA work with the body's natural defenses to safely develop immunity to the virus, giving your cells a blueprint of how to make antibodies. Learn more about [how COVID-19 mRNA vaccines work](#).

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters>

## ✓❑ Fact: Less Than 0.5% Experience Severe Vaccine Side Effects

In the same trials, vaccines resulted in side effects that were generally mild to moderate and lasted no more than a couple of days. Symptoms included irritation at the injection point of the arm, chills, fatigue, muscle soreness and fever. Less than 0.5% of trial participants experienced severe symptoms as an allergic reaction to the vaccines. Remember, these symptoms are normal for any vaccine and are a sign that the body is building immunity.

## ✓❑ Fact: There are No Long-Term COVID-19 Vaccine Side Effects

Thousands of people, whether in trials or with the approved vaccines, have not experienced any long-term side effects. Some have experienced symptoms within minutes of the COVID-19 injection and needed to be treated with epinephrine, but medical providers were able to assist and ensure people with severe allergic reactions were cared for. Otherwise, all side effects have passed within a couple of days for all vaccine recipients.

## ✓❑ Fact: The Vaccine Booster Shot (second dose) Is Essential

Without the follow-up second vaccine, commonly called the booster shot, a person's immune system will not be able to develop a long-term response to the coronavirus. The initial primer shot sets an immune system up to react to the virus initially, developing some memory to it, but it's the second exposure that establishes long-term effectiveness.

## ✓❑ Fact: Vaccine injections do NOT contain tracking microchips

No vaccine injections or nasal sprays – including shots for COVID-19 – contain microchips, nanochips, RFID trackers or devices that would track or control your body in any way. Shipments of vaccine doses are monitored as they are shipped and administered across the country but the notion that these shots will contain tracking devices implanted into people is false.

## ✓❑ Fact: The severity of COVID-19 symptoms varies widely and getting vaccinated can help prevent infection with COVID-19.

Have you heard some exclaim, "COVID-19 isn't very serious, so I don't need to get the vaccine!?" Unfortunately, this is not true. While many people with COVID-19 have only a mild illness, others may get a severe illness or die. There is no way to know how COVID-19 will affect you, even if you are not at increased risk of severe complications. COVID-19 vaccination helps protect you by allowing your body to create an antibody response without having to experience sickness. Learn more about how COVID-19 vaccines work.

\* <https://coronavirus.marinhhs.org/vaccine/truths> and [Vaccines - Coronavirus COVID-19 Response \(ca.gov\)](#) and [Vax58ProviderFAQs.pdf \(eziz.org\)](#)

# Don't believe these COVID-19 Vaccine myths!\*

**✗ MYTH: The COVID-19 vaccine is being given to older people so they can die sooner.**

FACT: This is not true! The goal of vaccinating older adults is to prevent them from catching the virus in order to prevent severe symptoms or even death. Older adults are prioritized for the vaccine because they are more adversely affected by the COVID-19 virus, including being a higher risk of severe COVID-19 symptoms or even death. Marin County's older adults account for more than 28% of the population. In Marin County, 85% of all COVID-19 deaths have been among people age 65 or older. Clinical trials showed high success rates among older adults, including 95% efficacy rates for the Pfizer vaccine, and Moderna reporting 94.5% efficacy overall. This means that under the same conditions as the studies, the vaccine reduces the risk of infection by 94.5 to 95%.

**✗ MYTH: There have not been any prior RNA vaccines used in humans.**

FACT: RNA vaccine technology has been used to treat gastric cancer and hATTR, a rare debilitating nerve disease.

**✗ MYTH: I've already been diagnosed with COVID-19, so I don't need to receive the vaccine.**

FACT: If you have already had COVID-19, there's evidence that you can still benefit from the vaccine. Due to the severe health risks associated with COVID-19, and because re-infection and transmission to others is possible, people may be advised to get a COVID-19 vaccine even if they have been sick with COVID-19 before. At this time, experts don't know how long someone is protected from getting sick again after recovering from COVID-19. The immunity someone gains from having an infection, called natural immunity, varies from person to person. Some early evidence suggests natural immunity may not last very long.

\* <https://coronavirus.marinhhs.org/vaccine/truths> and [Vaccines - Coronavirus COVID-19 Response \(ca.gov\)](#) and [Vax58ProviderFAQs.pdf \(eziz.org\)](#)

**✗ MYTH: Once I receive the COVID-19 vaccine, I no longer need to wear a mask.**

FACT: Masking, handwashing and physical distancing remain necessary until a sufficient number of people are immune. The best protection we can offer each other right now is to continue to follow current guidelines. As more people are vaccinated and experts have a better idea of how long natural and vaccine immunity last, public health experts will update their guidance as necessary.

**✗ MYTH: RNA vaccines can implant material into the human genome or change a human's genetic structure.**

FACT: This is biologically impossible. An RNA vaccine uses a cell's processes to produce inert viral particles for the purpose of activating the human immune response. The cell that does this is ultimately destroyed by the immune system, which is the goal of ANY vaccine.

**✗ MYTH: I'm not at risk for severe complications of COVID-19 so I don't need the vaccine.**

FACT: Regardless of your risk, you can still contract the infection and spread it to others, so it's important you get vaccinated. Once the vaccine is widely available, it's recommended that as many eligible adults as possible get the vaccine. It's not only to protect you but your family and community as well.

**✗ MYTH: I am allergic to eggs so I shouldn't get the COVID-19 vaccine**

FACT: Neither the Pfizer/BioNTech vaccine nor the Moderna vaccine contain egg.

[https://www.cnn.com/interactive/2020/health/coronavirus-questions-answers/?utm\\_term=161900688246670549214d1d4&utm\\_source=cnn\\_Results+are+in+04.20.2020&utm\\_medium=email&utm\\_campaign=1619006882467&bt\\_ee=Bt1%2BesZlgctSxfEo1VTb1qAOlutOsi6LSVlb%2BdoSHodUdd35e3bfht8TY4gQNezo&bt\\_ts=1619006882467](https://www.cnn.com/interactive/2020/health/coronavirus-questions-answers/?utm_term=161900688246670549214d1d4&utm_source=cnn_Results+are+in+04.20.2020&utm_medium=email&utm_campaign=1619006882467&bt_ee=Bt1%2BesZlgctSxfEo1VTb1qAOlutOsi6LSVlb%2BdoSHodUdd35e3bfht8TY4gQNezo&bt_ts=1619006882467)

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters>

<https://www.youtube.com/watch?v=B-aaVh0BQSw&feature=youtu.be> and [main.pdf \(nih.gov\)](#) and [main.pdf \(nih.gov\)](#)

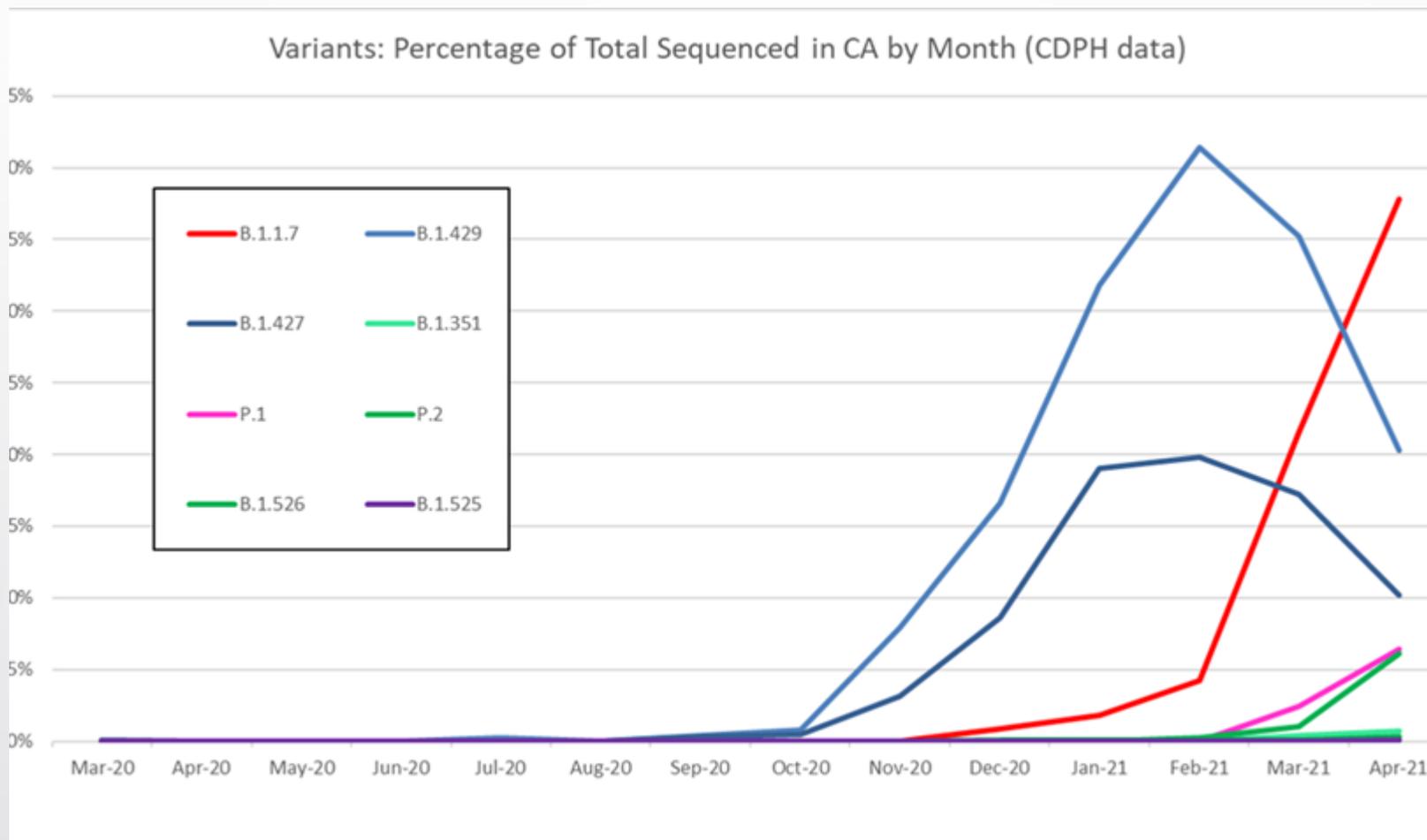
## Why SARS-CoV-2 Viral Genomic Strain Surveillance is Important for Public Health and Clinical Practice\*

### Some of the potential consequences of emerging variants are the following:

- **Ability to spread more quickly in people.** There is already evidence that one mutation, D614G, confers increased ability to spread more quickly than the wild-type<sup>[2]</sup> SARS-CoV-2. In the laboratory, 614G variants propagate more quickly in human respiratory epithelial cells, outcompeting 614D viruses. There also is epidemiologic evidence that the 614G variant spreads more quickly than viruses without the mutation.
- **Ability to cause either milder or more severe disease in people.** In January 2021, experts in the UK reported that B.1.1.7 variant may be associated with an increased risk of death compared to other variants. More studies are needed to confirm this finding.
- **Ability to evade detection by specific viral diagnostic tests.** Most commercial reverse-transcription polymerase chain reaction (RT-PCR)-based tests have multiple targets to detect the virus, such that even if a mutation impacts one of the targets, the other RT-PCR targets will still work.
- **Decreased susceptibility to therapeutic agents such as monoclonal antibodies.**
- **Ability to evade natural or vaccine-induced immunity.** Both vaccination against and natural infection with SARS-CoV-2 produce a “polyclonal” response that targets several parts of the spike protein. The virus would likely need to accumulate multiple mutations in the spike protein to evade immunity induced by vaccines or by natural infection.

Among these possibilities, the last—the ability to evade vaccine-induced immunity—would likely be the most concerning because once a large proportion of the population is vaccinated, there will be immune pressure that could favor and accelerate emergence of such variants by selecting for “escape mutants.” There is no evidence that this is occurring, and most experts believe escape mutants are unlikely to emerge because of the nature of the virus.

\* See: <https://www.cdc.gov/coronavirus/2019-ncov/more/science-and-research/scientific-brief-emerging-variants.html> and [Interim: Implications of the Emerging SARS-CoV-2 Variant VOC 202012/01 | CDC](https://www.who.int/csr/don/31-december-2020-sars-cov2-variants/en/) and <https://www.who.int/csr/don/31-december-2020-sars-cov2-variants/en/>



Note: these data represent a combination of convenience sampling of general specimens and selective sampling of high suspicion specimen and so may not be representative of the distribution of variants in CA.

Take home point (SOCO): These data suggest that B117 is currently the predominant form in CA  
 This variant has been associated with surges in cases and hospitalizations in other locations.

# Get Vaccinations for COVID-19 and Flu, and Encourage Others to do the Same



## Nearly all COVID deaths in US are now among unvaccinated\*

Nearly all COVID-19 deaths in the U.S. now are in people who weren't vaccinated, a staggering demonstration of how effective the shots have been and an indication that deaths per day — now down to under 300 — could be practically zero if everyone eligible got the vaccine.

And only about 150 of the more than 18,000 COVID-19 deaths in May were in fully vaccinated people. That translates to about 0.8%, or five deaths per day on average.

\* [https://apnews.com/article/coronavirus-pandemic-health-941fcf43d9731c76c16e7354f5d5e187?utm\\_campaign=SocialFlow&utm\\_medium=AP&utm\\_source=Twitter](https://apnews.com/article/coronavirus-pandemic-health-941fcf43d9731c76c16e7354f5d5e187?utm_campaign=SocialFlow&utm_medium=AP&utm_source=Twitter)

# Role and Authorities of County Health Officers\*

## **SOURCES OF HEALTH OFFICER AUTHORITY:\***

The Health Officer is **required** to observe and enforce (1) local orders and ordinances pertaining to the public health; (2) orders prescribed by the CDPH; and (3) statutes relating to the public health.

## **HEALTH OFFICER AUTHORITY TO INVESTIGATE AND REPORT DISEASE:\*\***

Upon receiving a report of communicable disease, Health Officers **shall** take whatever steps as may be necessary for the investigation and control of spread of the disease, condition or outbreak reported.

Under California Department of Public Health (CDPH) regulations, the Health Officer **must** provide for an examination of the person or animal in order to verify the diagnosis, existence, or outbreak of the disease, investigate the source and take appropriate steps to prevent or control the spread of the disease.

## **HEALTH OFFICER POWERS, DUTIES AND RESPONSIBILITIES ARE CIRCUMSCRIBED BY CONSTITUTIONAL LIMITATIONS:\*\*\***

Because the Health Officer's exercise of authority may impact, curtail or impair an individual's protected rights and liberties, **constitutional considerations may arise.**

\* California Health and Safety Code, ("H&S"), §120100 et seq. 3 H&S §120115(k) and 17 California Code of Regulations ("CCR") §2501. The county health officer position and role are authorized by H&S §101000, and her/his authority to control communicable diseases is authorized by H&S §120175. The governing body of a city derives authority to preserve and protect the public health by regulation and adoption of ordinances, regulations, and orders pursuant to H&S §101450

\*\*<https://www.cdph.ca.gov/Programs/CCLHO/CDPH%20Document%20Library/HO%20Practice%20Guide%20for%20Communicable%20Disease%20Control%20in%20CA%202013.pdf>

\*\*\* "The liberty secured by the Constitution of the United States to every person within its jurisdiction (U.S. Constitution, 5 and 14 Amendments; California Constitution. Article 1, §§7, 15) does not import an absolute right in each person to be, at all times and in all circumstances, wholly free from restraint. There are manifold restraints to which every person is necessarily subject for the common good. On any other basis organized society could not exist with safety to its members." *Jacobsen v. Massachusetts*, (1905). 197 U.S. 11, 26.

# Proposed Limits on Public Health Authority: Dangerous for Public Health

May 2021

In recent months, at least 15 state legislatures have passed or are considering measures to limit severely the legal authority of public health agencies to protect the public from serious illness, injury, and death. Other states may consider such legislation in the future. It is foreseeable that these laws will lead to preventable tragedies.

Specifically, this report finds that dissatisfaction and anger at perceived overreaches by governors and public health officials in response to the COVID-19 pandemic has led to an onslaught of legislative proposals to eliminate or limit the emergency powers and public health authority used by these officials. Public health officials are also being threatened personally.

In the twentieth century, public health interventions helped to increase life expectancy among U.S. residents by 62%, from 47.3 years in 1900 to 76.8 in 2000.<sup>1</sup> In this timeframe, the most notable achievements in public health, assisted by the efforts of public health agencies across the country, include:

- Vaccination
- Motor-vehicle safety
- Safer workplaces
- Control of infectious diseases
- Decline in deaths from coronary heart disease and stroke
- Safer and healthier foods
- Healthier mothers and babies
- Family planning
- Fluoridation of drinking water and
- Recognition of tobacco use as a health hazard<sup>2</sup>

Modern public health agencies use their authority for more than preventing epidemics and tracking, investigating and stopping the spread of disease and other health threats (e.g. foodborne illness, HIV/AIDS, measles). These agencies serve many other critical functions, such as preventing injuries; promoting and encouraging healthy behaviors such as diet and exercise; preventing chronic diseases,

