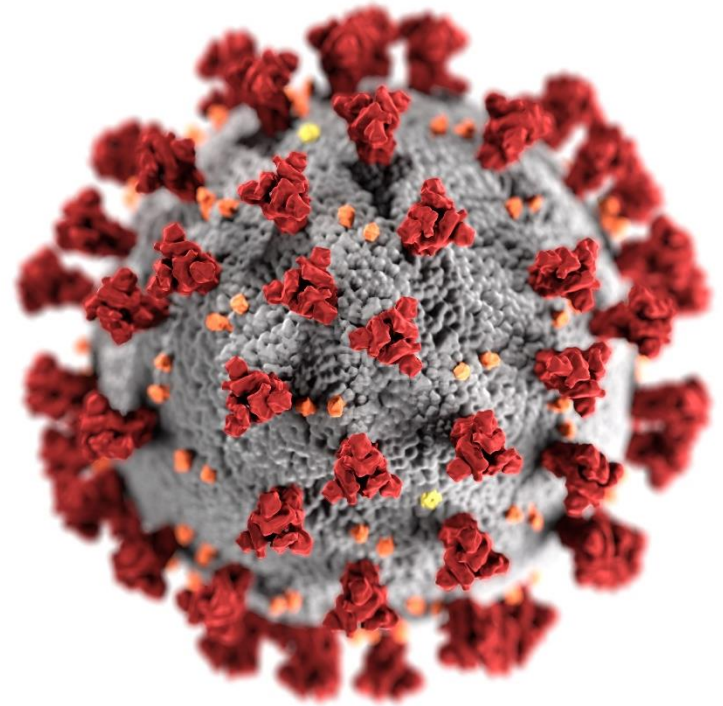


Show me the data! What numbers mean to COVID-19 communication

April 27, 2022



cdc.gov/coronavirus

Overview

- Welcome
- John T. Brooks, MD - Following the Science
- Brian King, PhD, MPH - How CDC Monitors Data/COVID-19 Community Levels
- Matthew Ritchey, PT, DPT, MPH - Quantitative Data
- Anisha Verma, MPH - Qualitative Data/Vaccine Insights
- Q&A



Today's speakers



John T. Brooks, MD
Senior Science Advisor,
CDC COVID-19 Response
Chief Medical Officer,
CDC Division of HIV Prevention



Brian A King, PhD, MPH
Chief Science Officer,
CDC COVID-19 Response
Executive Editor, MMWR Series



Matthew Ritchey, PT, DPT, MPH
Captain, US Public Health Service
Lead, Data, Analytics & Visualization
(DAV) Task Force
CDC COVID-19 Response



Anisha Verma, MPH
Senior Analyst
Immunization Service Division
National Center for Immunization
and Respiratory Diseases



Moderator: Haley McCalla, MPH, CHES
Public Health Partnerships Lead
State, Tribal, Local and Territorial Support
Task Force, CDC COVID-19 Response

John T. Brooks, MD

Following the science



Brian A. King, PhD, MPH

How CDC monitors data

COVID-19 Community Levels



Where are we now in the COVID-19 pandemic?

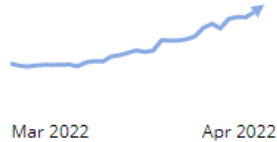
COVID Data Tracker

Daily Update for the United States

Cases

New Cases (Daily Avg)
47,407

Case Trends

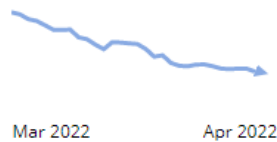


Total Cases
80,874,929

Deaths

New Deaths (Daily Avg)
330

Death Trends

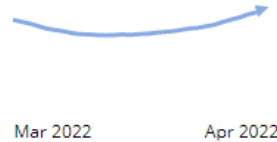


Total Deaths
988,991

Hospitalizations

New Admissions (Daily Avg)
1,782

Admission Trends



Current Hospitalizations
10,340

Vaccinations

% At Least 1 Dose
82.4%

People Age 5+



Total At Least 1 Dose
257,354,769

CDC | Data as of: April 26, 2022 2:11 PM ET. Posted: April 26, 2022 4:19 PM ET



<https://covid.cdc.gov/covid-data-tracker/#datatracker-home>

Scientific Advances Have Helped Move the COVID-19 Pandemic to a New Phase



**Widespread Availability
of Vaccines & Testing**

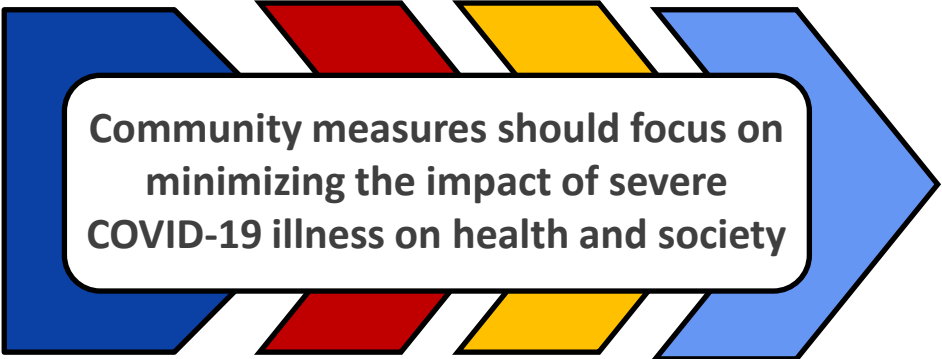


**Immunity from
Vaccination and
Infection**



**Advances in
Treatments**

Why refocus efforts for monitoring COVID-19 impact in communities?



Community measures should focus on minimizing the impact of severe COVID-19 illness on health and society



Protecting the Most Vulnerable



Preventing Severe Illness



Minimizing Burden on the Healthcare System

What's a COVID-19 Community Level?

- New tool to help communities decide what prevention measures to take based on the latest data.
- Every community in the United States is classified as:

LOW

Limited impact on healthcare system, low levels of severe illness

MEDIUM

Some impact on healthcare system, more people with severe illness

HIGH

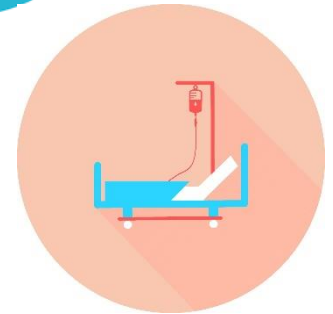
High potential for healthcare system strain; high level of severe illness

Latest Data

New COVID-19 Cases



New COVID-19 Admissions



Beds with COVID-19 Patients

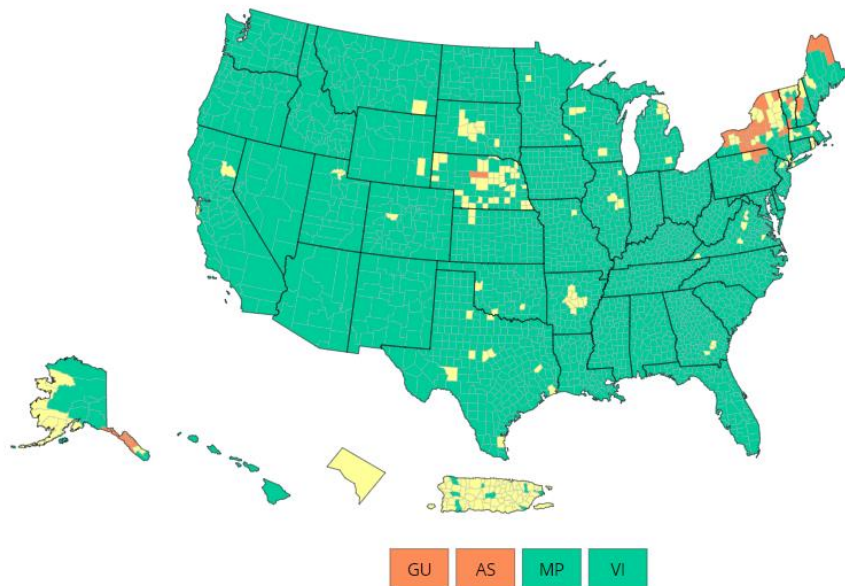
COVID-19 Community Levels by County

State or territory:

Select a State

County or metro area:

Select County



COVID-19 Community Levels in US by County

	Total	Percent	% Change
High	40	1.24%	0.81%
Medium	228	7.07%	1.64%
Low	2956	91.69%	- 2.45%

How are COVID-19 Community Levels calculated?



<https://www.cdc.gov/coronavirus/2019-ncov/science/community-levels.html>

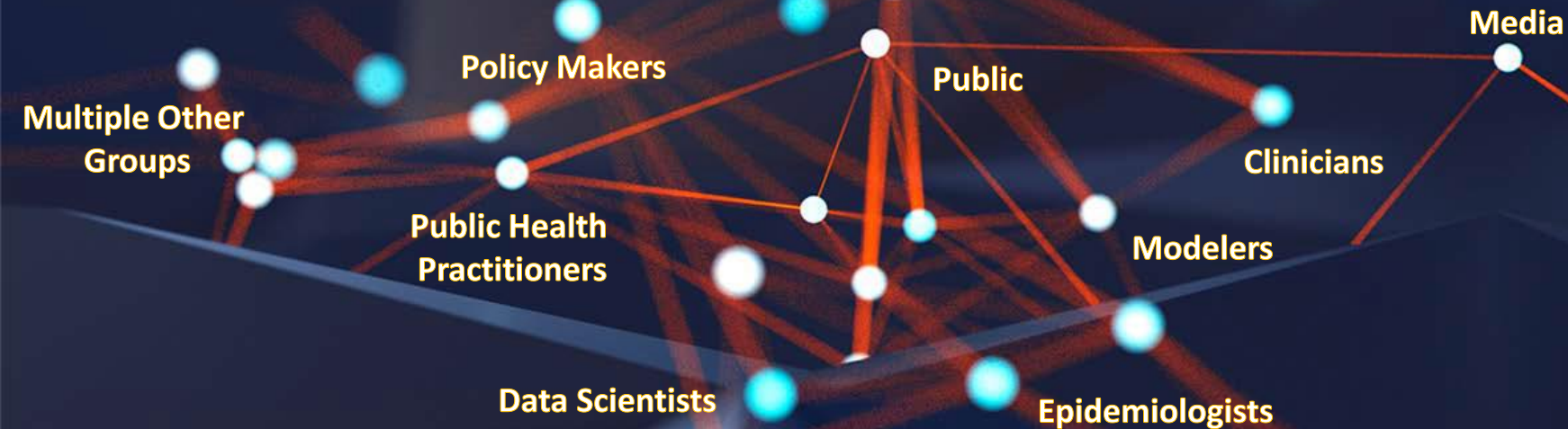
Map screenshot date:
April 27, 2022

CAPT Matthew Ritchey, PT, DPT, MPH

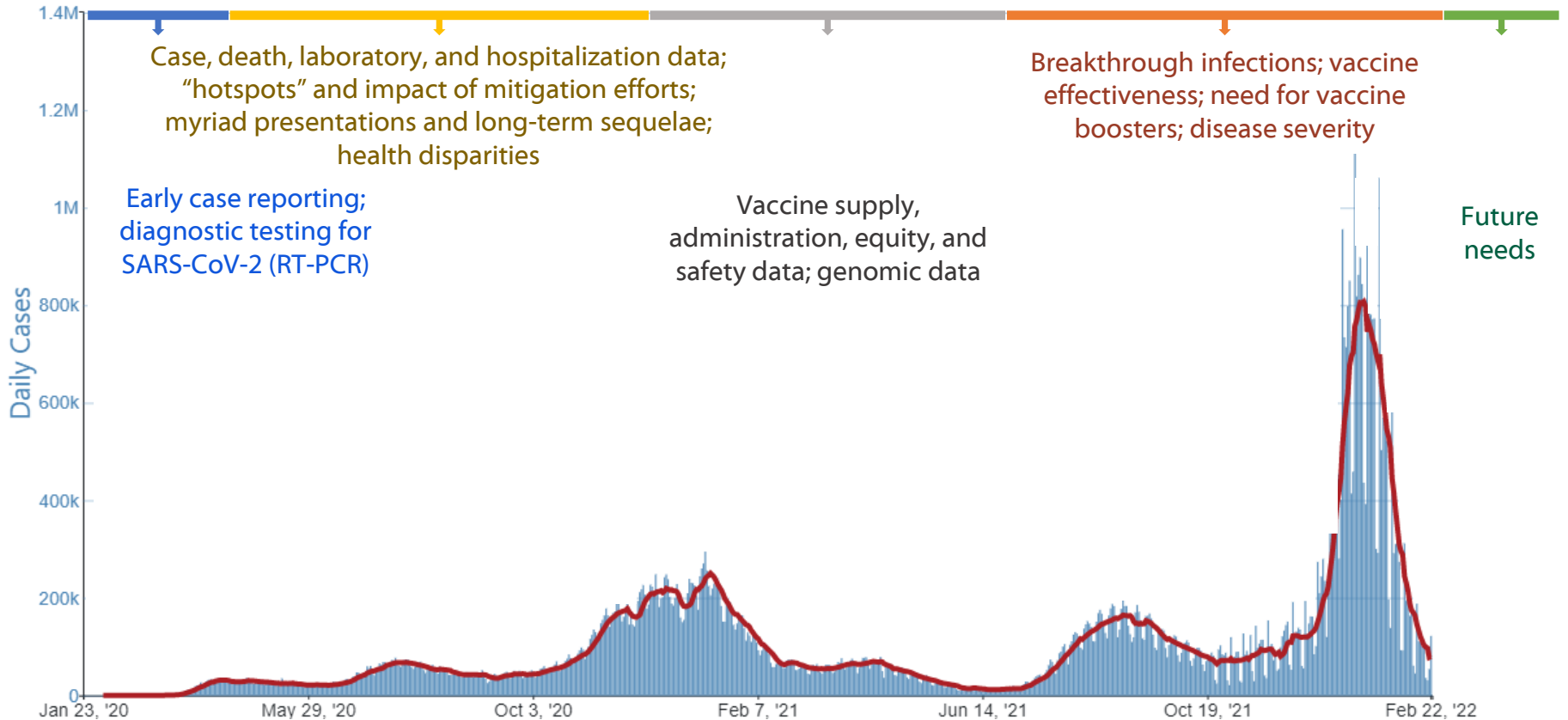
Quantitative data



Key Partners in Collecting and Communicating Public Health Data



COVID-19 Pandemic: Evolving Data and Analytic Needs



Data Collected to Monitor COVID-19 Disease Burden*

COVID-19 Electronic Laboratory Reporting (CELR)

~866 million COVID-19 tests

Case-Based Disease Surveillance

~72 million individual-level case reports
~81 million aggregate case reports

National Syndromic Surveillance Program

>7.4 million COVID-19 emergency department visits

Immunization Data Systems

~574 million vaccinations administered

Genomics Data

~2.2 million published sequences

Wastewater Surveillance Data

934 sites (49 jurisdictions) provided >59,000 samples

Healthcare Data

~140 terabytes of clinical and administrative data

Population-based surveillance systems, like COVID-NET**

Hospitalization data from 250 hospitals in 14 states

*Data current as of April 27, 2022; test count represents COVID-19 Nucleic Acid Amplification Test (NAAT) results; additional information at: <https://covid.cdc.gov/covid-data-tracker/>;

** <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covid-net/purpose-methods.html>

Stay on top of data from your community and from around the world using the CDC COVID Data Tracker



Find the latest data on CDC's COVID Data Tracker



321583-A

- Launched April 2020
- Combines county, state, national, and global data from across the COVID-19 response in a series of interactive dashboards
- More than 292 million page views since April 2020

<https://covid.cdc.gov/covid-data-tracker/#datatracker-home>

Data as of April 27, 2022

Data Presented on CDC COVID Data Tracker

Your Community

**Vaccination Delivery
& Coverage**

**Variants & Genomic
Surveillance**

Health Equity

**Vaccination Effectiveness
& Breakthroughs**

**Antibody
Seroprevalence**

Pediatric Data

**Cases, Deaths, &
Testing**

**People at
Increased Risk**

Pregnancy Data

Demographic Trends

**Wastewater
Surveillance**

**Communications
Resources**

Health Care Settings

**Prevention Measures
& Social Impact**

COVID Data Tracker Weekly Review

COVID DATA TRACKER WEEKLY REVIEW

Print

Interpretive Summary for July 23, 2021

Subscribe to the Weekly Review

Our Shot to End the Pandemic

The United States is once again seeing a rise in COVID-19 cases, hospitalizations, and deaths. As of July 22, 35% of U.S. counties are experiencing high levels of community transmission. COVID-19 cases are on the rise in nearly 90% of U.S. jurisdictions, and we are seeing outbreaks in parts of the country that have low vaccination coverage. These worrisome trends are due, in part, to the rapid spread of the highly transmissible B.1.617.2 (Delta) variant. An increase in the number of cases will put more strain on healthcare resources and could lead to more hospitalizations and deaths.

An increase in COVID-19 cases also creates more opportunities for the virus to mutate, which could lead to the emergence of new variants. Variants of the virus that causes COVID-19 are now responsible for all cases in the United States. The original strain is no longer detected among variants circulating throughout the country. The B.1.617.2 (Delta) variant is now the predominant variant in the United States, making up an estimated 83.2% of recent U.S. cases. The best way to slow the emergence of new variants is to reduce the spread of infection by taking measures to protect yourself, including getting a vaccine when it's available to you.



[View Larger](#)

>>10.3M Page Views since launch
>98K Newsletter subscribers

<https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html>

NEW EDITION OUT NOW

Friday, August 13, 2021

IN THIS WEEK'S EDITION:

- COVID-19 trends in young people
- “Back to School” considerations



Find the latest data in
CDC's COVID Data Tracker Weekly Review



321563-BQ

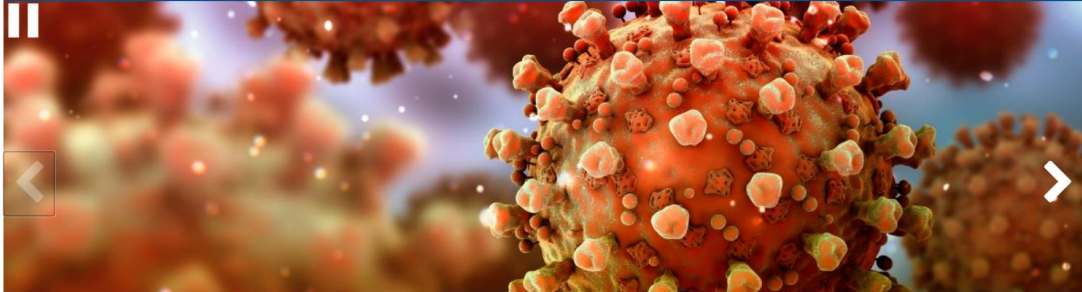
Other Sources of COVID and Non-COVID Data

CDC Centers for Disease Control and Prevention Data.CDC.gov
CDC 24/7: Saving Lives. Protecting People.™

Search

Home Data Catalog Developers Video Guides

Sign In



COVID-19 Public Data Sets

Numerous COVID-19 datasets available for public use. Datasets feature case surveillance, deaths, populations, sex, race, and age. Search by the tag "COVID-19" to see all datasets.

NATIONAL CENTER
FOR HEALTH
STATISTICS

INJURY & VIOLENCE

NATIONAL NOTIFIABLE
DISEASES
SURVEILLANCE
SYSTEM

VACCINATION

Data & Statistics



Heart Health

Learn about heart disease and women and what you can do to keep a healthy heart.



Stop Drug Overdose Deaths

Learn about the dangers of fentanyl and polysubstance use.



World Hearing Day

Learn how to protect your ears from loud noises year round.

Data & Stats by Topic

- [Alcohol Use](#)
- [Arthritis](#)
- [Asthma](#)
- [Autism Spectrum Disorder \(ASD\)](#)
- [Birth Defects](#)
- [Births & Natality](#)
- [Breastfeeding](#)
- [Cancer](#)
- [Chronic Diseases](#)
- [Chronic Kidney Disease](#)
- [Deaths & Mortality](#)
- [Diabetes](#)
- [Environmental Health](#)
- [Foodborne Illness](#)
- [Genomics](#)
- [Heart Disease](#)
- [Healthy Aging](#)
- [Immunizations](#)
- [Injuries & Violence \(NISQARS\)](#)
- [Life Expectancy](#)
- [Lyme Disease](#)
- [National Notifiable Diseases](#)
- [Oral Health](#)
- [Overweight & Obesity](#)
- [Physical Activity](#)
- [Reproductive Health](#)
- [Smoking & Tobacco](#)
- [STDs](#)
- [Tuberculosis \(TB\)](#)
- [Viral Hepatitis](#)

Tools

- [Data.CDC.gov](#)
- [CDC Growth Charts](#)
- [CDC Vital Signs](#)
- [Chronic Disease Prevention and Health Promotion Open Data](#)
- [Classification of Diseases, Functioning, and Disability](#)
- [Diabetes State Burden Toolkit](#)
- [Disability and Health Data System](#)
- [Environmental Public Health Tracking Network](#)
- [Healthy People 2020](#)
- [Interactive Database Tools](#)
- [National Notifiable Diseases Surveillance System](#)
- [NIOSH Data and Statics Gateway](#)
- [NISQARS](#)
- [SARS and Territorial Data](#)
- [Surveillance Resource Center](#)
- [Surveys and Data Collection Systems](#)

<https://www.cdc.gov/datastatistics/index.html>

CDC Data Modernization Initiative (DMI) Priorities



Build the right foundation

Accelerate data into action

Develop a state-of-the-art workforce

Support + extend partnerships

Manage change + governance

Important Public Health Data Considerations

Data Attributes and Alignment
Example:
National vs. local data snapshots



Data Connections
Example:
Vaccination and health
outcome data



Data Silos



Data Linkage

Data Systems
Example:
Hospitalization
data



Single Source



Sentinel surveillance



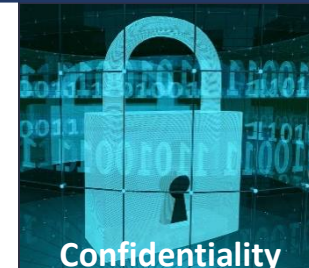
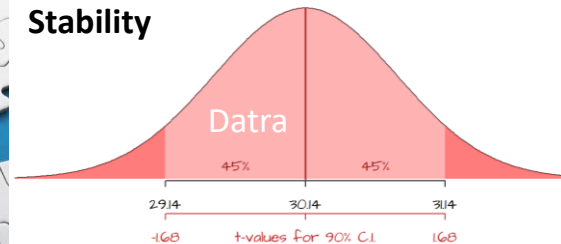
Data triangulation

Data Sharing
Example:
Race and ethnicity
data



Completeness

Stability



Confidentiality



**Data Use
Agreements**

We are in a different place than we were before the pandemic

Electronic Case Reporting



Automated case data to reduce burden on providers

*Healthcare Facilities Reporting:
From 187 to >11,000*

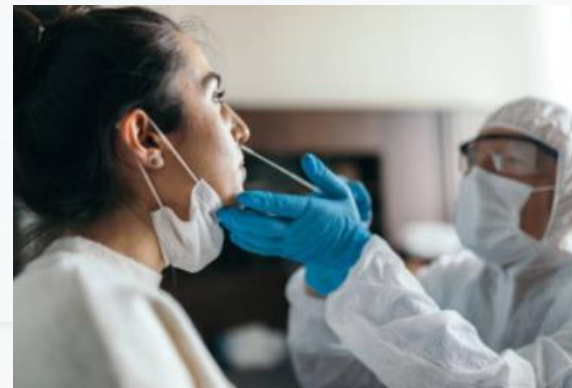
COVID-19 Vaccination Data Flow



Advanced data pipelines to inform action

*Vaccine Dose Data Tracked:
From none to over 574M*

CELR Laboratory Data Flow



Streamlined lab data flow from state health departments to CDC

*COVID Lab Results to CDC:
From none to over 1.5M per day*

Anisha Verma, MPH

Qualitative data

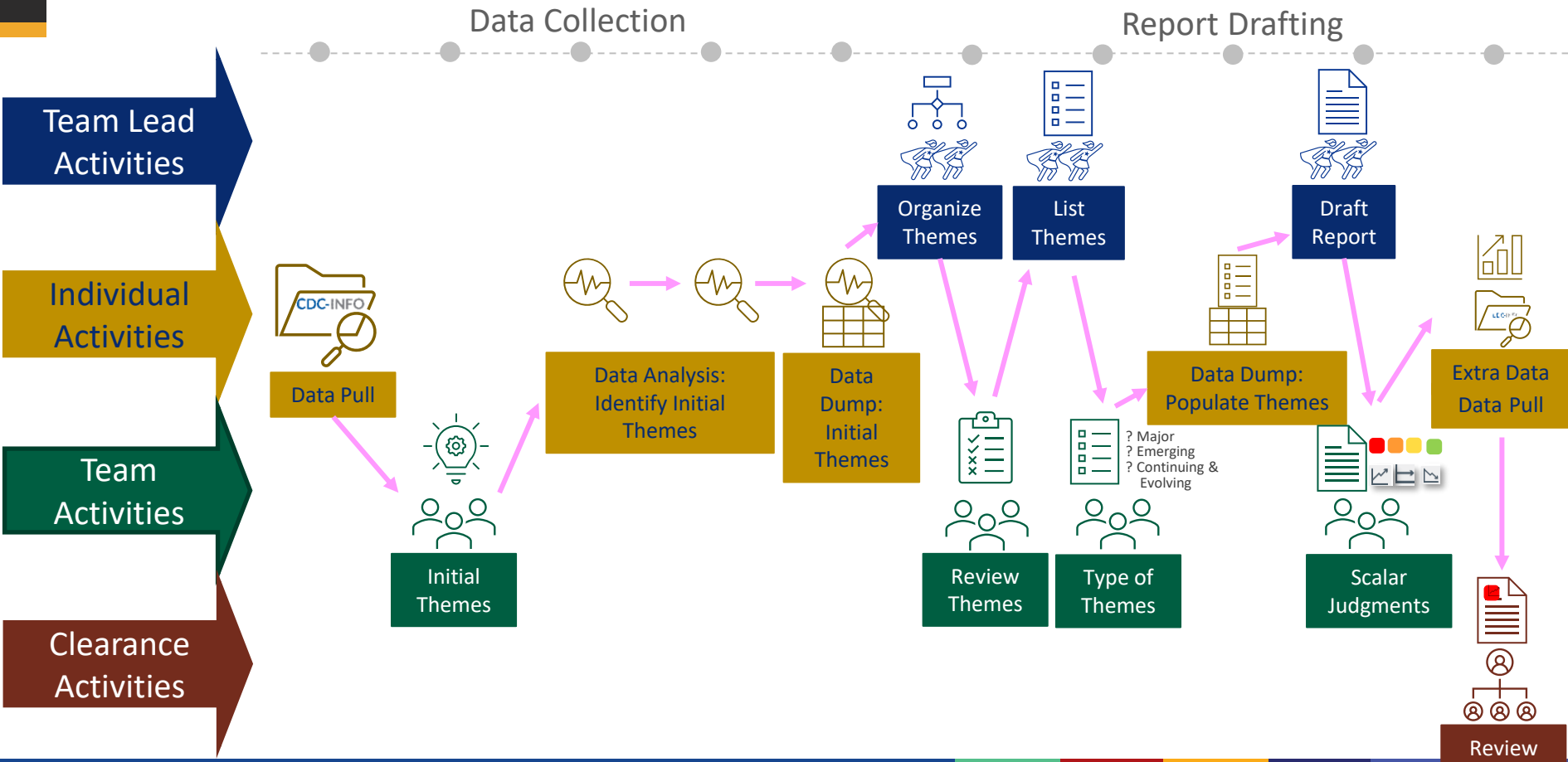


CDC's COVID-19 State of Vaccine Confidence Insights Report

- Collects data from over 24 quantitative and qualitative data sources
- Themes identified using integrated and thematic analysis
- Assigned a threat level relative to vaccine uptake and information spread
- Suggested actions identified for each theme
- Disseminated to almost 1000 internal and external partners





Type	Input	Cadence	Sources	Tactics for Utilization
Social Media Listening & Media Monitoring	Communication Surveillance Report	Daily on weekdays	<ul style="list-style-type: none"> • Google news • Meltwater • CrowdTangle • Native platform searches 	<ul style="list-style-type: none"> • Share of voice topic analysis to identify themes • Emerging topics
	Meltwater	Daily	<ul style="list-style-type: none"> • Facebook, Twitter, Instagram • Blogs • News media • Online forums 	<ul style="list-style-type: none"> • Share of voice topic analysis • Emerging theme topics • Identify high reach/velocity topics
	OADC Channel Comment Analysis	Daily on weekdays	<ul style="list-style-type: none"> • Native platform searches 	<ul style="list-style-type: none"> • Sentiment analysis • Identify message gaps/voids
Direct Reports	CDC-INFO Metrics	Weekly	<ul style="list-style-type: none"> • CDC-INFO inquiry line list • Prepared response (PR) usage report 	<ul style="list-style-type: none"> • Cross-compare PR usage with inquiry theme analysis • Sentiment analysis • Identify information gaps/voids
	VTF Media Requests	Weekly	<ul style="list-style-type: none"> • Media request line list 	<ul style="list-style-type: none"> • Leading indicator for news coverage • Identify information gaps/voids
	Web Metrics	Weekly	<ul style="list-style-type: none"> • Top pages • Google search queries • Top FAQs • Referring domains 	<ul style="list-style-type: none"> • Identify information gaps/voids. • Identify keywords/search terms, changes in web traffic
Research	Poll Review	Weekly	<ul style="list-style-type: none"> • Harris Poll, PEW research, Gallup Poll, KFF • New data related to vaccine hesitancy 	<ul style="list-style-type: none"> • Identify socio-behavioral indicators related to motivation and intention to vaccinate
	Literature Review	Weekly	<ul style="list-style-type: none"> • PubMed, LitCovid, ProQuest Central • New data related to vaccine hesitancy 	<ul style="list-style-type: none"> • Identify current vaccination intention • Identify barriers to vaccination
Third Party Reports	Tanaq Social Listening +Media Monitoring Report	Weekly	<ul style="list-style-type: none"> • Meltwater • Sprout Social • First Draft • Native platform searches 	<ul style="list-style-type: none"> • Trending topics • Demographic and geographic conversation monitoring
	CrowdTangle content insights report	Biweekly	<ul style="list-style-type: none"> • Facebook 	<ul style="list-style-type: none"> • Top pages (voices), groups • General trends/sentiment analysis • News analysis through posts
	First Draft News Vaccine Misinformation Insights Report	Monthly	<ul style="list-style-type: none"> • Proprietary methods 	<ul style="list-style-type: none"> • Media trends analysis • Emerging threats and data deficits • Online vaccine narratives
	Project VCTR	Weekly	<ul style="list-style-type: none"> • Proprietary methods 	<ul style="list-style-type: none"> • National and regional trends in negative attitudes toward vaccination • Conversations around Legislation




State of Vaccine Confidence Report Process



Synthesizing multiple inputs and identifying themes through a consensus-building process.

Theme Classification

How do you classify this theme/information?			
High risk	Moderate risk	Low risk	Positive sentiment
			
<ul style="list-style-type: none">▪ May lead to vaccine refusals and decreased uptake▪ Wide reach, pervasive	<ul style="list-style-type: none">▪ Potential to trigger hesitancy to vaccination▪ Moderate reach, modest dissemination	<ul style="list-style-type: none">▪ Concerning, but low risk to vaccine confidence▪ Limited reach, limited dissemination	<ul style="list-style-type: none">▪ Could increase vaccine confidence, intent, or motivation▪ Variable reach and dissemination

How has this theme/idea changed over time (since last report or over the course of multiple reports)?		
		
Increasing Information spreading rapidly	Stable Information remaining constant at prior level	Decreasing Information is not gaining further traction and there has been no indication of additional activity

Not your average social listening report.



Parents expressed concern, confusion, and frustration as children return to school.

With K-12 schools and institutions of higher education either already in session or about to open, the safety and well-being of students, faculty, and staff—as well as of their families and communities—once again is the subject of debate. This debate threatens to harden the views of consumers who are unvaccinated and erode vaccine confidence generally.^{72,73,74} While some parents continue to favor reopening K-12 schools in person and at capacity, parental views regarding appropriate mitigation strategies and mask or vaccine mandates track with political affiliation and vaccination status.^{75,76,77} Anxious parents of young children are impatient that COVID-19 vaccines are not yet authorized for children younger than 12 years old. They are also slightly more likely to favor school mask requirements than those whose children are eligible to be vaccinated.^{78,79}

Vocal vaccine deniers continued to amplify misinformation on social media about supposed dangers that masking and vaccination pose for children. This is fueling conflict between COVID-19 skeptics and parents and school administrators who support masks, vaccination, and other mitigation strategies.^{80,81,82,83,84,85} Clashes over masks in schools suggest that vaccination mandates, especially for younger children, will be difficult to implement, especially given that some politicians, faith leaders, and school administrators are already coaching skeptical parents on how to circumvent mask and vaccine requirements.^{86,87}

Ways to act:

- Develop and disseminate messages about the risk of COVID-19 for children. Highlight the increasing case numbers among children and the increasing number of children hospitalized with severe COVID-19. Remind consumers about the role that children play in spreading the virus.
- Continue to amplify messages that vaccination for children 12 years and older is the best way to protect them from illness, clarifying that the risk for severe COVID-19 or complication caused by illness is higher than the risk of an adverse event from vaccination.
- Partner with school administrators and support them to promote messages about the benefits of vaccination or connect them to other trusted messengers. Also, help them promote mitigation measures for children, parents, school staff, and the broader community. Remind them to connect unvaccinated staff and families to vaccination information and events.



Consumers expressed frustration and confusion about updated guidance for fully vaccinated individuals.

CDC's update to the Interim Public Health Recommendations for Fully Vaccinated People generated confusion and exasperation among many consumers.^{88,89,90} Initial confusion about the updated guidance—particularly around when and where indoor masking for vaccinated individuals would be required—drove social media users to express frustration both with the updated guidance and with unvaccinated consumers. Many people saw consumers who are unvaccinated as responsible for the Delta surge and associated return of restrictions.^{91,92,93}

The reimposition of mitigation strategies that equally affected people who are vaccinated and unvaccinated was amplified on both news media and social media.^{94,95,96,97} This, in turn, spawned opinion pieces chiding the frustrated for their pettiness and warning that openly shaming people who are unvaccinated could depress vaccine acceptance by driving some in the “moveable middle” into outright vaccine refusal.^{98,99,100}

Renewed political and social clashes over mitigation measures could have further undermined vaccine confidence. Mask skeptics and vocal vaccine deniers seized upon the uncertainties that inform CDC's updated guidance to disparage vaccines, sow doubt about the efficacy of vaccination, and create suspicion about the motives of public and private entities advocating vaccination.^{101,102,103}

Ways to act:

- Disseminate messages that provide clarity around guidance for people who are fully vaccinated. Remind people that both being vaccinated and wearing masks in public places can help protect people who are too young to be vaccinated, unable to be vaccinated, or at high risk for serious illness.
- Continue to amplify messages that asymptomatic or mild breakthrough cases of COVID-19 are expected and are a normal occurrence with many vaccines, such as influenza vaccination. Reassure consumers that even high numbers of breakthrough infections align with projected vaccine effectiveness and that breakthrough cases are likely much less severe than they would have been had the person not been vaccinated.

re: A new mask mandate signals failure of The Biden Administration

New "mask mandate" is about:

1. Punishing red states saving their lives and economically and culturally destroying blue states
2. Extending eviction moratorium and unemployment to further delay an economic collapse until matters
3. Just because it makes us mad

MASKS. DONT. DO. ANYTHING.

Since the State of Vaccine Confidence Reports began, we have seen the conversations shift and change drastically.

COVID-19 State of Vaccine Confidence Insights Report
Report 1 | February 17, 2021 | Date Range: January 24, 2021

COVID-19 State of Vaccine Confidence Insights Report
Report 2 | March 1, 2021 | Date Range: February 16, 2021 - March 1, 2021

COVID-19 State of Vaccine Confidence Insights Report
Report 3 | March 15, 2021 | Date Range: February 16, 2021 - March 1, 2021

COVID-19 State of Vaccine Confidence Insights Report
Report 4 | March 29, 2021 | Date Range: March 2, 2021 - March 29, 2021

COVID-19 State of Vaccine Confidence Insights Report
Report 5 | April 12, 2021 | Date Range: March 15 - 29, 2021

COVID-19 State of Vaccine Confidence Insights Report
Report 6 | April 28, 2021 | Date Range: April 12 - 26, 2021

Summary
Public trust in the U.S. to manage COVID-19 have much more work to do. Consumers are and jurisdictions' varied prioritization plans, appointments, and inequitable access to CC information about adverse events and seric and spread across digital and print media; intensifying fears and concerns of those w less inclined to get vaccinated. Coordinati increase transparency, address systemic b necessary and essential to increase vaccin

Summary
There continue to be widespread concern about COVID-19 vaccine rollout in and threatens vaccine acceptance. Underlying and acute medical co and their eligibility to receive a va to retail pharmacy settings, consu access. The Centers for Disease Co coordinate with states and Jurisdi in information, and confront misin increase vaccine confidence more

Summary
Findings. Since the introduction of a third authorized COVID-19 vaccine in th optimistic that a return to normal life is within reach. However, people's conc Johnson & Johnson's COVID-19 vaccine raise new threats to vaccine spread or address consumer concerns. Recent data suggest unvaccinated groups. In addition to vaccination status, co to one dose of the current two-dose vaccines raised consu offers protection against the virus that causes COVID-19. Recommendations. Federal, state, and local partners should continue to transparency, respond to gaps in information, and confront i broadly. Efforts should be made to increase confidence in COVID-1 broadly; investigate community-specific factors contributing t misinformation while promoting trustworthy sources.

Summary
Findings. Following President Biden's announcement t end of May, many people express a renewed sense of h held equity and access issues, is bringing increasingly high vaccine confidence; current tactics by tech companies to are also less likely to adhere to safety and mitigation guid to divisions between these groups. New studies with CWI offers protection against the virus that causes COVID-19. Recommendations. Federal, state, and local partners should transparency, respond to gaps in information, and confront i broadly. Efforts should be made to increase confidence in COVID-1 broadly; investigate community-specific factors contributing t misinformation while promoting trustworthy sources.

Summary
Findings. Vaccine supply is increasing nationally, and ma have expanded, or plan to expand, vaccine eligibility to a Consumers are optimistic that a return to normalcy is w optimism is undermined by growing online narratives of mandates and proof-of-vaccination systems. Many cons of both requiring COVID-19 vaccination and tracking w but unvaccinated children are seeking clarity about wh until their children can be fully vaccinated. Many part able to be vaccinated in the coming months after the Vaccine in children. However, experts are divided abo being the pandemic to an end. Ways to take action. Federal, state, and local partne transparency, respond to gaps in information, and o broadly. Efforts should be made to continue to amp COVID-19 vaccines. Additionally, research should b mandates, proof-of-vaccination systems, and ince vaccinated.

Summary
Findings. There continues to be strong backlash against the idea of digital vaccine passports and potential and sports venues, say that they will require proof of vaccination for entry or services. However, about half of the U.S. population strongly opposes any type of vaccine verification system, with consumers largely divided along party lines. Additionally, coverage of vaccine hesitancy is increasing as the media reports that vaccine supply exceeds demand in some communities and recent data suggests that vaccine demand and coverage may plateau as soon as late April. News and social media coverage of hesitancy, vaccine surplus, and the looming threat of not reaching population immunity may undermine intentions to vaccinate by fostering the perception that controlling COVID-19 is outside one's control. Ways to take action. Federal, state, and local partners should continue to work together to increase transparency, respond to gaps in information, and confront misinformation with evidence-based messaging. broadly. Efforts should be made to continue to amplify information about the safety and effectiveness of COVID-19 vaccines.

Contents
1 Summary
2 Aims and Methods
3 Vaccine passports and mandates polarize consumers and politicize the broader vaccination effort
4 Coverage of vaccine hesitancy and other threats to population immunity increase
5 Emerging Themes
6 Continuing and Evolving Themes
7 Appendix: Inputs and Sources

Centers for Disease Control & Prevention, COVID-19 Response, Vaccine Task Force Vaccine Confidence Team, Insights Unit

Q&A



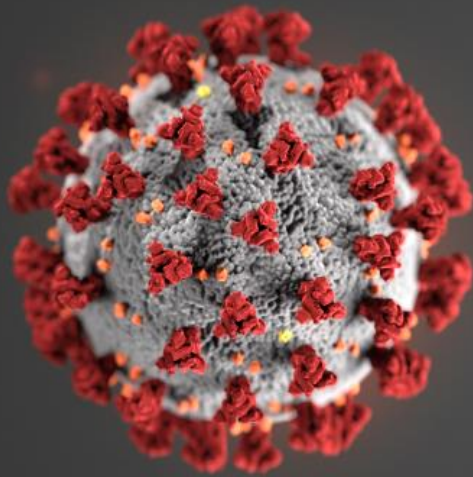
For more information

This webinar will be posted in 8-10 days at
[CDC EPIC Webinars](#)

For all other questions, contact epic@cdc.gov

Thank you!





For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

