



COVID-19 VACCINES

Herbie Duber, MD, MPH, FACEP
Regional Medical Officer, NW Washington

About me

Original Investigation

December 30, 2021

Assessing Catastrophic Health Expenditures Among Uninsured People Who Seek Care in US Hospital-Based Emergency Departments

Kirstin Woody Scott, MD, MPH, PhD^{1,2}; John W. Scott, MD, MPH³; Amber K. Sabbatini, MD, MPH⁴; Carina Chen, MA²; Angela Liu, MPH⁵; Joseph L. Dieleman, PhD²; Herbert C. Duber, MD, MPH^{2,4}

[Author Affiliations](#) | [Article Information](#)

JAMA Health Forum. 2021;2(12):e214359. doi:10.1001/jamahealthforum.2021.4359

Key Points

Question What is the risk of a single treat-and-release emergency department (ED) visit contributing to a catastrophic

COMMENTARY

Addressing the Needs of People Living Homeless During the COVID-19 Pandemic

Duber, Herbert C. MD, MPH; Dorn, Elizabeth M. MD, DTMH; Fockele, Callan E. MD, MS; Sugg, Nancy K. MD, MPH; Shim, M. Mia MD, MPH

[Author Information](#)

Journal of Public Health Management and Practice. November/December 2020 - Volume 26 - Issue 6 - p 522-524
doi: 10.1097/PHH.0000000000001234

[Metrics](#)


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RESEARCH ARTICLE

Uptake of WHO Recommendations for First-Line Antiretroviral Therapy in Kenya, Uganda, and Zambia

Herbert C. Duber  Emily Dansereau, Samuel H. Masters, Jane Achan, Roy Burstein, Brendan DeCenso, Anne Gasasira, Gloria Ikilezi, Caroline Kisira, Felix Masiye, Pamela Njuguna, Thomas Odeny, Emelda Okiro, D. Allen Roberts, Emmanuela Gakidou

Published: March 25, 2015 • <https://doi.org/10.1371/journal.pone.0120350>

Article	Authors	Metrics	Comments	Media Coverage
				

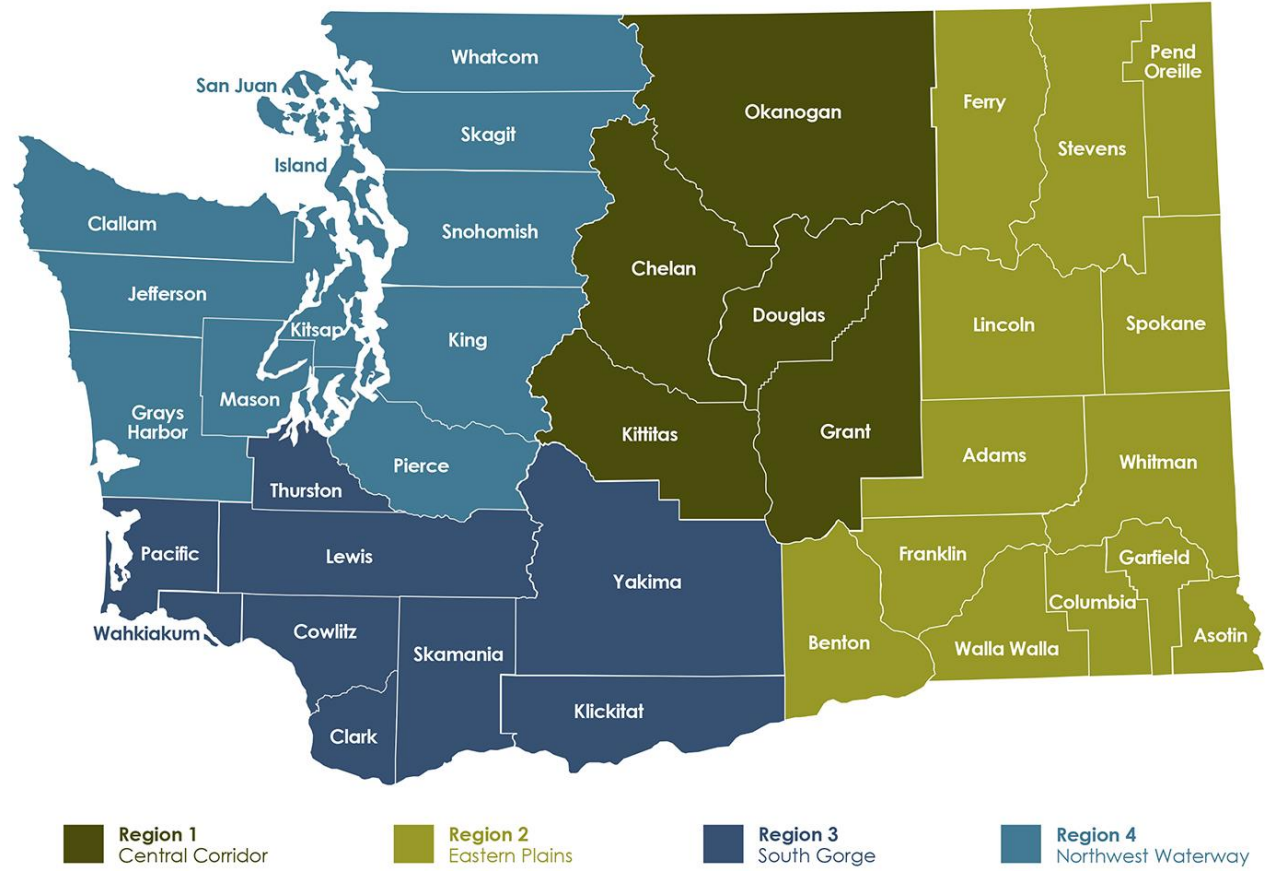
Articles

Global, regional, and national incidence and mortality for HIV, tuberculosis, and malaria during 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013



Christopher J L Murray*, Katrina F Ortblad, Caterina Guinovart, Stephen S Lim, Timothy M Wolock, D Allen Roberts, Emily A Dansereau, Nicholas Graetz, Ryan M Barber, Jonathan C Brown, Haidong Wang, Herbert C Duber, Mohsen Naghavi, Daniel Dicker, Lalit Dandona, Joshua A Salomon, Kyle R Heuton, Kyle Foreman, David E Phillips, Thomas D Fleming, Abraham D Flaxman, Bryan K Phillips, Elizabeth K Johnson, Megan S Coggeshall, Foad Abd-Allah†, Semaw Ferede Abera†, Jerry P Abraham†, Ibrahim Abubakar†, Laith J Abu-Raddad†, Niveen Me Abu-Rmeileh†, Tom Achoki†, Austine Olufemi Adeyemo†, Arsène Kouablan Adou†, José C Adsuart,

Regional Medical Offices



COVID...year 3



UNITED STATES

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OVERVIEW

All Time

Past Day

Past Week

Past Month

Confirmed Cases

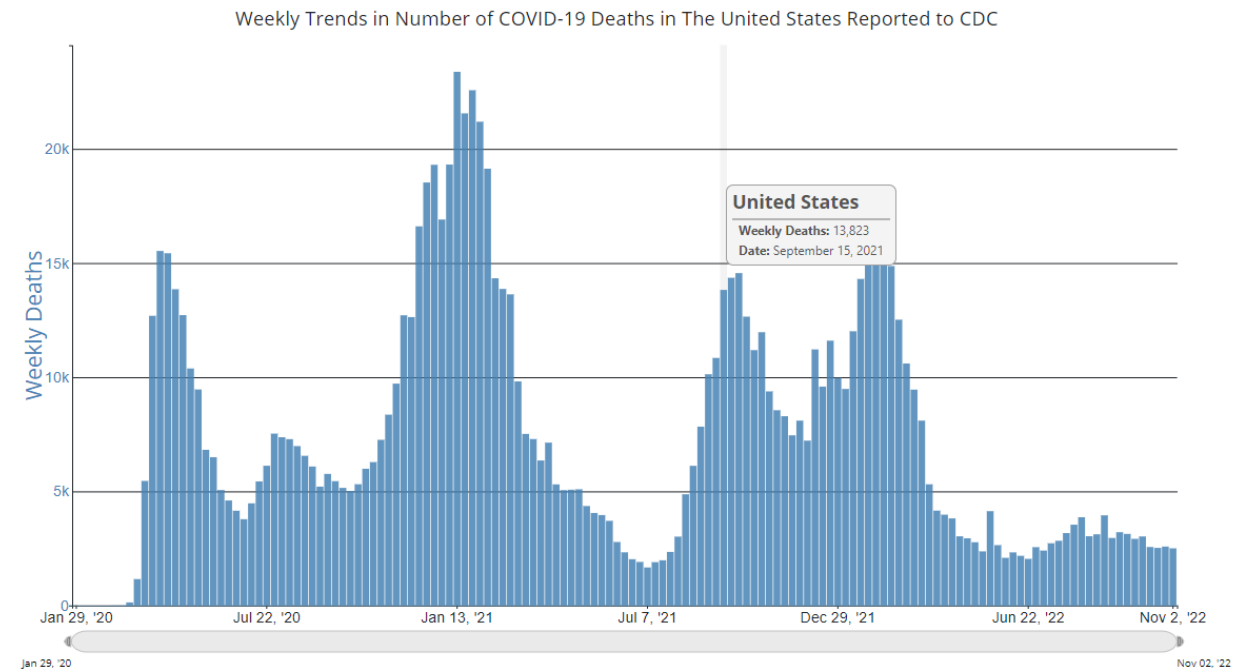
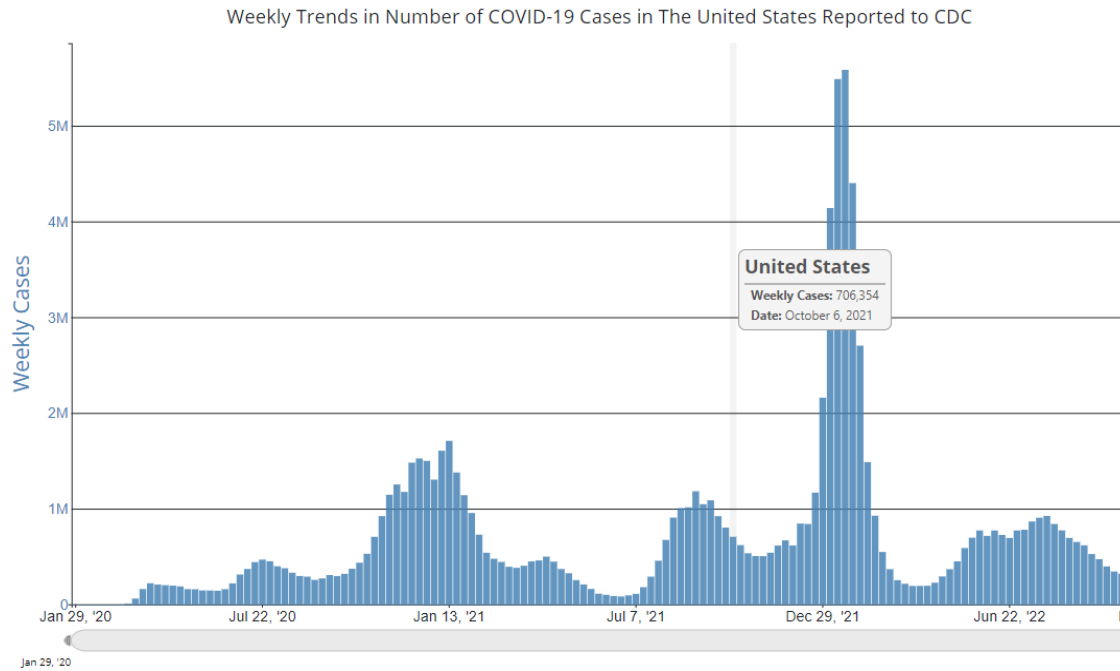
97,997,389

Deaths

1,074,485



US COVID trends 2020-2022



CDC COVID data dashboard available at [CDC COVID Data Tracker: Daily and Total Trends](https://www.cdc.gov/covid/data-tracker/). Accessed 11-04-2022



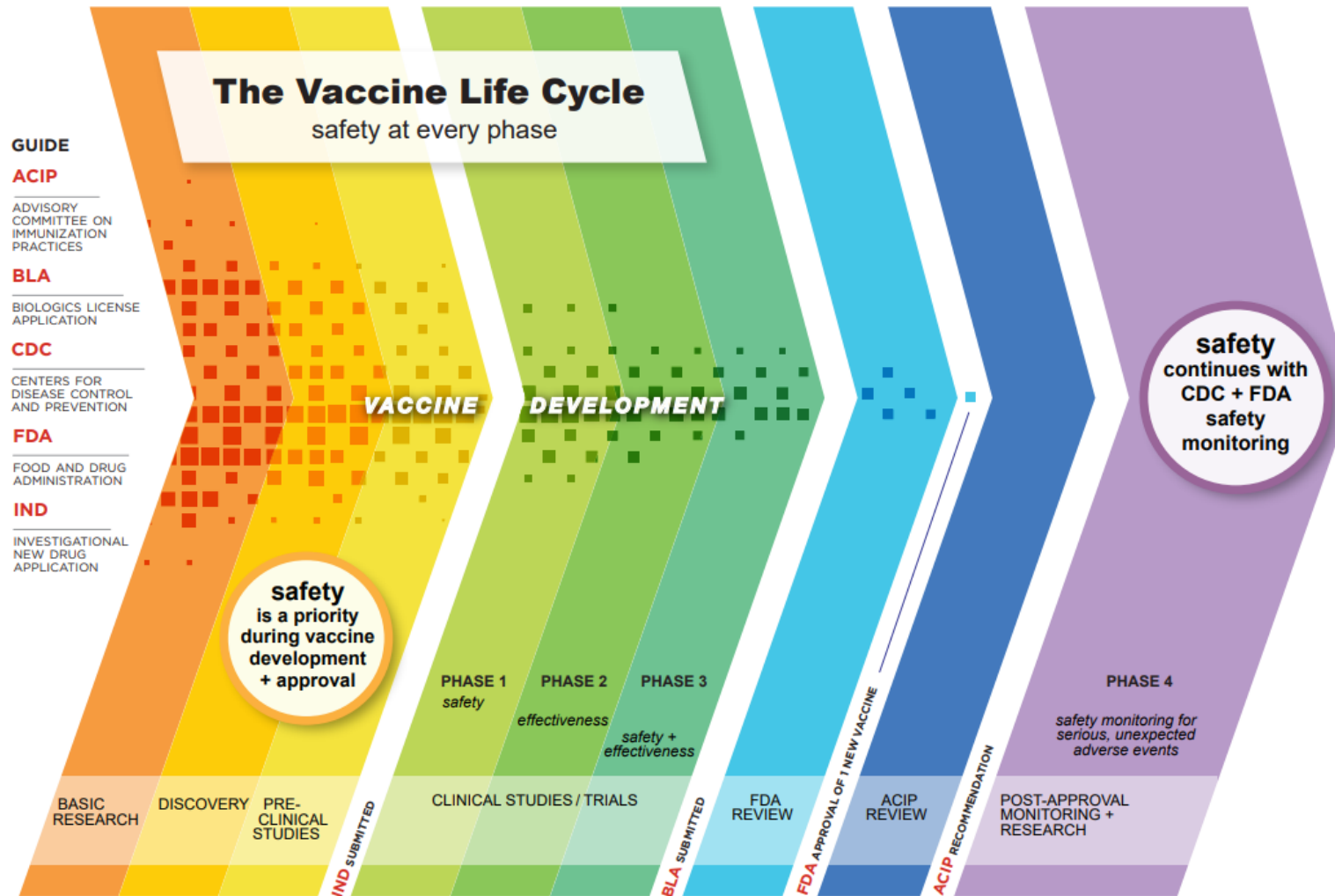
Vaccine Safety

Covid-19 Vaccine Safety

- More than 636 million doses of COVID-19 vaccine have been given in the United States from December 14, 2020 through October 27, 2022
- All of the U.S. vaccines are also being used in other countries where additional testing and monitoring occurs
- Covid-19 vaccines were evaluated on tens of thousands in clinical trials.
- Covid-19 vaccines met rigorous safety, effectiveness and quality standards set by the FDA.
- Covid-19 vaccine manufacturers continue to undergo intensive safety monitoring.



SOURCE: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety/safety-of-vaccines.html>



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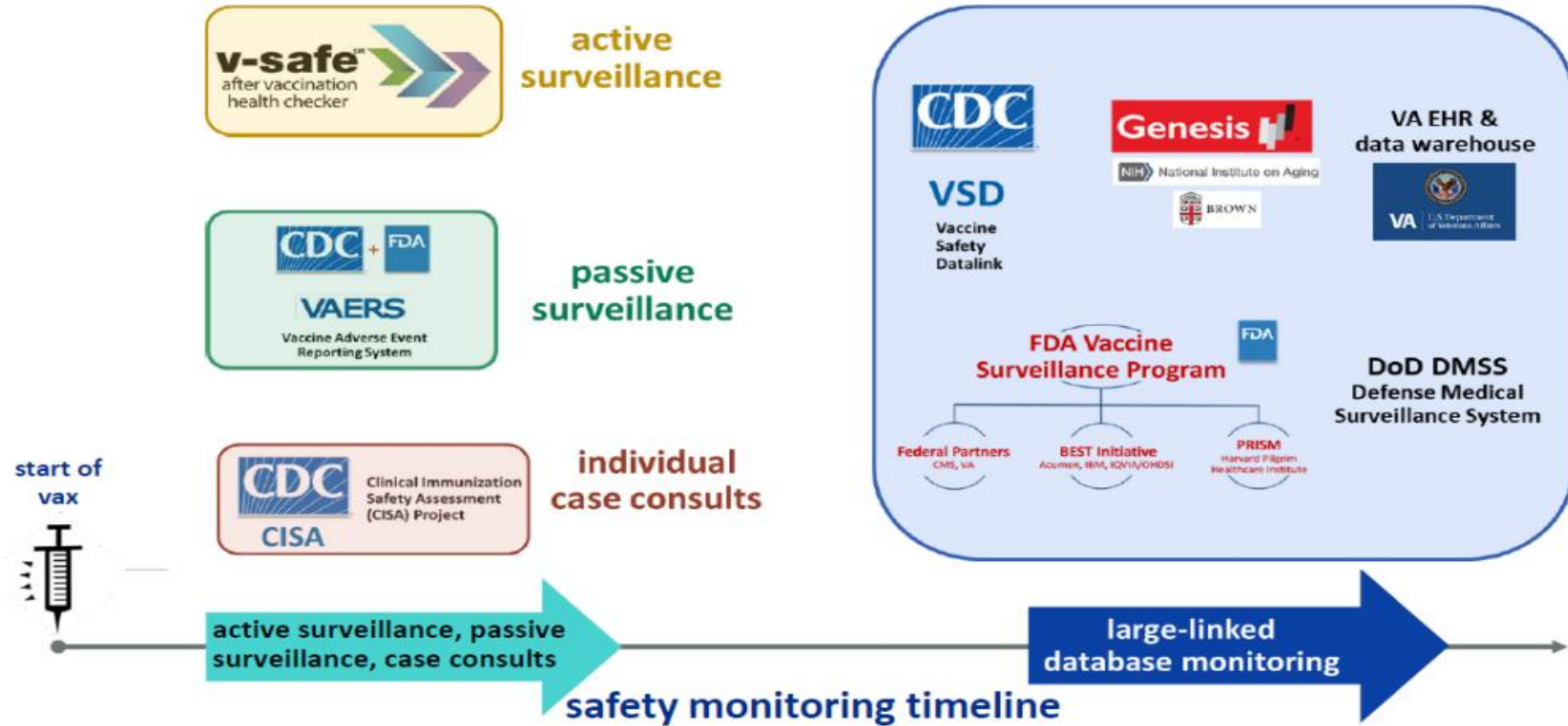
[FDA VACCINE DEVELOPMENT + APPROVAL PROCESS](http://go.usa.gov/xvvNd) <http://go.usa.gov/xvvNd>
[CDC VACCINE SAFETY MONITORING + RESEARCH](http://go.usa.gov/xvvNe) <http://go.usa.gov/xvvNe>

Advisory Committee on Immunization Practices (ACIP)

- ACIP has 15 voting members responsible for making vaccine recommendations to CDC
- 14 of the members have expertise in vaccinology, immunology and other clinical practice areas
- The 15th member is a consumer representative who provides community and social aspects of vaccination
- There are also eight ex officio members who represent other federal agencies with responsibility for immunization programs in the U.S. and 30 non-voting representatives of liaison organizations such as:
 - American Academy of Pediatrics
 - American Academy of Family Physicians
 - American College of Nurse Midwives
 - American College of Obstetricians and Gynecologists
 - American College of Physicians
- Members and representatives serve on the Committee voluntarily
- Meetings are open to the public with a published agenda, slides and recording available

Source: [ACIP General Information | CDC](#)

Vaccine Safety Monitoring Systems



Source: N. Klein MD Advisory Committee on Immunization Practices presentation; 04-20-2022 meeting. Available at [ACIP April 20, 2022 Presentation Slides | Immunization Practices | CDC](#)

VAERS is the nation's early warning system for vaccine safety



VAERS

Vaccine Adverse Event Reporting System

<http://vaers.hhs.gov>




How reports come into VAERS

Reports come from:


- Patients
- Parents/family member
- Caregivers
- Those who administer vaccines
- Healthcare providers
- Vaccine manufacturers

There are 2 ways to submit a report to the Vaccine Adverse Event Reporting System (VAERS)


Reporting adverse events to VAERS helps scientist at CDC and FDA keep vaccines safe.

Option 1: [Submit a VAERS Report online](#) 
(Preferred)

The online VAERS Report must be completed and submitted in the same session; it cannot be saved and edited at a later time. Note: sessions time out after 20 minutes of inactivity; no information is saved.

Option 2: [Download a Writable PDF Form and upload when ready](#) 

The Writable PDF Form can be downloaded and completed electronically on your own time. When ready, return to the VAERS Writable PDF web page (use link above) and follow **Step 2** instructions to upload the form.

More information on [reporting an adverse event to VAERS](#) . If you need further assistance, please email info@VAERS.org or call 1-800-822-7967.



SOURCE:https://www.cdc.gov/vaccinesafety/ensuringsafety/monitoring/vaers/index.html#anchor_1616772696807

How VAERS Works

- Assess the safety of newly licensed vaccines
- Detect new, unusual, or rare adverse events that happen after vaccination
- Monitor increases in known side effects, like arm soreness where a shot was given
- Identify potential patient risk factors for particular types of health problems related to vaccines
- Identify and address possible reporting clusters
- Recognize persistent safe-use problems and administration errors
- Watch for unexpected or unusual patterns in adverse event reports
- Serve as a monitoring system in public health emergencies

[SOURCE:https://www.cdc.gov/vaccinesafety/ensuringsafety/monitoring/vaers/index.html#anchor_1616772696807](https://www.cdc.gov/vaccinesafety/ensuringsafety/monitoring/vaers/index.html#anchor_1616772696807)

Covid-19 Vaccination Adverse Events

The CDC provides updates on the following rare adverse events following administration of Covid-19 vaccinations:

- Anaphylaxis: 5 cases per one million vaccine doses administered
- Thrombosis with thrombocytopenia syndrome (TTS) after Janssen Covid-19 vaccination: 4 cases per one million doses administered
- Guillain-Barre Syndrome (GBS) after Janssen Covid-19 vaccine rare disorder

Source: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety/adverse-events.html>

Covid-19 Vaccine Safety and Efficacy

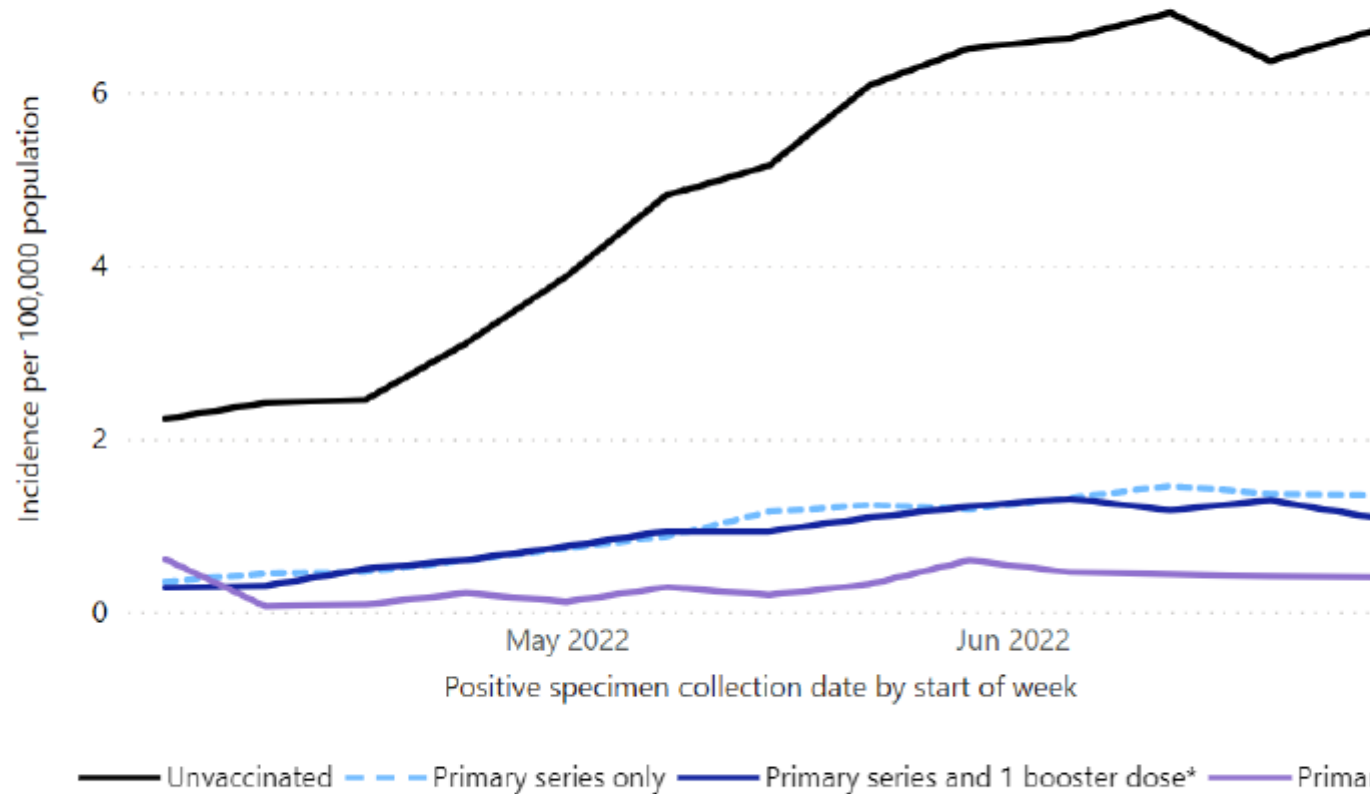
Myocarditis and COVID-19 vaccines

- Risk of **myocarditis/pericarditis** has been identified after COVID-19 vaccines
 - Risk is **rare** and primarily observed in adolescent and young adult males, within the first week after receiving the second dose or booster dose of an mRNA COVID-19 vaccine
- Most individuals with myocarditis/pericarditis have **fully recovered** at follow-up¹
- The risk of adverse cardiac outcomes were **1.8 – 5.6 times higher** after SARS-CoV-2 infection than after mRNA COVID-19 vaccination among males ages 12 – 17 years²
- Interval of **8 weeks** between vaccine doses may further lower myocarditis risk

Source: <https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2022-10-19-20/05-COVID-Oliver-508.pdf>

Why Vaccinate Against COVID?

Death Rates by Vaccination Status and Receipt of 1st and 2nd Booster Doses Among People Ages ≥50 Years April 3–July 2, 2022 (25 U.S. Jurisdictions)



In June 2022, people ages 50 years and older with **≥2 booster doses** had **14 times** lower risk of dying from COVID-19, compared to **unvaccinated** people and **3 times** lower risk of dying from COVID-19 than people with **one booster dose**

*Includes either a booster or additional dose.

<https://covid.cdc.gov/covid-data-tracker/#rates-by-vaccinbooine-status>. Accessed August 24, 2022

Global impact of the first year of COVID-19 vaccinations: Mathematical model of transmission and infection based on official reported COVID-19 deaths, 185 countries, December 2020—December 2021

- COVID-19 vaccinations are estimated to have prevented **13.7-15.9** million deaths
- This represents an estimated **63% reduction in** total COVID deaths globally



Watson, Barnsley, Toor et al. Lancet Infectious Diseases. 22:9(P1293-1302). [https://doi.org/10.1016/S1473-3099\(22\)00320-6](https://doi.org/10.1016/S1473-3099(22)00320-6)

Ongoing Impact of Vaccinations

The Commonwealth Fund Estimates of COVID-19 Attributable Deaths, Hospitalizations, Infections, and Health Care Costs Averted by the U.S. Vaccination Program December 12, 2020, and March 31, 2022

Deaths	2,265,222	2,051,041 to 2,467,683
Hospitalizations	17,003,960	15,680,556 to 18,250,413
Infections	66,159,093	58,774,953 to 73,787,291
Health care costs	\$899.4 billion	\$825.3 billion to \$978.5 billion

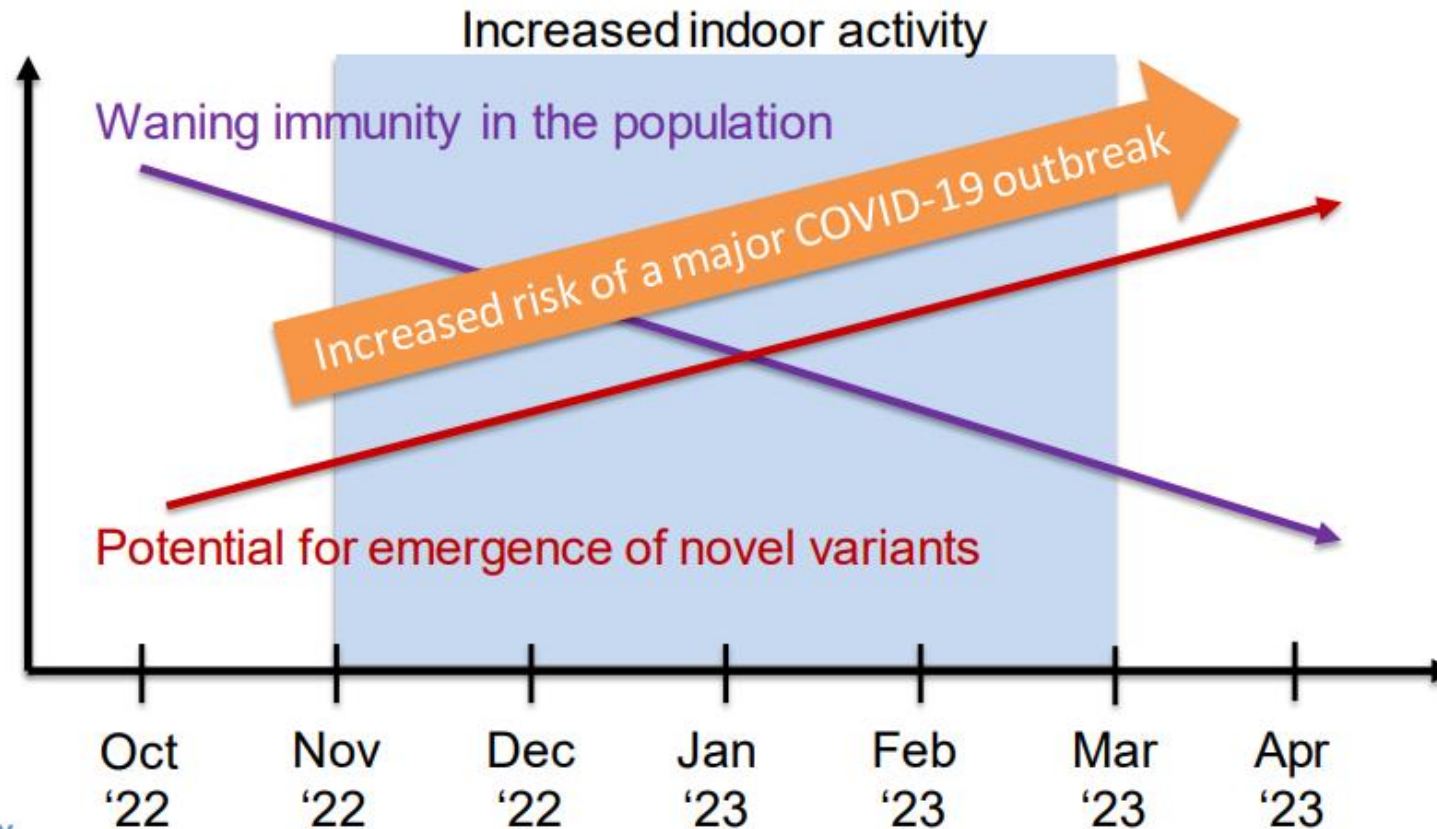
* Credible intervals reflect the range of normal uncertainty associated with estimates.

Data: Authors' analysis

Source: Eric C. Schneider et al., "Impact of U.S. COVID-19 Vaccination Efforts: An Update on Averted Deaths, Hospitalizations, and Health Care Costs Through March 2022," *To the Point* (blog), Commonwealth Fund, Apr. 8, 2022. <https://doi.org/10.26099/d3dm-fa91>

Source: [Impact COVID Vaccination Efforts: Update Through March 2022 | Commonwealth Fund](#)

Potential Evolution of COVID-19



www.fda.gov

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[Source: Vaccines and Related Biological Products Advisory Committee June 28, 2022 Meeting Presentation- Considerations for Whether and How the COVID-19 Vaccine Strain Composition Should be Modified \(fda.gov\)](#)



Thank you