The 2022-2023 Influenza Season: Outcomes and Policy Recommendations

A Report of the Coalition to Stop Flu

October 2023
It’s never “just the flu.”

The 2022-2023 influenza season saw low vaccination uptake, tens of thousands of deaths, and a high burden on communities and health care providers—all against the backdrop of the worst avian influenza outbreak in history. A nation juggling multiple infectious diseases at once is now the new normal. We can improve our positioning against seasonal flu, and it starts with:

**Prevention & Treatment**
- Ensure that everyone—especially our nation’s most vulnerable populations—has the knowledge and opportunity to get the flu vaccine recommended for them
- Ensure broad and reliable access to treatments

**Data & Surveillance**
- Improve data value by collecting more detailed information on reported flu cases
- Make testing a greater part of the flu strategy, just like we did for Covid-19

**The Seasonal-Pandemic Ecosystem**
- Help prevent a bad pandemic flu by supporting seasonal flu prevention and preparedness
- Support innovation in medical countermeasure development and stockpile management

About this report
The Coalition to Stop Flu is dedicated to ending deaths from seasonal and pandemic influenza and works to advance policy solutions to improve the federal government’s influenza preparedness and response efforts. This report looks back at the prior influenza season to identify successes and failures, with the goal of improving outcomes in the seasons ahead.

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The 2022-2023 Influenza Season

The 2022-2023 influenza season arrived early and spread quickly. After two relatively mild seasons, the United States saw the return of pre-pandemic levels of influenza, resulting in millions of illnesses, hundreds of thousands of hospitalizations, and tens of thousands of fatalities—including the deaths of more than 160 children.¹ This resurgence coincided with the return of other viral illnesses, straining a health care system already stressed by Covid-19. Worryingly, this all occurred against the backdrop of the world’s worst recorded outbreak of highly pathogenic avian influenza, which experts fear could evolve to spread to humans.

By the Numbers

Seasonal influenza hit early in the fall of 2022 and peaked ahead of normal. The surge resulted in record-high positive tests in November and, by early December, total hospitalization levels were higher at that point of the year than they had been in a decade: 17 out of every 100,000 Americans were hospitalized due to influenza.²

The outpatient burden was also extremely high. State-level “attack rates” of influenza-like illness (“ILI”)—the number of cases of fever and cough/sore throat by state—are used as a proxy for flu. The map on page 2 shows the substantial ILI burden as of Thanksgiving, with the dark red and purple representing the hardest-hit areas.

Seasonal flu is not a reportable disease in most parts of the United States, challenging health officials’ situational awareness of case counts. To fill the gap, the Centers for Disease Control and Prevention (CDC) creates estimates using mathematical models based on data received through its hospital surveillance network (FluSurv-NET), which covers about 9% of the national population. Based on these models, the CDC estimated that last season resulted in 27-54 million illnesses, 300,000-650,000 hospitalizations, and 19,000-58,000 deaths.3 These numbers, while not unprecedented, are a stark contrast to the past two seasons. The season is expected to be categorized as moderately severe.

Even these numbers, large as they are, do not tell the full story. Among the deaths were at least 172 children, most of whom were unvaccinated.4 Many adults and children who survived flu illnesses experienced harrowing hospital stays, and some are now living with chronic respiratory, cardiac, and other health consequences.

Flu vaccines are designed to reduce the risk of flu illness, especially severe illness. The effectiveness of flu vaccines varies with the season and the circulating virus strains. This past season, overall flu vaccine effectiveness was estimated at 56%. This translates into strong outcomes: for example, vaccinated children were 68% less likely to be hospitalized.5

Vaccination overall provides significant protection against flu-related illness and emergency visits. And yet, vaccination uptake remains well below what is needed. We remain

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“As a healthy, 47-year-old mom of two, I never thought flu would almost cost me my life. After 28 days on life support and intensive rehabilitation, I want others to know that flu is serious and annual flu vaccination saves lives.”

– Mindy Basis, Vaccinate Your Family advocate

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<th>ILLNESSES</th>
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<td>27-54 million</td>
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ONLY

47.4% of adults,
48.9% of pregnant women,
55.1% of children
WERE VACCINATED.
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Percentage Of Outpatient Visits For Respiratory Illness Reported By The U.S. Outpatient Influenza-like Illness Surveillance Network (ILINET), Weekly National Summary, 2022-2023 and Selected Previous Seasons


far short of the Healthy People 2030 target of 70% population-wide vaccination, and the gap is widening.\(^6\)

Vaccine coverage of all adults is frustratingly low, but rates among pregnant people and children, who are especially vulnerable to severe illness and death, are deeply concerning.\(^7\) Vaccination for children was down 7.1% from the start of the Covid pandemic; for pregnant women, it declined 16.6%. And vaccination statistics reveal real disparities across races, ethnicities, and geographies. White adults were vaccinated 17.6 percentage points above Hispanic adults, 13.7 points above American Indian/Alaskan Native adults, and 13.5 points above Black adults. Only 51% of Black children were vaccinated. Adults in rural areas had 4.6% lower uptake than suburbanites.\(^8\)

A “Tripledemic” Surge

Compounding the burden of influenza in the fall of 2022 was a renewed surge of illnesses from Covid-19 and respiratory syncytial virus (RSV). CDC reports of influenza-like illness peaked months early compared to prior years, and the peak was higher than most, rivaled only by the bad 2017-2018 season. That high, early peak is shown in the chart above by the line with red triangles.

Incredibly, one survey found that through the holidays and into January 2023, nearly 40% of American households were hit with either influenza, Covid-19, or RSV. This exhausting winter highlighted major existing health care workforce issues, with nearly 80% of counties lacking a single infectious disease physician.\(^10\)
It also resulted in a dramatic shortage of pediatric hospital beds, impeding hospitals’ ability to provide care for patients, backing up emergency departments, causing delays in less urgent procedures, and forcing some families to seek care for their children in other states.\textsuperscript{11}

**A New Pandemic Threat**

Influenza is relatively unique among infectious diseases in that it circulates seasonally and also poses a pandemic threat. This means that each flu season is also an exercise for pandemic flu—and each pandemic flu resource can potentially be leveraged for seasonal flu, as well as for other respiratory pandemics. For example, the federal and state pandemic influenza infrastructure played a significant role in the Covid-19 response. However, successfully responding to both seasonal and pandemic influenza is predicated on a functioning public health system, and a decades-long decline in public health investment at all levels of government has compromised our seasonal flu response and increased our pandemic risk.

The 2022-2023 influenza season unfolded against the backdrop of an unprecedented outbreak of H5N1 highly pathogenic avian influenza (HPAI) in birds, which has devastated bird populations and mammals in North America and across the globe. Across the United States, nearly 59 million poultry in 47 states have been affected, and the disease has spread to well over a dozen species of mammals, including bears, bobcats, dolphins, seals, and mountain lions.\textsuperscript{12} The wide variety of infected mammalian species has raised new fears that the virus could mutate to enable human-to-human transmission, and recent outbreaks among mink farms in Europe show evidence that mammal-to-mammal transmission may already be occurring.\textsuperscript{13} HPAI viruses are a serious concern for flu planners due to the known proclivity of influenza viruses to mutate and spill into human populations (as they did in 2009, resulting in the H1N1 pandemic, which had genetic origins in swine and avian flu viruses). While the current H5N1 outbreak remains mainly in animals, prior H5N1 outbreaks have demonstrated proclivity for people: among the 873 human infections with H5N1 viruses reported to the World Health Organization, 458 (52\%) have been fatal.\textsuperscript{14}

“\textit{The tripledemic surge completely overwhelmed pediatric hospitals as staff worked to evaluate 300-400 patients a day and create temporary triage areas to meet communities’ needs. A national shortage of pediatric hospital beds was exacerbated by the fact that many pediatric units had already closed during the pandemic for financial reasons. This created a burden on hospital staffing, especially in the intensive care setting, and impacted hospitals’ ability to provide care for all patients.}”

– Tina Q. Tan, Attending, Division of Infectious Diseases, Ann & Robert H. Lurie Children’s Hospital of Chicago; Vice-President, Infectious Diseases Society of America
The Coalition to Stop Flu is dedicated to ending deaths from seasonal and pandemic influenza by raising awareness of the threat and its human impact and advancing policy solutions to improve the United States’ preparedness and response. Our members represent diverse voices from many sectors, with the common goal of reducing the influenza burden and saving lives. The 2022-2023 season had notable successes, while also revealing continued challenges that have policy implications moving into the 2023-2024 season.

Success Stories

Creative grassroots outreach helped advance messages to the public about the danger of flu illness and the safety and efficacy of flu vaccines, even when administered in the same visit as a Covid-19 shot. For instance, Vaccinate Your Family, in partnership with the National Council of Negro Women, provided flu education to community members through their Good Health WINs initiative.

During the 2022-2023 season, the CDC responded to calls from advocacy partners to get guidance for the coming season to health care providers earlier than August. As a result, CDC accelerated its issuance of 2023-2024 educational materials for vaccine providers, releasing them more than a month early. This guidance is already helping providers message to high-risk populations like children and pregnant women that they can get vaccinated early, well before the start of the influenza season.

The U.S. supply of seasonal flu vaccines was strong. Years of co-investment from companies and the federal government have created a robust seasonal flu vaccine supply chain on which the American people can rely.

Pharmaceutical and biotechnology companies have continued to advance new and innovative products through regulatory review and commercialization, helping ensure that preventives and treatments are available for all populations. Products are being specially designed for high-risk groups and for seasonal and pandemic strains. Industry and the U.S. government have co-invested heavily in many of these solutions. Moreover, investments in data collection prove that even among those infected, flu vaccines improve patient health outcomes by reducing the severity of disease.
The CDC quickly reported data from states on influenza case rates. These **publicly available data were extremely valuable** for stakeholders, allowing public health and community organizations to better target their public messaging and pharmaceutical companies to fine-tune product distribution and evaluate clinical trials.

Federal support for **advanced molecular detection**, including **genomic sequencing**, continued to provide critical value by increasing our understanding of the strains of influenza in circulation.

**Wildlife surveillance for emergent strains of influenza** ramped up in response to the unprecedented avian influenza outbreak, generating much-needed data to inform pandemic risk assessments.

### Room for Improvement

**Vaccine fatigue and misinformation** are preventing progress in increasing vaccination rates, and the trifecta of flu, Covid, and RSV may be contributing. While confidence in flu vaccines is higher than for Covid vaccines, one survey found that more than ⅓ of respondents believed the flu vaccine to be only somewhat safe or not at all safe.¹⁵ Lack of vaccine confidence is especially strong in populations that are younger, Black, rural, and/or from the Southern United States.¹⁶

**The use of “trusted messengers” is not optimized.** Increased use of vaccine campaigns messaged through trusted individuals, groups, and companies could help expand access to reliable information and break down barriers to vaccination decision-making. Trusted messengers include health care providers: Experts have found that adults who receive a provider recommendation are more likely to get vaccinated. Communications efforts should also take more advantage of messaging tailored to specific community groups—such as racial and ethnic populations, ages, and faith communities—which has been shown to be more effective than generic messaging.¹⁷

The **low vaccine coverage** rates were a huge challenge, particularly given ample supply. Tens of millions of doses of flu vaccine were discarded because of insufficient demand. Vaccination uptake among **vulnerable populations** revealed a particularly dire health equity crisis. Disproportionate impacts on communities of color and other marginalized communities shine a light on the urgency of achieving more equitable outcomes each season.

**“Spot” shortages of generic flu antivirals** that emerged in localities across the country stressed an already-burdened health care system. This necessitated the release of antivirals from the Strategic National Stockpile, all of which were unfortunately at least 14 years old. The Administration for Strategic Preparedness and Response’s (ASPR) release of these assets from the stockpile was a positive development; however, the antiviral stockpile must be diversified and replenished. Relatedly, **shortages of antibiotics and antifungals** to treat respiratory infections secondary to influenza remain serious concerns for the medical community.
Broader diversification of SNS assets and modernized asset management to support pandemic readiness are needed to address the pandemic threat. This includes diagnostics, vaccines, and treatments. Policy and fiscal support for innovative countermeasures, as well as novel management approaches like state stockpiles and vendor-managed inventory, are needed.

Despite their utility, publicly available flu data fall short of their potential. The current statutory and regulatory structure limits the reporting of disaggregated data in greater detail, such as by zipcode or ethnicity, which prohibits deeper understanding of attack rates and the most effective targeting of interventions.

Testing is one of the most important ways to get accurate case information, but testing is underutilized. The role that diagnostics—both laboratory and home testing—could play for flu is unrealized. Lessons could be drawn from the response to Covid, which relied heavily on testing.

Seasonal & Pandemic Influenza Ecosystem
Federal Government Agency Roles to Prevent, Detect, Treat

1. PREVENT OUTBREAKS
   - CDC: Section 317 purchase vaccines at state & local level
   - CMS: Vaccines for low-income children

2. IDENTIFY THREATS
   - CDC: Disease surveillance, genomic sequencing
   - CDC: Center for Epidemic Forecasting and Outbreak Analytics
   - NIH: Basic research on influenza viruses

3. DETECT INFECTIONS
   - CDC: Support for state & local health departments
   - ASPR/BARDA: Advanced development of diagnostics
   - FDA: Regulatory review/approval of diagnostics

4. DEVELOP VACCINES, TREATMENTS
   - NIH: Basic research; universal flu vaccine
   - CDC & FDA: Select influenza strains for vaccine composition
   - ASPR/BARDA: Advanced development; National Influenza Vaccine Modernization Strategy
   - FDA: Regulatory review/approval

5. LIMIT SPREAD: SAVE LIVES
   - CDC: Guidance to health care providers and public
   - ASPR: Support regional healthcare preparedness & response
   - ASPR: Deploy strategic national stockpile
   - ASPR: Pandemic flu response coordination
What’s Next?

The 2022-2023 influenza season provided critical insights into the continued gaps in our nation’s preparedness and response for both seasonal and pandemic flu. Policymakers should use these lessons learned to improve the United States’ capabilities ahead of the 2023-2024 influenza season. Flu is a deadly disease that profoundly impacts the nation’s health and economy. Better federal preparedness and response will not only improve health and save lives but lower the burden on our nation’s health care system and reduce employee and student absences this winter.

Foundationally, beating flu at the federal level requires authority and funding. Congress should support:

The Influenza Act

The Influenza Act (previously H.R. 9476; reintroduction pending) is a comprehensive bill to modernize and strengthen federal flu programs. The Act’s provisions include:

- Support for continued research and development of vaccines, antivirals, and diagnostics
- Strategies to improve access for vulnerable populations
- Improvements to pandemic preparedness

Appropriations

Invest in critical federal flu programs through sustained annual appropriations, including:

- The ASPR/BARDA and CDC influenza programs
- The Public Health Emergency Preparedness cooperative agreement program at CDC
- NIH research and development

Congress should also quickly reauthorize the Pandemic and All-Hazards Preparedness Act, which is integral to all health security efforts, including specific attention to pandemic influenza programs.
The federal agencies working to implement flu programs on the ground should also consider lessons learned. These agencies should focus on:

**Prevention And Treatment**

With vaccine campaigns expected to target multiple respiratory infections in 2023-2024, **leverage the flu vaccine as the trusted backbone of immunization schedules** and continue to gather data on public attitudes toward vaccination and administration.

**Mobilize as much information** as possible to providers and the public as early as possible to maximize awareness.

**Make it as easy as possible for people to learn about and access flu vaccines and therapeutics.** Federal and state health agencies can leverage the private sector and advocacy groups to help, and should apply lessons learned from the Federal Retail Pharmacy Program for Covid-19 vaccine administration.

Continue to **advance the use of trusted messengers** to connect with people looking for reliable information, using tactics that have been employed successfully for Covid. Agencies should execute a demonstration project through a trusted independent third party using internet platforms, television, and non-traditional targeted social media and community outreach to reach individuals that may be especially vaccine hesitant.
Data and Surveillance

Work with state and non-governmental partners to enhance flu surveillance systems, including obtaining more detailed and disaggregated data to support better epidemiological analyses to the extent authorized by law.

Improve early warning capabilities through increased support for genetic sequencing programs and push those data into the public domain for analysis.

Make testing a greater part of the seasonal flu strategy by encouraging providers to differentiate among influenza, Covid, and RSV, such as via FDA-approved multiplex assays. In addition, pilot test-to-treat programs for this triad of infections at facilities that serve the vulnerable, including government facilities, to assess the impact on forward transmission and reduction of flu burden.

Capture and publish data on access to antivirals and supply shortfalls to enable early identification of demand spikes and spot shortages.

The Seasonal-Pandemic Ecosystem

Evaluate and replicate the ways that public-private investment have succeeded in the seasonal flu vaccine supply chain and can be applied to pandemic flu and other types of medical countermeasures.

With state and private partners, maintain, expand, and institutionalize recent aggressive surveillance efforts in avian and mammalian species to help identify which strains are impacting animal populations and their potential for spillover.

Support state and federal stockpiles that include diverse antivirals for influenza.

Leverage vendor-managed inventory and other techniques to modernize the SNS to ensure availability of diagnostics, vaccines, and antivirals and sufficient buffer in the event of a flu pandemic.
Endnotes


8 Ibid.


16 Ibid.

About the Coalition to Stop Flu

The Coalition to Stop Flu is a multi-sector advocacy coalition dedicated to ending deaths from seasonal and pandemic influenza. The Coalition’s federal policy agenda is aimed at saving lives, saving money, and protecting public health by enhancing the U.S. influenza ecosystem, including ensuring adequate funding for priority influenza programs.

To learn more, please visit www.flucoalition.org

Coalition Members
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