

2024 Year in Review

National Center for Immunization and Respiratory Diseases

2024 was a year of many successes for CDC's National Center for Immunization and Respiratory Diseases (NCIRD). Advances were made to prevent disease, disability, and death through immunization and by control of respiratory diseases. The reach of NCIRD's work is extended by critical partnerships with public health systems at the state, tribal, local, and territorial levels, as well as with healthcare systems, professional organizations, global collaborations, and other federal partners. Here are several accomplishment highlights, which include routine public health work and emergency readiness and response work, are the result of the investments of NCIRD, the strength of its partnerships, and the expertise of its staff.

Respiratory Season

To prepare for the 2024-2025 respiratory virus season, NCIRD developed a new framework of collaboration to leverage expertise and action across CDC. This cross-functional structure focused on influenza, COVID-19, and respiratory syncytial virus (RSV) and accomplished:

- Ensured a smooth vaccine rollout;
- Released the 2024-2025 Respiratory Disease Season Outlook;
- Created the [Respiratory Illness Data Channel](#) with clear data visualization features;
- Worked with HHS on its [Risk Less. Do More.](#) public education campaign;
- Updated the [Respiratory Virus Guidance](#) to simplify prevention strategies;
- Launched a four-pillar outreach strategy for healthcare providers;
- Engaged with more than 200 clinicians; and
- Partnered with the private sector to embed public health messages in commonly used applications, such as healthcare record systems and reference databases.



Emerging Respiratory Infections

Mycoplasma pneumoniae infections increased in 2023-2024, following a prolonged period of low incidence since the start of the COVID-19 pandemic.

Since *M. pneumoniae* is not nationally notifiable, NCIRD identified existing data sources to monitor trends without the burden of setting up a new surveillance system. This approach identified that the increase in cases was especially high among young children, which was unexpected as *M. pneumoniae* historically hasn't been recognized as a leading cause of pneumonia in children ages 4 years and younger.

NCIRD reached out to the public, clinicians, and public health professionals to increase awareness of *M. pneumoniae* in unexpected populations and ensure the right antibiotics are being used for treatment.

Influenza A(H5N1) Response

When influenza A(H5N1) bird flu was first detected in dairy workers in spring 2024, the virus had not been previously detected in cows. Little was known then about the risk of asymptomatic infection.

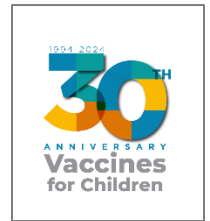


As part of the U.S. Government outbreak response, CDC collaborated with the state health departments in Michigan and Colorado to conduct serologic surveys. These surveys were used to assess asymptomatic H5N1 infections among dairy workers, including through CDC field team support. Serologic testing identified that 7% of dairy workers had evidence of H5 infection, including workers who did not recall feeling sick. These findings prompted CDC to update its guidance on personal protective equipment, testing, and antiviral medication, allowing data and information from the field to drive public health action.

NCIRD facilitated the original activation and ongoing operations for more than 260 days, which included continuous staffing support for over 180 responder positions drawn from across CDC and the coordination of senior-level briefings twice a week, daily updates, and time-sensitive incident reports.

Vaccines for Children

In recognition of 30 years of successes of the Vaccines for Children (VFC) program, CDC quantified the health benefits and economic impact of routine U.S. childhood immunization for all children born since the VFC program was created in 1994.



Routine childhood immunization has helped prevent over 508 million illnesses, 32 million hospitalizations, and 1,129,000 deaths. This has resulted in direct savings of \$540 billion and societal savings of \$2.7 trillion. CDC analyzed and published these findings in the CDC's [Morbidity and Mortality Weekly Report](#), "Health and Economic Benefits of Routine Childhood Immunization in the Era of the Vaccines for Children Program — United States, 1994–2023."

Over half of the children born in the United States are eligible for free vaccines under the VFC program, which provides protection against 19 diseases.

Influenza Monitoring

Since influenza viruses are constantly changing, CDC monitors these changes year-round through genomic sequencing. CDC expanded its domestic influenza genomic sequencing work at public health labs in nine U.S. states. This network generates broad and deep data on seasonal and novel influenza while simultaneously expanding pandemic preparedness capacity.

Along with CDC labs, these centers enhance surveillance activities throughout the summer to ensure that no unusual influenza signals were occurring, including influenza A(H5N1) bird flu. In 2024, the network sequenced more than 6,000 specimens to better understand if there are concerning changes in these viruses that could pose an increased risk to human health or have pandemic potential.

Measles Response

As measles cases surged around the globe, the United States experienced multiple importations and 16 outbreaks in 2024.

NCIRD carried out two measles responses over 29 weeks. This work helped to quickly contain these outbreaks and prevent additional disease spread. During the largest outbreak, in a shelter in Chicago, NCIRD staff assisted in an Epi-Aid to support the Chicago Department of Public Health in limiting the case count to 57. CDC also provided technical assistance to Oregon and Minnesota in response to outbreaks among under-vaccinated populations.



Laboratory Quality Improvements

In an effort for continuous quality improvement, NCIRD co-led an initiative to provide dedicated IT support for labs and developed a firewall to enhance data access and management for critical lab equipment.

After implementing a new system to monitor environmental conditions, NCIRD is supporting expansion of this system to other CDC labs. NCIRD also expanded its equipment management program across the agency, consolidating multiple service agreements into a comprehensive model.

Vaccine Effectiveness

To better understand effectiveness of new RSV immunizations and updated COVID-19 formulations in the real world, CDC conducted comprehensive evaluations. These included first-ever estimates of the effectiveness of new RSV immunizations for infants and older adults and studies on COVID-19 vaccine effectiveness in preventing hospitalizations.

The findings from these evaluations informed immunization recommendations, such as prioritizing RSV vaccination for older adults with specific risks. The findings underscored the potential of new immunization products to reduce infant hospitalization due to RSV, which has been a leading cause of hospitalization amount infants.

Vaccine effectiveness data improved public confidence in vaccines and supported strategies to protect vulnerable populations.

Infants, RSV, and Birthing Hospitals

In the 2023-2024 season, 56% of infants were protected by maternal RSV vaccination (33% coverage), monoclonal antibody administration (45% coverage), or both.

To increase monoclonal antibody coverage in the 2024-2025 season, CDC is collaborating with immunization programs, the Association of Immunization Managers, the American Hospital Association (AHA), medical professional societies, and other partners to encourage birthing hospitals to enroll in the Vaccines for Children (VFC) Program.

The result of this collaboration shows an increased enrollment of birthing hospitals as VFC Program providers by more than 65%. As of October 27, 2024, VFC-enrolled birthing hospitals had ordered 36,000 doses of the monoclonal antibody, nirsevimab, an increase of 28,000 (or 464%) since the previous season.