

Immunization Infrastructure



Background

Immunizations are a highly cost-effective form of preventive medicine that have helped save millions of lives. Vaccines have eradicated smallpox globally, eliminated polio in the US, and dramatically reduced the spread of many more crippling and potentially life-threatening diseases such as diphtheria, tetanus, measles, mumps, and rubella. They also prevent the spread of common infectious and potentially fatal diseases such as chickenpox (varicella), influenza, hepatitis A, hepatitis B, meningococcal disease, pneumococcal disease, and whooping cough (pertussis).

Vaccines not only protect those who get immunized but also those who can't—such as infants too young to be vaccinated or those who suffer from health conditions that preclude vaccinations. Maintaining this “community immunity” is essential to protecting the individual and that persons’ family, workplace, and neighborhood.

Despite the demonstrated benefits of vaccination, approximately 50,000 adults die each year from vaccine-preventable diseases in the US.¹ Adult immunization coverage lags behind Healthy People 2020 targets for most commonly recommended vaccines (influenza, pneumococcal, tetanus, hepatitis B, herpes zoster, and HPV). Millions of adults suffer from vaccine-preventable diseases, causing them to miss work and leaving some unable to care for those who depend on them. The United States spends \$26.5 billion annually treating four vaccine-preventable diseases in adults over the age of 50.² In addition to the economic consequences, gaps in vaccine coverage leave our nation vulnerable to potentially devastating disease outbreaks and susceptible to emerging threats such as Ebola or Zika.

Immunization Infrastructure

Immunization infrastructure is the backbone of federal, state, and local public health efforts. Infrastructure elements include vaccine purchase; storage; handling and safety; provider and community education and outreach; immunization information systems (IIS) or registries; disease surveillance; and outbreak response. These elements promote disease prevention and mitigate the potential widespread consequences of a devastating disease outbreak.

AVAC
ADULT VACCINE
ACCESS COALITION

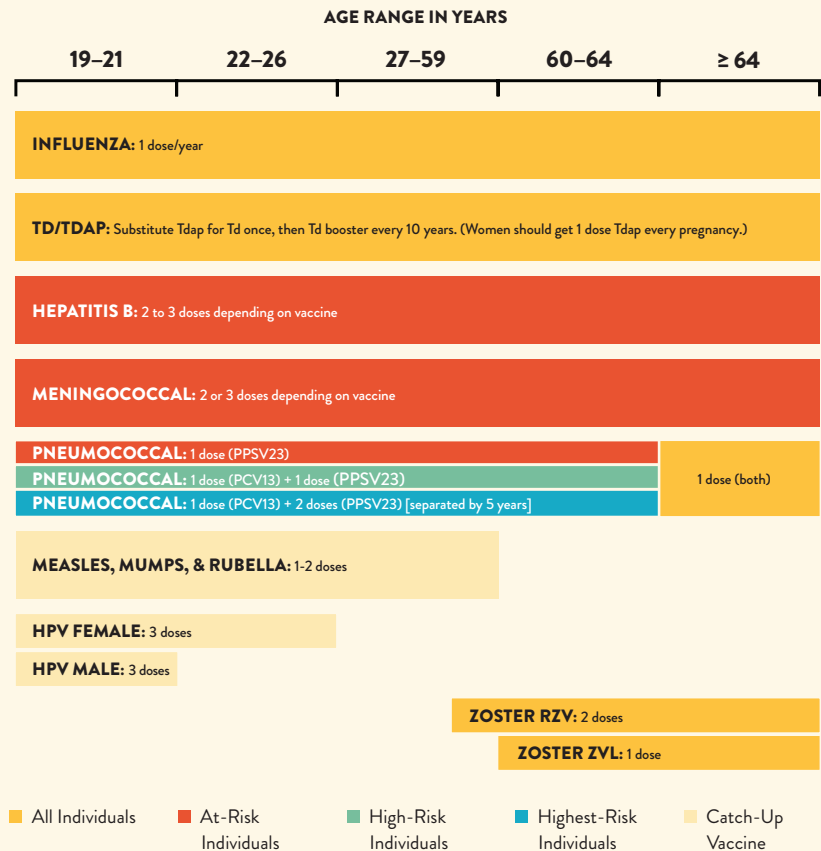
Barriers to Adult Immunization

Numerous barriers have prevented significant progress in increasing adult immunization rates and eliminating disparities in coverage for certain populations. It is important to continue to assess and identify factors associated with low rates and disparities in coverage and implement evidence-based practices to address these barriers. This is especially true for certain adult populations (e.g. older adults, pregnant women, Health Care Workers) for whom vaccinations are particularly critical to health.

- ♦ Lack of immunization coordination among health care providers—many adults see multiple providers—and across the health care system³
- ♦ Lack of integration of vaccines into adult medical care⁴
- ♦ Lack or underuse of administrative systems (e.g., immunization information systems [IIS]) that document vaccination histories and identify patients who are due for vaccinations in medical records⁵
- ♦ Skepticism regarding vaccine safety and effectiveness among patients⁶
- ♦ Inability of patients to pay for vaccines due to lack of insurance or variable coverage for recommended vaccines across health plans⁷
- ♦ Lack of public knowledge regarding the recommended adult immunization schedule and the risks and consequences of vaccine-preventable diseases; lack of awareness that adults are supposed to receive vaccines beyond the annual influenza vaccine⁸
- ♦ Legal barriers at the state and federal levels, such as those unnecessarily restricting which providers can administer vaccines⁹
- ♦ Missed opportunities for immunization assessment, counseling and recommendations by health care providers¹⁰

US Department of Health and Human Services National Vaccine Program Office National Adult Immunization plan. www.hhs.gov/sites/default/files/nvpo/national-adult-immunization-plan/naip.pdf

Recommended Immunization Schedule for Adults Aged 19 Years or Older, United States, 2018



Source: Centers for Disease Control and Prevention, cdc.gov. For the full schedule of recommended immunizations for adults, please visit www.cdc.gov/vaccines/schedules/downloads/adult/adult-combined-schedule.pdf. For more information, talk with your healthcare provider about which vaccines are right for you.

CDC Immunization Program

The Centers for Disease Control and Prevention’s (CDC) National Immunization Program is at the center of immunization infrastructure in the United States. CDC funding supports state, local and territorial immunization programs across the country. This national, state, and local network provides a safety net to uninsured and underinsured adults; monitors the safety of vaccines; educates providers and performs community outreach; conducts surveillance, laboratory testing, and epidemiology in response to disease outbreaks; and supports IIS.

Immunization Information Systems (IIS)

With the growing use and importance of health information technology, IIS are an essential part of the immunization infrastructure. IIS are confidential systems that exchange data with electronic health records and allow providers real-time access to comprehensive, consolidated immunization records for individuals. Improving IIS and integrating them into the healthcare system is critical to expanding access to and utilization of immunizations, and in turn, will lead to a healthier future. It helps patients keep track of their vaccination history (preventing both over- and under-vaccination). Immunization programs use federal funds to support their IIS. Forty-nine states have an IIS, forty-two of which maintain immunization records across the lifespan.

Health Security

IIS serve as a vital link for emergency preparedness and response activities, making them an important tool and information source during a pandemic or other emerging infectious disease event.

According to the CDC’s annual IIS report, 90 percent of immunization records for children age 0-6 years are captured by a state or jurisdictional IIS, compared to 32 percent of adults 18 years and older. More comprehensive, complete, and consistent adult immunization recordkeeping would help inform and improve daily and emergency public health efforts.

The Pandemic and All-Hazards Preparedness Act (PAHPA), which Congress reauthorizes every five years, makes strategic and targeted investments in our nation’s response capability to a range of natural or deliberate threats. PAHPA offers opportunities to further integrate essential immunization activities, including IIS, more closely into public health emergency preparedness and response efforts.

Outreach & Education

Outreach and education to individuals and providers is an essential part of immunization infrastructure. To ensure patients are vaccinated, providers need to understand the importance of proper vaccine storage and handling, routinely assess the vaccine needs of their patients, strongly recommend needed vaccines, and if necessary, make referrals to providers who administer vaccinations.

Educating adults on their immunization needs can have far-reaching impacts, particularly to target populations such as adults with chronic conditions, pregnant women, and healthcare workers. Patient education should be culturally and linguistically appropriate, reflecting health and language proficiency.

National Vaccine Program Office

Immunization infrastructure also means coordination within the federal government and among private sector partners. HHS’ National Vaccine Program Office (NVPO) provides strategic leadership and encourages collaboration and coordination among federal agencies and other stakeholders to reduce the burden of preventable infectious disease. NVPO’s core activities include monitoring, unbiased advice and expertise to other agencies in identifying and responding to gaps in the vaccine system, making vaccines safer and more effective, and advancing vaccine research.

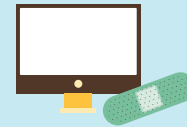
NVPO spearheaded the National Adult Immunization Plan (NAIP), a comprehensive plan that lays out overarching goals and a series of tangible objectives aimed at raising adult immunization rates in line with Healthy People 2020 targets. NAIP goals, objectives and strategies center around strengthening the adult immunization infrastructure, improving access to adult vaccines, increasing community demand for adult vaccines, and fostering innovation in adult vaccine development and vaccination-related technologies.



Government, public health officials, community leaders, physicians, pharmacists, and other healthcare providers must work together to educate on the real and perceived barriers to immunization by addressing vaccine value, safety, and the benefits to individuals and communities.

A strong immunization infrastructure increases and sustains vaccination rates.

What are the components of the immunization infrastructure?



- ◆ State and local immunization programs
- ◆ Outreach, education and provider support
- ◆ Immunization information systems (IIS)
- ◆ Vaccine storage, handling, administration and safety
- ◆ Surveillance and outbreak response
- ◆ Vaccines for uninsured children and adults
- ◆ Quality measures
- ◆ Disaster response

Who benefits from a strong immunization infrastructure?



You and your family

- ◆ Seniors
- ◆ Adults
- ◆ Adolescents
- ◆ Children



Health care system

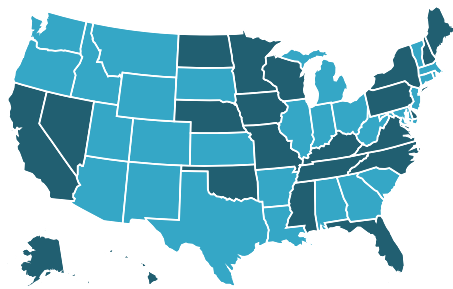
- ◆ Doctors
- ◆ Nurses
- ◆ Pharmacists
- ◆ Worksite wellness
- ◆ Community health
- ◆ Long-term care
- ◆ Insurers



Public health

- ◆ State and local immunization program managers
- ◆ Epidemiologists
- ◆ Preparedness officials

State/Local Funding for Operations



- Receives state/local funding for operations (53%, N=34)
- Does not receive state/local funding for operations (44%, N=28)
- Did not provide an answer (3%, N=2)

Data collected from the 2016 AIM Annual Survey for 2015 Grant Year (October 1, 2014–September 30, 2016)

CITIES / METRO-POLITAN AREAS	TERRITORIES
Chicago	American Samoa
District of Columbia	Guam
Houston	Republic of Marshall Islands
New York City	Federated States of Micronesia
Philadelphia	Northern Mariana Islands
San Antonio	Palau
	Puerto Rico
	Virgin Islands

AIM Provided Resource 08/29/17

Approximately 29 percent of the 64 state, local and territorial immunization programs received no state or local funding for vaccine purchase in 2015.¹¹ Approximately 44 percent receive no state or local funding to sustain critical infrastructure and staffing.¹²

About AVAC

The Adult Vaccine Access Coalition (AVAC) is a diverse group of health care providers, vaccine innovators, pharmacies, public health organizations, patient and consumer groups. AVAC’s mission is to raise awareness, improve access, and increase utilization of vaccines among adults. Near universal access to immunizations for children has been one of the greatest public health accomplishments of the 20th century. AVAC seeks to achieve the same level of success for adult immunization.

Recommendations for Congress

Because everyone benefits from a strong immunizations infrastructure, Congress should strengthen it in the following ways:

1. **Fully fund CDC Immunization Program.** Congress should provide \$650 million for the CDC’s National Immunization Program.
2. **Fully fund the National Vaccine Program Office (NVPO).** Congress should provide \$6.4 million to ensure robust implementation of the National Adult Immunization Plan and continued coordination among federal agencies around immunization policy issues.
3. **Invest in immunization infrastructure activities.** Support provider responses to public health outbreaks and protect individuals from vaccine-preventable diseases by facilitating access to IIS and ensuring seamless patient data exchange between providers.



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Endnotes

1. <https://www.cdc.gov/vaccines/adults/vpd.html>
2. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4486398/>
3. National Vaccine Advisory Committee. A Pathway to Leadership for Adult Immunization: Recommendations of the National Vaccine Advisory Committee. Public Health Reports. 2012;127.
4. National Vaccine Advisory Committee. A Pathway to Leadership for Adult Immunization: Recommendations of the National Vaccine Advisory Committee. Public Health Reports. 2012;127.
5. Gerontological Society of America. Roadmap to Action to Reach the Healthy People 2020 Goals for Adult Vaccination. Washington, D.C. 2013
6. National Vaccine Advisory Committee. A Pathway to Leadership for Adult Immunization: Recommendations of the National Vaccine Advisory Committee. Public Health Reports. 2012;127.
7. National Vaccine Advisory Committee. A Pathway to Leadership for Adult Immunization: Recommendations of the National Vaccine Advisory Committee. Public Health Reports. 2012;127.
8. National Vaccine Advisory Committee. A Pathway to Leadership for Adult Immunization: Recommendations of the National Vaccine Advisory Committee. Public Health Reports. 2012;127.
9. National Vaccine Advisory Committee. A Pathway to Leadership for Adult Immunization: Recommendations of the National Vaccine Advisory Committee. Public Health Reports. 2012;127.
10. Gerontological Society of America. Roadmap to Action to Reach the Healthy People 2020 Goals for Adult Vaccination. Washington, D.C. 2013
11. Association of Immunization Managers provided resource
12. Association of Immunization Managers provided resource