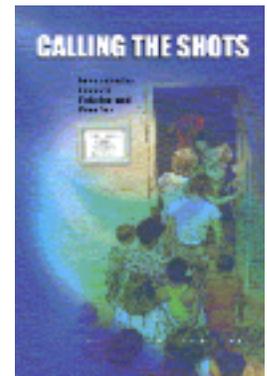


# INSTITUTE OF MEDICINE

*Shaping the Future for Health*

## CALLING THE SHOTS

### IMMUNIZATION FINANCE POLICIES AND PRACTICE



**F**ederal, state, and private-sector investments in vaccine purchases and immunization programs are lagging behind emerging opportunities to reduce the risks of vaccine-preventable disease. Although federal assistance to the states for immunization programs and data collection efforts rapidly expanded in the early part of the 1990s, significant cutbacks have occurred in the last 5 years that have reduced the size of state grant awards by more than 50 percent from their highest point. During this same period, the vaccine delivery system for children and adults has become more complex and fragmented. If unmet immunization needs are not identified and addressed, state and national coverage rates, which reached record levels for vaccines in widespread use (79 percent in 1998), can be expected to decline and preventable disease outbreaks may occur as a result.

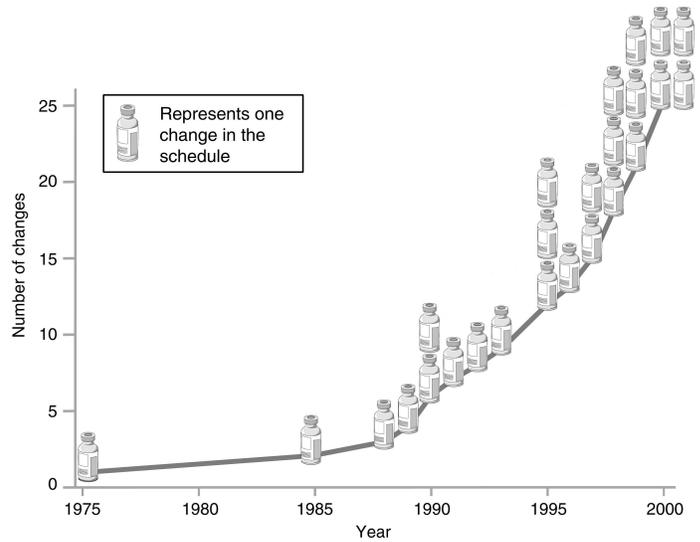
At the request of the Senate Committee on Appropriations, the Institute of Medicine (IOM), an arm of the National Academy of Sciences, established a committee to examine the roles and responsibilities of state and federal governments in supporting immunization services and to identify basic strategies that could strengthen the national immunization system in the current health care climate.

### **Problems Within the National Immunization System**

During the 1990s, federal and state governments partnered to build a dynamic and flexible immunization system that has adapted to extensive changes in the science of vaccines, in demographic patterns, and in service delivery, in places ranging from remote rural counties to densely populated metropolitan areas. This highly decentralized system is complex and cumbersome, shaped by local circumstances, resources, and needs, as well as by national goals and policies. Yet it has demonstrated an extraordinary capacity to ensure the reliable delivery of an increasing number of vaccine antigens for an expanding range of age groups, including newborns, preschool and school-aged children, adolescents, and adults in a growing number of private and public health care settings.

**Despite its success, increasing instability within the public health infrastructure supporting the national immunization system could potentially create disparities in vaccine coverage, resulting in infectious disease outbreaks.**

Despite its success, increasing instability within the public health infrastructure supporting the national immunization system could potentially create disparities in vaccine coverage, resulting in infectious disease outbreaks. Several factors contribute to this instability, including the rapid acceleration in the science of vaccine research and production, increasing complexity of the health care services environment of the United States, and recent reductions in federal immunization grants to the states. The resurgence of measles in 1989–1991 in the United States, which included a series of outbreaks that contributed to 43,000 cases and more than 100 deaths, primarily among children younger than 5 years of age, is a constant reminder that the presence of vaccines alone is insufficient to protect populations against vaccine-preventable disease.

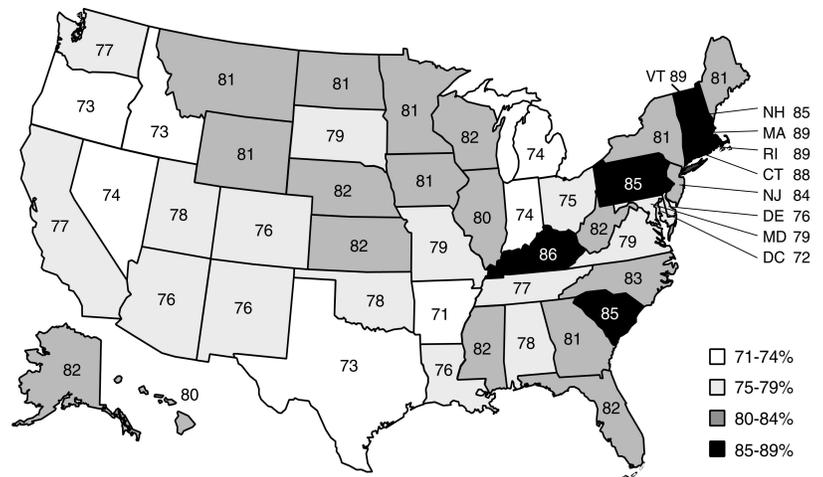


Changes in the Childhood Vaccination Schedule, 1975–2000. SOURCE: CDC, 2000.

Although record levels of immunization were achieved across the United States in the 1990s, many problems persist, including the following:

- *The need to sustain and document high levels of immunization coverage for a growing number of vaccines delivered within multiple health care settings.*

An enormous effort is required in both private and public health care settings to sustain high levels of completion of the recommended immunization series. Improving coverage levels to reach the national goal of 90 percent coverage will be increasingly difficult as new vaccines are added to the recommended schedule and as uncertainties about the benefits of vaccines increase in the absence of visible harm from infectious disease.



Immunization coverage levels with the 4:3:1:3 series (4 DTP, 3 polio, 1 MMR, and 3 Hib), by state (national coverage = 79%). National Immunization Survey, July 1998–June 1999. SOURCE: CDC, 1999.

- ***Persistent disparities in childhood levels of immunization coverage.***

The immunization system has successfully reduced racial and ethnic disparities in childhood immunization levels, but significant disparities persist in coverage rates in many metropolitan areas with large populations of low-income residents. In some cases, childhood vaccination coverage rates are as much as 19 percentage points lower for urban residents, compared to the remainder of the state.

- ***Low coverage rates and racial and ethnic disparities for adult vaccines.***

Immunization coverage rates for adults are well below those achieved for childhood immunizations and significant racial and ethnic disparities persist in adult immunization levels. Only 42 percent of noninstitutionalized adults over age 65 had ever received a pneumococcal vaccination by 1997. Coverage rates for high-risk adults who suffer from chronic disease (e.g., heart or lung disease or diabetes) are especially poor.

- ***Mortality and morbidity from preventable infectious disease.***

Between 50,000 and 70,000 adults and about 300 children in the United States die annually from vaccine-preventable diseases or their complications.

- ***Serious gaps and inconsistencies in the coordination, support, and documentation of immunization efforts.***

Stress-related cracks stemming from the complexity of the nation's immunization system show signs of deepening as shifts occur within public and private health care delivery systems. Recent controversies over the use of federally financed vaccines for children who are enrolled in stand-alone (i.e., non-Medicaid) State Children's Health Insurance Programs (SCHIPs), for example, reflect inconsistencies and ambiguities in service delivery efforts.

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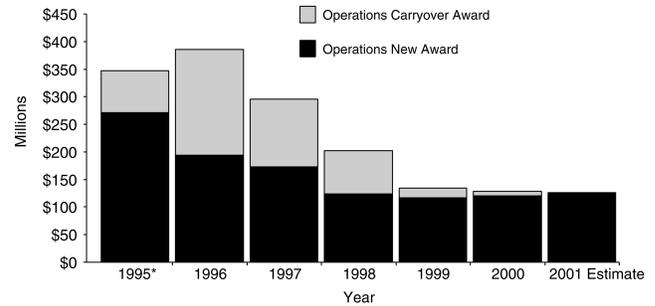
## **Financing Immunization Infrastructure**

A key element of the national immunization system is a federal grant program, Section 317, that allows states and other grantees to purchase vaccines for disadvantaged populations and to support immunization infrastructure, including professional education, outreach, surveillance of coverage levels and vaccine safety, and efforts to improve coverage rates in child and adult populations. The Section 317 grants, administered by the Centers for Disease Control and Prevention, are awarded annually in response to proposals submitted by each state, territory, and selected metropolitan regions (64 grantees in all).

In 1990 and 1991, infrastructure grants to the states were about one-quarter of the federal grants used by the states to purchase vaccines. At mid-decade, immunization infrastructure grants increased substantially, rising to twice the level of the vaccine purchase grants. New money for infrastructure awards increased more than seven-fold from a total of \$37 million awarded for 1990 to \$261 million for 1995. By the end of the decade, newly awarded infrastructure grants had declined to \$116 million for 1998 and \$111 million for 1999. This rapid fluctuation in fed-

eral support for immunization infrastructure has created uncertainty and instability at both the state and local level.

During this same period, the vaccine delivery system for children and adults became more complex and fragmented as the number of sites administering childhood or adult vaccines purchased with government funds escalated dramatically—from about 3,000 public health clinics and several hundred Medicaid health care providers in the 1980s to more than 50,000 public and private sites in 1999. This rapid increase, while increasing coverage, has complicated the tasks of educating providers, assessing safety, documenting coverage rates, and assuring fairness in providing access to vaccines in public and private settings.



Section 317 Grant operations funding history, 1995–2001 (\$ in millions). In 1995, CDC transferred funds not needed for vaccine purchase to state operations. SOURCE: CDC, 2000.

## Public and Private Roles and Responsibilities

**Each state currently invests in immunization programs through direct or in-kind support, but all states rely on federal dollars for crucial support.**

State governments are the public health stewards for disadvantaged populations, and have traditionally been responsible for meeting the health needs of residents who are not served by the private health care sector. Each state currently invests in immunization programs through direct or in-kind support, but all states rely on federal dollars for crucial support. Federal assistance for vaccine purchase and infrastructure helps each state maintain the essential elements of an immunization program, respond to unexpected circumstances and changing conditions, and address national priorities in infectious disease prevention and control.

### *Vaccine Purchase*

Federal assistance for state vaccine purchases and immunization programs is provided by several funding streams. In FY 1999, the federal government supplied more than \$600 million in (primarily childhood) vaccines to the states through the Section 317 and Vaccines for Children (VFC) programs. In 1998 the Health Care Financing Administration (HCFA) paid Medicare providers, whose benefits include preventive adult vaccines, \$114 million for influenza and pneumococcal immunizations, primarily for adults over age 65.

The vast majority of states depend primarily on federal grants for the purchase of vaccines. Although the VFC program provides vaccines to uninsured children and others who meet certain eligibility criteria, a sizeable population of “underinsured” children and adults remain who are not able to obtain vaccines without assistance. States use Section 317 funds or their own budgets to meet this need. Half the states use state funds to purchase less than 10 percent of the vaccines provided

to disadvantaged populations in their jurisdiction. Ten states use their own funds for more than 30 percent of such vaccines. Fifteen states have universal purchase policies, whereby they supply vaccines for all children served by public clinics and participating private providers, regardless of insurance status.

### *Immunization Infrastructure*

Each state differs in the scope and type of public health infrastructure that they rely on to provide both immunization services for disadvantaged individuals as well as to maintain population wide programs that benefit all citizens within the state. Recent transitions in health care programs, reductions in Section 317 grants, and restrictions on the use of federal funds have significantly reduced the ability of many states to develop innovative approaches to program management, data collection, or interactions with private health care providers. Because the Section 317 grants program does not require matching state investments, fiscal incentives for states to share the costs of developing immunization programs that benefit state residents are absent.

The range of population-adjusted contributions among the states is extremely broad; 4 states reported spending more than \$10 per child from state funds, while the majority reported contributions of less than \$5 per child. Only 4 states have direct state funding for a substantial portion (more than 40 percent) of their immunization program infrastructure, and almost half provide no direct state funding for infrastructure needs. When compared to vaccine purchase practices, these estimates indicate a limited commitment within the states to support the public health infrastructure that is required to meet local needs as well as national goals.

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### *Private-Sector Role*

The role of the private sector in providing routine medical care for disadvantaged populations requires ongoing attention and oversight to determine whether vulnerable groups are up to date in their immunization coverage. Traditionally, individual health care providers and health plans have not been expected to monitor patterns of vaccine coverage or disease within their communities, nor are they currently equipped to assess coverage levels in formats that can facilitate population studies or analysis of local or statewide health patterns.

## **The Need for a National Strategic Vision**

In reviewing the information and data provided by the CDC and professional health organizations, the IOM committee noted the following findings and conclusions:

- The repetitive ebb and flow in the distribution of public resources for immunization programs have created instability and uncertainty that impedes project planning at the state and local levels and delays the public benefit of advances in the development of new vaccines for both children and adults.

- Immunization policy needs to be national in scope, yet flexible enough to respond to special circumstances that exist at the state and local level.

- Federal and state governments have important roles in achieving and sustaining national immunization goals. State legislatures and governments should be expected to sustain an immunization infrastructure that reflects each state’s need, capacity, and performance.

- Comprehensive insurance and high-quality primary care services do not replace the need for public health infrastructure.

However, private health care plans and providers can improve their capacity and involvement in implementing immunization surveillance and preventive programs within their health practices.

The committee concluded that a reform and strengthening of the federal and state immunization partnership is necessary. A conceptual framework was developed to guide the future partnership which identified six fundamental roles of the national immunization system: to assure the purchase of vaccines and service delivery; to prevent and control infectious disease; to monitor and survey levels of immunization coverage and vaccine safety concern, especially within high-risk settings; to sustain and improve vaccine coverage rates for child and adult populations; and to use primary care and public health resources efficiently in achieving national immunization goals.



Six roles of the national immunization system.

**A reform and strengthening of the federal and state immunization partnership is necessary.**

## What Can Be Done

To renew and strengthen the immunization partnership, federal and state governments require a coherent strategy, additional funds, and a multiyear finance plan that can help expedite the delivery of new vaccines; strengthen the immunization assessment, assurance, and policy development functions in each state; and adapt immunization programs to serve the needs of new age groups in a variety of health care environments.

As a beginning step in implementing a strategic plan, the IOM committee recommends that federal and state governments allocate \$1.5 billion in federal and state resources over the first 5 years to strengthen the infrastructure for child and adult immunization—an annual increase of \$175 million over current spending

levels. These resources would consist of \$200 million per year in Section 317 infrastructure grants awarded by CDC and an additional \$100 million per year in increased state contributions. The committee also recommends that Congress replace the current discretionary Section 317 grants with a formula approach for state immunization grant awards to improve the targeting and stability of federal immunization grants. The formula should provide a base level of support to all states as well as additional amounts related to each state's need, capacity, and performance. The committee further recommends that Congress introduce a state math requirement for the receipt of increased federal funds to strengthen and stabilize the public health infrastructure.

The IOM committee observed that the construction of a grant formula and the calculation of weights as recommended above is a complex analytical process that requires estimating the appropriate size of the federal base grant; determining the conditions that would facilitate redistribution of federal resources to areas of need but also maintain an adequate level of investment within each state; developing an appropriate set of proxy measures that reflect need, capacity, and performance in the field of immunization; and choosing the appropriate multiyear finance mechanism for the allocation of federal funds. This work should begin immediately to guide the reauthorization of Section 317 in 2002. Along with the development of a strategic investment plan to support immunization infrastructure, the committee recommends that the federal government provide \$50 million in additional funds to help states purchase pneumococcal, influenza, or other vaccines for adults under age 65 who are not eligible for other forms of public health insurance and who have chronic illnesses such as heart and lung disease or diabetes. The committee further recommends that states increase their own vaccine purchases by \$11 million annually for adults who cannot afford vaccines but who are not eligible for federal assistance (i.e., the "underinsured").

Finally, the committee recommends that federal and state agencies develop a set of consistent and comparable measures to monitor the status of children and adults enrolled in public and private health plans. Such measures can also facilitate efforts by state and federal health officials to assess the quality of primary-care health services within private-sector health plans, so that public health agencies can direct appropriate resources to areas in which private-sector plans do not have sufficient capacity to meet health care needs.



### **Additional Materials . . .**

The following background materials that contributed to the development of the report *Calling the Shots* are also available:

- *American Journal of Preventive Medicine*—A 120-page supplemental issue focused on case studies and other background papers prepared for the IOM study; Vol. 19(3Suppl.), October 2000. Guest editors are David R. Smith, Wilhelmine Miller, Hanns Kuttner, and William Roper.
- *Case Study Reports*—available from the National Academy Press in electronic form [[www.books.nap.edu/catalog/9836.html](http://www.books.nap.edu/catalog/9836.html)]. Case study summaries describing im-

**The committee also recommends that Congress replace the current discretionary Section 317 grants with a formula approach for state immunization grant awards to improve the targeting and stability of federal immunization grants.**

munization finance strategies in Alabama, Maine, Michigan, New Jersey, North Carolina, Texas, Washington, and Los Angeles/San Diego Counties in California.

## For More Information . . .

Copies of *Calling the Shots: Immunization Finance Policies and Practice* are available for sale from the National Academy Press; call (800) 624-6242 or (202) 334-3313 (in the Washington metropolitan area), or visit the NAP home page at [www.nap.edu](http://www.nap.edu). The full text of the report is available on line at [books.nap.edu/catalog/9836.html](http://books.nap.edu/catalog/9836.html).

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