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**PREVENTING EPIDEMICS.
PROTECTING PEOPLE.**

CLOSING THE VACCINATION GAP: A Shot in the Arm for Childhood Immunization Programs

EXECUTIVE SUMMARY

Twenty percent of preschool children¹ do not receive all routine vaccinations to protect against a range of common childhood diseases. While the Centers for Disease Control and Prevention (CDC) recently announced a significant increase in vaccination rates from 2002 to 2003, each year an estimated 2.1 million preschool children are still not fully immunized.² Leaving a single child unprotected is one too many.

“THERE ARE ACTUAL, ACHIEVABLE MEASURES THAT COULD BE TAKEN TO IMMEDIATELY IMPROVE PRESCHOOLER IMMUNIZATION RATES IN THE U.S. PRESCHOOLERS ARE PARTICULARLY VULNERABLE TO A HOST OF CHILDHOOD ILLNESSES. NO CHILD IN AMERICA SHOULD HAVE TO GET SICK FROM A VACCINE PREVENTABLE DISEASE. IT'S TIME FOR US TO REDOUBLE EFFORTS TO PROTECT THE 20 PERCENT OF PRESCHOOLERS WHO ARE ROUTINELY NOT BEING IMMUNIZED ON TIME.”

– ROSALYNN CARTER,

Former First Lady of the United States, President and Cofounder of Every Child By Two



Numerous scientific studies and evaluations have demonstrated the effectiveness of vaccines in reducing disease and death.

- The standard childhood immunization series prevents approximately 10.5 million cases of infectious illnesses and 33,000 deaths each year.³
- Vaccines have eliminated certain devastating infectious diseases, such as smallpox, and nearly eradicated others like polio. They have drastically reduced the harmful impact of other diseases such as measles and pertussis (whooping cough).
- Every \$1 dollar spent on vaccines results in \$6.30 in direct cost savings, \$18.42 in indirect savings, and an aggregate annual savings of \$42 billion.

Vaccine rates for preschool children, between 19-25 months old, were only at 79.4 percent in 2003, despite the evidence of the effectiveness of immunizations, particularly for young children who are most susceptible to contagious disease.⁴ While this is a significant jump over the 2002 rate of 74.8 percent, 20 percent of preschool children remain at increased risk for vaccine-prevent-

able diseases. Immunization rates for school-age children are at 95 percent⁵ as a result of laws passed by the Carter Administration mandating vaccination prior to school entry.⁶ These laws arose in the late 1970s and early 1980s as part of a major, nationwide effort by the Carter Administration to bolster low immunization rates in children.⁷ School provides the first time after birth to assess systematically children's immunization history, and provides an opportunity to receive the vaccines that they may be missing.

Trust for America's Health (TFAH) and Every Child By Two (ECBT) issued this report to:

1. Discuss the importance of childhood immunizations,
2. Examine immunization rates,
3. Highlight factors contributing to the gap in vaccination rates for preschool children, and
4. Recommend improvements to U.S. vaccination policy.

(The full report is available on TFAH's Web site at www.healthymamericans.org.)

REASONS FOR THE GAP IN PRESCHOOL VACCINATIONS

Factors contributing to the 20 percent gap in vaccination rates for preschool children, representing 2.1 million children annually, include:

- An under-funded and under-utilized immunization registry system,
- Public misperceptions about the importance of vaccines and their safety, and
- Systemic issues, including vaccine supply, distribution, and funding.

The immunization gap is most evident in poor and minority communities and in certain geographic areas. For white children, the immunization rate is 82.5 percent, while for African-American children, 73 percent

in 2003.⁸ A 1989-1991 measles epidemic that resulted in 55,000 reported cases and 11,000 hospitalizations primarily affected preschool children in low-income, inner-city neighborhoods.⁹

In addition, some cities and states have low vaccination rates. Houston, Texas is the city reporting the lowest immunization coverage rate at 69.2 percent and Detroit has the second lowest rate, 69.6 percent. Although Colorado experienced a significant jump in the immunization rate of nearly 5 percent to 67.5 percent in 2003, the state remains far below the national average of 79.4 percent. Louisiana has the second lowest rate of any state, 69.9 percent.

Recommendations: Improving Immunization Coverage

SEVERAL ACTIONS ARE NEEDED TO IMPROVE IMMUNIZATION COVERAGE RATES:

1) Increased Funding for Vaccines

If the nation is to meet our Healthy People 2010 goals of vaccinating 90 percent of children and adults, adequate funding resources must be provided to the CDC, states, and localities to ensure that those in need of immunizations receive them. Therefore, TFAH and Every Child by Two support a FY 2005 appropriation for the CDC's National Immunization Program (NIP) of \$824 million. This is a \$180 million increase above

current appropriations level. The \$824 million includes \$298 million for the Section 317 Grants for vaccine purchases for children, \$68 million for the State Grants for vaccine purchase for adults, \$228 million for State Grants for operations and infrastructure activities, including immunization registries, \$79 million for the NIP prevention, safety, and administrative activities, and \$151 million for Global Immunization Activities.

2) Measures Must Be Taken to Increase Participation in Immunization Registries

Immunization registries are confidential, computerized information systems that collect vaccination data about children within a geographic area, though parents may decline participation. Registries allow health care providers to consult a unified immunization record. With such a record, providers may ensure that a child's immunizations are up-to-date, send reminders when immunization is due or missed, and prevent duplicative immunization.

Unfortunately, only an estimated 43 percent of children under age six have one or more of their immunizations recorded in a registry. Approximately 75 percent of public providers are using the registries, but only 31 percent of the private providers participate.¹¹ Greater measures must be taken to encourage greater participation by health care providers, particularly private providers, in registries.

3) Changes to Vaccines for Children (VFC) and State Children's Health Insurance Programs (SCHIP)

Efforts to immunize children involve a set of complex and separate financial arrangements among federal, state, and local health agencies, as well as collaborations with public and private health care providers. Each state invests in immunization programs, but no state has sufficient resources to ensure all children are immunized. The federal government assists states by providing funds for vaccine purchase and infra-

structure support.¹² Federal assistance is primarily through two sources: grants under Section 317 of the Public Health Service Act, and the Vaccines for Children (VFC) program.

Vaccine Delivery. Over half of immunizations are paid for by the government,¹³ but about 70 percent of vaccines are administered in private settings.¹⁴ Alarming, the Institute of Medicine (IOM) has found that

"THE CDC'S ANNOUNCEMENT OF THE HIGHEST IMMUNIZATIONS RATES FOR INFANTS AND TODDLERS IS GREAT NEWS. THE EVEN BETTER NEWS IS THAT WE KNOW WHAT IT WOULD TAKE TO REACH THE LAST 20 PERCENT OF PRESCHOOLERS. HOPEFULLY, THE LATEST PROGRESS WILL REINVIGORATE ALL OF US TO STRIVE FOR FULL CHILDHOOD VACCINATION RATES IN AMERICA."

— BETTY BUMPERS,
Former First Lady of
Arkansas, Cofounder of
Every Child By Two

the private contribution to this partnership may be weakening.¹⁵ Most public and private health insurance includes vaccine benefits, but the scope of these benefits varies widely by insurance type and by vaccine.

Of growing concern is the plight of underinsured children – those whose families have health care insurance that excludes vaccine coverage, or that charges high deductibles or co-payments. These children, largely from working families, are not permitted to receive vaccines at a public health clinic, even if they visit that clinic for all of their other medical needs.

Vaccine Supply. The number of companies producing vaccines has shrunk from 25 to five, over the last 30 years.¹⁶ Although vaccines are important disease prevention tools and have significant social value, they often generate lower revenues than pharmaceuticals. Moreover, the process of developing and manufacturing vaccines is complex, expensive and lengthy.

Vaccine supply has also been plagued by recent shortages that were unprecedented in scope and severity. While temporary production problems appear to have eased, the potential for disruption remains.¹⁷ Shortages, such as the one during 2001-2002 for DTaP, MMR, varicella and pneumococcal conjugate vaccines can lead to deferral in immunization.

Proposed VCF Legislation. Bi-partisan legislation has been introduced in Congress to improve the VFC program in several ways. Two key provisions increase access to immunization for underinsured children and eliminate the

price caps on certain vaccines that the federal government purchases from manufacturers. **The Children’s Vaccine Access Act** would permit underinsured children to receive immunizations at most public health clinics, not just Federally Qualified Health Centers (FQHCs), which are federally-designated locations serving predominantly underserved populations. Solely relying on FQHCs to provide immunizations limits access due to the finite number of FQHC locations. This would greatly increase the number of settings underinsured children could go to receive vaccines.

Another important provision of the bill is the elimination of the price cap on certain vaccines that were in use prior to 1993 when the VFC statute was enacted. The price caps have resulted in certain manufacturers refusing to bid on CDC purchase contracts.

In addition, children currently served by the State Children’s Health Insurance Programs (SCHIP) within states that designed their SCHIP programs separate from Medicaid — “non-Medicaid expansion SCHIPs” — do not qualify for VFC vaccine, which is entitled to Medicaid children. Modifications to the program to make all children insured under SCHIP eligible for VFC have been presented many times. Bi-partisan legislation was introduced in 2001 in to address this issue. The legislation has been reintroduced in the 108th Congress as part of a larger bill, the Hispanic Health Improvement Act of 2003. **TFAH and Every Child by Two strongly support the provision to permit all children under SCHIP to qualify for VFC vaccine.**

4) Vaccine Insurance Mandate

Between 1999 and 2003, the cost to immunize one child rose from \$186 to \$472 per child, as new vaccines have been added to the recommended schedule. Moreover, the cost of vaccines is projected to rise substantially over the next several years. Federal appropriations have not kept pace with the cost of vaccines. The cost of immunizing one child was estimated at \$472 in 2004, a total cost of \$298 million for all children. However, the federal

appropriation for vaccine purchase is only \$220 million, far short of the total cost.

States have reduced funding for immunizations, at the same time vaccine costs are rising. The IOM found that in response to recent state budget cuts, most reduced the scale of effort of their immunization activities, commonly reducing outreach, education efforts, and vaccine delivery arrangements with contractors.

TFAH and Every Child By Two support efforts to require all health plans to fully cover ACIP-recommended immunizations without co-payments and deductibles. Many vaccines have tremendous societal benefit — they prevent disease and save lives. In addition, the economic savings are irrefutable. Requiring health plans to fully cover ACIP-recommended vaccines would eliminate the financial barriers faced by the underinsured,

working families of this nation who consistently fall through the cracks of our health-care system. The IOM recommended such a mandate. However, TFAH and Every Child By Two recommend a stakeholder conference be convened to build consensus toward an appropriate and workable financing mechanism, as many stakeholders disagreed with the IOM’s proposal for funding the mandate.

5) Education and Awareness Measures

A major concern of many public health officials is that immunization may be taken for granted. Studies show that recipients often under-value vaccines and that both parents and physicians often do not recall the scourges once caused by now vaccine-preventable diseases. Moreover, there have been media reports sensationalizing unfounded allegations regarding vaccine safety.

Institutes of Medicine (IOM) and the majority of the medical community have concluded that vaccines are very safe. In May, 2004, the IOM’s Immunization Safety Review (ISR) Committee released its final report detailing that the measles-mumps-rubella (MMR) vac-

cine and thimerosal-containing vaccines, have **no causal association with autism.**

A systematic educational effort addressing common misconceptions is needed to ensure informed decision making about immunizations.¹⁸ CDC should continue to work closely with primary care provider organizations such as the American Academy of Pediatrics, the American Academy of Family Physicians, the National Association of Pediatric Nurse Practitioners and community leaders to increase awareness among parents and legal guardians, about the importance of immunization.

“NEGLECTING TO VACCINATE 2.1 MILLION PRESCHOOL KIDS ON TIME EACH YEAR IS SIMPLY UNACCEPTABLE. THIS IS NOT A LOST CAUSE. WE COULD MAKE REAL CHANGE, REAL FAST BY TAKING SOME REAL SIMPLE STEPS.”

– **SHELLEY A. HEARNE, DRPH,**
Executive Director of Trust for America’s Health

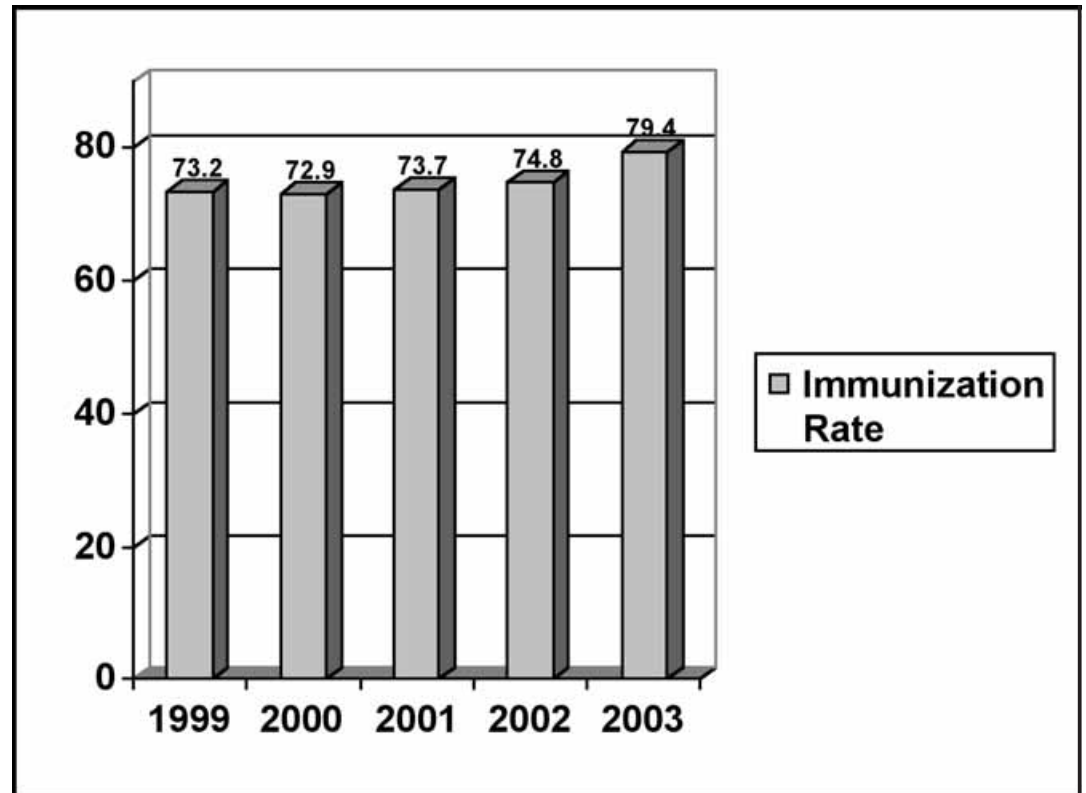
Immunization: Saves Lives and Reduces Health Care Spending

Vaccinations not only prevent disease and death, they also provide major economic benefits. According to the Centers for Disease Control and Prevention (CDC), every dollar spent on immunization saves \$18.40 in both medical costs and indirect costs such as missed work and disability, producing societal aggregate savings of \$42 billion.

Recommended Immunizations for Children	
Hepatitis B	Measles, Mumps, Rubella
Diphtheria, Tetanus, Pertussis (whooping cough)	Varicella (chicken pox)
Haemophilus influenza Type B	Pneumococcal
Inactivated Poliovirus	Influenza
Hepatitis A (recommended for children in certain states and regions and for certain high-risk groups)	
The Recommended Immunization Schedule comprises the recommendations approved by the Advisory Committee on Immunization Practices (ACIP), the American Academy of Pediatrics (AAP), and the American Academy of Family Physicians (AAFP).	

Appendix A:

YEARLY IMMUNIZATION RATE PERCENTAGE FOR THE 4:3:1:3:3 STANDARD
1999-2003¹⁹



Appendix B:

Estimated Vaccination Coverage Rate for Children 19-35 Months of Age by State			
	4:3:1:3:3 Series		4:3:1:3:3 Series
Alabama	80.4	Montana	80.0
Alaska	79.7	Nebraska	80.4
Arizona	76.9	Nevada	75.7
Arkansas	76.5	New Hampshire	86.5
California	77.4	New Jersey	75.0
Colorado	67.5	New Mexico	75.2
Connecticut	94.0	New York	78.6
Delaware	76.3	North Carolina	86.7
District of Columbia	76.2	North Dakota	80.4
Florida	81.0	Ohio	82.3
Georgia	76.6	Oklahoma	70.5
Hawaii	82.0	Oregon	76.5
Idaho	78.1	Pennsylvania	86.2
Illinois	82.9	Rhode Island	85.2
Indiana	79.0	South Carolina	84.3
Iowa	81.1	South Dakota	80.9
Kansas	75.7	Tennessee	78.8
Kentucky	81.0	Texas	74.8
Louisiana	69.9	Utah	78.8
Maine	78.6	Vermont	83.6
Maryland	81.3	Virginia	84.0
Massachusetts	90.7	Washington	75.3
Michigan	81.5	West Virginia	74.6
Minnesota	83.9	Wisconsin	81.2
Mississippi	83.6	Wyoming	75.8
Missouri	83.3	US Average	79.4
<p>4:3:1:3:3 Four or more doses of DTP, three or more doses of poliovirus vaccine, one or more doses of any MCV, three or more doses of Hib, and three or more doses of HepB</p> <p>Source: CDC, U.S. National Immunization Survey, 2003</p>			



ACKNOWLEDGEMENTS:

This report was written in partnership with Every Child By Two: The Carter/Bumpers Campaign for Early Immunization.
www.ecbt.org.

Endnotes

- 1 The term preschool children in this paper refers to children 19 to 35 months old.
- 2 Philip J. Smith, Susan Y Chu, Lawrence E. Barker, "Children Who Have Received No Vaccines: Who Are They and Where Do They Live?" *Pediatrics*: 114.1 (2004).
- 3 Zhou, et al, "Economic Evaluation of Routine Childhood Immunization with DTaP, Hib, IPV, MMR and Hep B Vaccines in the United States," Pediatric Academic Societies Conference, Seattle, Washington, May 2003.
- 4 Immunization rates cited are for the 4:3:1:3:3 standard. This is gauged by measuring the percentage of children who have received the following immunizations: four or more doses of diphtheria-tetanus-pertussis vaccine (DTP); three or more doses of polio virus vaccine; one or more dose of measles-containing vaccine (MCV); three or more doses of Haemophilus influenzae type B (HiB) vaccine; and three or more doses of Hepatitis B vaccine.
- 5 Immunization rates cited are for the 4:3:1:3:3 standard.
- 6 "The Birth of Every Child By Two," Every Child By Two. <<http://www.ecbt.org/backgrd.htm>> 29 July 2004.
- 7 Alan Hinman, Walter Orenstein, et al., "Childhood Immunization Laws that Work," *Journal of Law, Medicine & Ethics*: 30.3 (22 September 2002).
- 8 "Estimated Vaccination Coverage with 4:3:1:3:3 Among Children 19-35 Months of Age by Race/Ethnicity and by State and Immunization Action Plan Area — US, National Immunization Survey, 2003, Centers for Disease Control, National Center for Health Statistics <http://www.cdc.gov/nip/coverage/nis/03/tab29_43133_race_iap.xls> 22 July 2004.
- 9 Development of Community and State-Based Immunization Registries (Washington, D.C.: National Vaccine Advisory Committee, 12 January 1999): 10.
- 10 Ibid.
- 11 "Immunization Registry Progress - United States, January - December 2002," Morbidity and Mortality Weekly Report: 53 (28 May 2004): 431-433.
- 12 Calling the Shots: Immunization Finance Policies and Practices. (Washington, D.C.: Institute of Medicine, 2000).
- 13 Financing Vaccines in the 21st Century: Assuring Access and Availability, (Washington, D.C.: Institute of Medicine, August 2003).
- 14 Development of Community and State-Based Immunization Registries (Washington, D.C.: National Vaccine Advisory Committee, 12 January 1999): 10.
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- 16 Ibid.
- 17 Ibid.
- 18 B.G. Gellin, E.W. Maibach, E.K. Marcuse, "Do Parents Understand Immunizations? A National Telephone Survey," *Pediatrics*: 106.5 (2000):1097-1102.
- 19 "National, State, and Urban Area Vaccination Coverage Among Children Aged 19-35 Months – United States, 2003." Morbidity and Mortality Weekly Report: 53 (30 July 2004): 658-661.