

Recommendations

1. Focus public health spending on providing vaccination to children from low-income families, as originally intended by the VFC program.
2. Limit the vaccine purchases of the federal government only to the amount needed to cover children vaccinated through the VFC.
3. Allow doctors to charge fees that cover the true cost of administering vaccines to children.

Guarding Against Disease

Improving Washington's Child Vaccination Program

by Roger Stark, MD
& Tatiana Sahagun

August 2009

In 1965, the United States government assured that all children would receive access to vaccines for common childhood diseases through the passage of the Vaccination Assistance Act.¹ The law created a program that provides federal grants to local authorities for preventive health services, including immunizations.²

Nearly three decades later, the federal government expanded the plan by creating the Vaccines for Children (VFC) program, enacted as part of the Omnibus Reconciliation Act of 1993.

Today, routine child vaccinations have greatly reduced the incidence of death, disease and suffering among children and brought immense social and economic benefits to the nation. However, the financial infrastructure of this valuable program is not sustainable and has led to severe market inefficiencies.

Childhood vaccinations are essential to public health. Fundamental policy changes are needed to secure the long-term stability of Washington's child immunization program, promote the efficient and cost-effective use of vaccines, and ensure that government financial disincentives do not burden the practice of medicine or inhibit the development of new vaccines.

This study looks at how the Vaccines for Children program works, reviews Washington's low child immunization rate, describes vaccination reimbursement policies, analyzes market distortions that affect the cost and supply of vaccines, and presents three practical recommendations for improving the viability of the public immunization program and the protection of children from serious diseases.

How the VFC Program Works

The purpose of the Vaccines for Children (VFC) program is to ensure that children who are uninsured, Medicaid eligible, American Indian or Alaskan Native receive immunizations by providing shots at no expense to the child's family. The program is operated by the federal Center for Disease Control (CDC) and governed by the Advisory Committee on Immunizations Practices (ACIP).

¹ Public Law 87-868, "The Vaccine Assistance Act of 1962, to assist states and communities to carry out intensive vaccination programs designed to protect their populations, particularly all preschool children, against poliomyelitis, diphtheria, whooping cough, and tetanus," enacted October 23, 1962 and added as Section 317 to the Public Health Services Act.

² "Childhood Vaccines: Challenges in Preventing Future Shortages," by Janet Heinrich, Subcommittee on Public Health, Committee on Health, Education, Labor, and Pensions, United States Senate and the General Accounting Office, 2002.

The program is administered by local health officials in all 50 states and U.S. territories.

Based on recommendations from its Advisory Committee, the CDC each year purchases vaccines from medicine manufacturers and then distributes them to state officials. Due to the large amount of vaccine the CDC buys each year, the federal government has immense buying power and is able to command 50% to 60% reductions in price compared to what private purchasers pay.³ Many states have expanded their own VFC programs using state funds. State officials purchase vaccines from the CDC to immunize child population groups beyond those covered by the federal program or, in some cases, to inoculate all children in their state.

While all states participate in the VFC program, the degree of state involvement in the immunization program varies dramatically. The number of states at each level of involvement is given below:

Universal Non-Choice (4 States)	State provides all recommended vaccines free of charge for all children by supplementing federal funding with state dollars.
Universal Select (8 States)	State provides all recommended vaccines free of charge for all children by supplementing federal funding with state dollars (with the exception of a few of the more expensive vaccines such as pneumococcal conjugate vaccine).
VFC & Underinsured (21 States)	State provides recommended vaccines free of charge for only children who are underinsured or VFC eligible.
VFC Only (17 States)	State provides vaccines supplied by the VFC program only to VFC eligible children.

Vaccination Rates in Washington State

Washington gives all participating doctors the recommended vaccines free of charge, a policy initiated in the mid-1990s. Private pediatricians and doctors at private and public clinics and hospitals participate in the program.⁴

Until 2009, Washington operated its vaccination program under the Universal Non-Choice purchasing designation, providing all recommended vaccinations to all children free of charge, by spending state funds on top of federal VFC dollars. The policy of using public funds to vaccinate all children proved impractical, however, and earlier this year the legislature voted to phase out coverage for children not enrolled in Medicaid.

By July 2010, Washington will no longer be a Universal Non-Choice state and instead will be listed in the VFC Only purchasing category. The cost and impracticality of using tax dollars to vaccinate all children, regardless of family income or level of insurance coverage, helps explain why soon only three states will

³ "Frequently Asked Questions," Vaccines for Children Program, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, 2009, at www.cdc.gov/vaccines/programs/vfc/projects/faqs-doc.htm.

⁴ "Vaccines for Children: Investment in Immunizations Yields Big Dividends," Children Immunizations, National Conference of State Legislatures, 2009, at www.ecom.ncsl.org/programs/health/imuni2.htm.

take the Universal Non-Choice approach.

According to 2007 data, Washington had a 69% immunization rate compared to the national average of 77% among children ages 19 to 35 months. This low vaccination rate exists in spite of a substantial increase in state and federal funding, from \$9.2 million in 2006 to \$15.7 million in 2007.⁵ The majority of children in Washington (63%) receive vaccinations through private health coverage, rather than a public health clinic or other public service center.⁶

Washington ranked 47th in the nation in vaccination rates in 2007. This is in spite of the state being ranked third in the country in state spending on vaccines. Interestingly enough, two of the three states with the highest vaccination rates (Maryland and Hawaii) are VFC/Underinsured states, that is, they only cover the children of poor families.

One reason for the dramatic increase in spending, simultaneous with the decrease in immunization rate, is the rising cost of newer vaccines, such as the HPV and Varicella Pneumococcal Conjugate – both recommended by the CDC. Their addition to the recommended vaccination list has led to a doubling of the annual federal VFC budget from \$500 million to \$1 billion.⁷ Consequently, in order to continue providing universal vaccination coverage, Washington state substantially increased its spending on children not covered by the federal program. In spite of this large increase in state spending, however, the actual number of children vaccinated did not increase.

Why Washington’s Vaccination Rate is so Low

The reasons Washington’s vaccination rate is so low can be divided into three separate yet related categories. These are:

- reluctance of parents to vaccinate their children
- the state’s low reimbursement rate to doctors
- underutilization and waste of vaccine doses

Concerns of Parents

Resolving the doubts of parents about the safety and importance of child vaccinations has been overlooked by Washington health officials and is a growing problem. This may be due to the increasing publicity about the perceived dangers of vaccines and their unproven association with causing autism.⁸

A further reason is the ease of enrolling children in public school without their being immunized. Dr. Audrey Odom, a former senior fellow in pediatric infectious diseases at Children’s Hospital in Seattle, believes the reason Washington vaccination rates are so low is because, “it is so easy to opt out and still attend

⁵ “State Vaccine Purchases with State Dollars,” VFC: State/Territory Immunization Projects, at www.cdc.gov/vaccines/programs/vfc/projects/default.htm.

⁶ “Childhood Vaccination Providers in the United States,” by Charles LeBaron et al., *American Journal of Public Health*, Research and Practice, pages 266-270, February 2002, at www.ajph.org/cgi/content/abstract/92/2/266.

⁷ “Financing Vaccines in the 21st Century: Assuring Access and Availability,” National Academy of Sciences. Institute of Medicine, August 2003, at www.iom.edu/?id=14451.

⁸ “Strategy to Improve Immunization Rates in Washington,” Washington State Department of Social and Health Services, Report to the Legislature, 2008.

public school. In most other states, parents have to get their signature notarized or have a religious leader co-sign” in order for their children to enroll in school and not be immunized.⁹

The question of exempting children from vaccination is particularly relevant in Washington, where 20 counties have exemption rates higher than 5%.¹⁰ These rates are consistently the highest in the nation. In Massachusetts, which also operates its VFC program under the Universal coverage designation, less than 1% of children are exempt from immunization. Washington is one of only 20 states that allow a non-medical personal or philosophical exemption, in addition to objections based on medical and religious grounds.

This may prove to be problematic for Washington, since research shows that children who have non-medical exemptions are more likely to become infected with dangerous childhood diseases, like measles and pertussis.¹¹

Washington has already seen the public health consequences associated with low child immunization rates. In 2008, the state experienced serious outbreaks of four serious diseases – pertussis, varicella, mumps, and measles – all of which can easily be prevented with existing vaccinations.

Low Doctor Reimbursement Rates

The American Academy of Pediatrics has long held that the reimbursement rate for vaccine administration is too low. According to a report by the Immunization Congress, some pediatricians and many family practice doctors are seriously considering ending their vaccination services.¹² Almost half of the physicians surveyed reported that their practice had deferred obtaining specific vaccines for purely financial reasons, and that for many private practices “providing childhood vaccinations is increasingly a losing financial proposition.”¹³ The problems associated with the growing cost to doctors poses a real threat to vaccine access for children in Washington state.

Low reimbursement rates remain a problem in Washington even though vaccines are provided free of charge to the doctor by the government. Washington’s Medicaid program, for example, has one of the lowest vaccination rates in the country. The estimated cost to a primary care doctor to administer a vaccine is approximately \$25, yet Washington Medicaid’s payment is only \$5.96. The allowable administration fee a doctor can charge is \$15.60, meaning a doctor loses money every time he or she agrees to vaccinate a child. An approximate increase in the Medicaid fee of \$10.00, paid consistently with each dose delivered, would be necessary to achieve the regional maximum for vaccination services.¹⁴

Doctors are prohibited from refusing to vaccinate a child because of inability to pay the administrative fee. Consequently, physicians are charging higher

⁹ “The vaccine debate: Who’s not getting their shots – and why,” by Kathleen F. Miller, *Parent Map*, September 25, 2008, at www.parentmap.com/content/view/1081.

¹⁰ “Strategy to Improve Immunization Rates in Washington,” Washington State Department of Social and Health Services, Report to the Legislature, 2008.

¹¹ *Ibid.*

¹² *Ibid.*

¹³ “Immunization Puts Mounting Financial Pressure on Physicians,” by Crystal Phend, *Medpage Today*, Vaccines, December 1, 2008, at www.medpagetoday.com/InfectiousDisease/Vaccines/11948.

¹⁴ “Strategy to Improve Immunization Rates in Washington,” Washington State Department of Social and Health Services, Report to the Legislature, 2008.

office visit fees to patients to offset the lower vaccination administration fee. Also, a provider is not required to provide vaccines for children who are not established patients of his or her practice.

The low payment for giving vaccines has two effects; it forces the doctor to shift part of vaccination costs to other patients and their insurers, and it discourages the doctor from promoting vaccination of children in the first place. Obstacles to vaccinations such as these can prove difficult for many parents who may, after a good faith effort, give up trying to immunize their children.¹⁵

Higher payments are necessary to cover providers' additional effort and time spent educating hesitant parents on the value of vaccines. Growing parent reluctance is partly an outcome of the surge of information (and misinformation) distributed on the internet, according to Dr. David Buchholz, a Seattle pediatrician. For example, the "dangers" of autism as a side effect of vaccinations have required an immense amount of doctors' time to diffuse. Dr. Buchholz experienced an increase in the time he spent discussing vaccine safety with parents from 20 minutes a day to up to two hours a day following a segment on "The Oprah Winfrey Show" describing the perceived dangers of vaccines.¹⁶

Underutilization and Waste of Vaccines

A predictable consequence of "free" government-provided vaccines is that doctors are not incentivized to use them judiciously. Neglect, underutilization, and over-ordering of vaccines have led to waste and misplaced medical resources. In Oregon alone over 20,000 people last year, mostly children, required re-vaccination because of storage problems and waste of the original doses.¹⁷

Distortion of the Vaccine Market

As currently designed the Vaccines for Children program is not stable or sustainable. The federal government now purchases over half of the childhood vaccines in the country. Because of the government's massive purchasing power, manufacturers are forced to take a 60% reduction in reimbursement for vaccines, compared to what the private sector pays, leading to artificial cost shifts that can double the market price of the medicine. For example, Merck sells the measles-mumps-rubella (MMR) vaccine to the CDC for \$18.26 a dose, while charging a private patient \$46.54 for the same dose.

The policy of steep discounts for public vaccination programs is intended to save the government money, but it is false savings because the strong financial disincentive to drug firms has led to severe distortion in the vaccine manufacturing market. The production and research of vaccines is no longer profitable for many pharmaceutical companies and many of them have left the market.

¹⁵ This was experienced by one of the authors in February 2009. She called a number of providers and was repeatedly told she needed to schedule a standard office visit first, not simply a vaccination visit. It was clear doctors' offices were trying to schedule for additional services, in order to help cover the cost of providing the vaccination.

¹⁶ "Suspicion of vaccines spurs debate, worry; Public health officials fear consequences of forgoing shots," by Paul Nyhan, *Seattle Post Intelligencer*, March 16, 2009, at www.seattlepi.com/local/403719_vaccine16.html.

¹⁷ "More than 20,000 Oregonians urged to get new vaccinations," by Andy Dworkin, *The Oregonian*, July 21, 2009, at www.oregonlive.com/news/index.ssf/2009/07/more_than_20000_oregonians_urg.html.

Fifteen years ago more than ten medical research firms in the United States were studying and producing vaccines for children; today only four firms do this work.¹⁸ Furthermore, the majority of the eight basic vaccines recommended for children today are produced by a single company.¹⁹ The result is a less stable supply of vaccines for both the government and private patients, and a reduction in the amount of lab time, research effort and financial investment devoted to the search for new vaccines.

Washington State's 2009 Budget

Every state in the country has been affected by the economic downturn and many state budgets are under strain from past overspending and unsustainable levels of current spending. The Washington legislature in 2009, facing a multi-billion dollar short fall, chose to eliminate gradually the universal vaccine program for children not enrolled in Medicaid. Starting July 1, 2009, coverage for HPV, rotavirus and meningococcal vaccines will be discontinued. On July 1, 2010, Washington will no longer pay for vaccinations for children not enrolled in Medicaid.

This discontinuation of the state-funded part of the vaccine program will shift costs from state taxpayers to some higher-income families and to private insurance carriers. It does make sense, though, that government-provided vaccination is now a means-tested program. In a completely free market, competition would lead to a sharp reduction in the price of each vaccination.

Even though Washington has eliminated its state-funded vaccine program, the federal government remains the largest purchaser of vaccines in the country. Price controls set by the CDC continue to discourage new medical manufacturers and competition.

Policy Recommendations

The government's over-involvement in the vaccine delivery system has led to price fixing, diminished doctor interest and participation, lower parental awareness and fewer children being protected against serious illness. Three policy changes in Washington's immunization program would mitigate these problems and improve the protection of children's health.

1. Focus public health spending on providing vaccination to children from low-income families, as originally intended by the VFC program. This will provide a safety-net for the poor and will hold down costs for everyone else. The legislature took an important step in this direction in the 2009 session. Lawmakers should adopt the policy that tax-funded vaccinations will be targeted to children from families most in need as a permanent part of the program.

2. Limit the vaccine purchases of the federal government only to the amount

¹⁸ "Vaccines for Children: Investment in Immunizations Yields Big Dividends," Children Immunizations, National Conference of State Legislatures, 2009, at www.ecom.ncsl.org/programs/health/immuni2.htm.

¹⁹ "Childhood Vaccines: Challenges in Preventing Future Shortages," by Janet Heinrich, Subcommittee on Public Health, Committee on Health, Education, Labor, and Pensions, United States Senate and the General Accounting Office, 2002.

needed to cover children vaccinated through the VFC. This will restrict the government's disruption of the market, normalize prices and encourage more medical manufacturers to produce vaccines. The result will be more competition, increased innovation and a stabilization in the supply of vaccines.

3. Allow doctors to charge fees that cover the true cost of administering vaccines to children. This will encourage doctors to promote vaccine use, calm the fears of doubting parents, and improve coordination among vaccine makers, school administrators and public health officials. It will also reduce the practice to shifting part of the cost of vaccinations to private patients. The result will be higher vaccination rates for children and greater protection against disease for the general public.

Conclusion

Currently there is no correlation between the amount the government spends on vaccines and the number of children vaccinated in any given state. Washington ranks third in spending, but 47th in child vaccination rates. Conversely, two of the three states with the highest vaccination rates spend significantly less government money than the national average and provide tax-funded vaccines only to children of poor families. It is clear that cost is not the determining factor in achieving high vaccination rates, and that government funding and control does not lead to universal vaccination of children.

Manufacturers currently have no guarantee that the CDC will purchase from them or that the states will use their vaccines. It is no surprise that the number of medical manufacturers has decreased over the years.

This decline has four consequences. First, it severely restricts competition in the market place. Second, it restricts flexibility of supply when demand increases. Third, it limits innovation and research into new vaccines. Fourth, it reduces manufacturers' interest in promoting public health by encouraging the vaccination of children. Hence, the government remains the only organization interested in advertising and disseminating information on the importance of vaccination, putting immunization of children in direct conflict with other budget and political priorities.

Doctors in Washington today cannot cover their basic office costs because public reimbursement rates are so low. Likewise, the vaccines themselves are provided to the doctors and clinics for "free." Hence they have little incentive to store, manage and use the vaccines efficiently, leading to significant waste.

The gap between the amount of government spending on vaccines and the number of children actually vaccinated is a good example of how expected improvements in public health often fail to materialize when government attempts to centrally control health care.

A better solution would be to target government spending to children of low-income families and to allow doctors, private insurers and vaccine manufacturers to negotiate rational prices and reasonable reimbursements rates. This would encourage a normal free market to develop, would align the incentives of doctors, parents and manufacturers for mutual benefit and would service the public interest by encouraging vaccination for the maximum number of children.

Dr. Roger Stark is a retired surgeon and a health care policy analyst with Washington Policy Center. Tatiana Sahagun is a research assistant with WPC's Doug & Janet True Internship Program.