

**Implementing a National Strategy to Improve the
Quality of Immunization Practices among VFC Providers
2001 Annual Report
May 2002**

The Centers for Disease Control and Prevention's (CDC) National Immunization Program (NIP) provides resources, policy guidance, and technical assistance and evaluates the effectiveness of state and local programs in the provision of immunization services. One of the most effective strategies for improving immunization practices at the clinical level is continuous quality improvement. NIP has developed an improvement strategy that includes assessment, feedback of information to providers, incentives for change, and exchange of information among peers (the AFIX model). The AFIX model is a proven strategy to improve immunization coverage as documented in the CDC Guide to Community Preventive Services.

Implementing this activity in both the public and private health sectors is an important national health goal that has been facilitated through coordination with another well-established program, the Vaccines for Children program (VFC). During a typical VFC provider site visit, vaccine cold chain requirements and VFC eligibility documentation are thoroughly reviewed. Adding AFIX enhances the VFC site visit. The AFIX methodology helps assure that VFC eligible children are receiving all ACIP recommended doses of vaccine without being over-immunized with unnecessary doses as a result of poor clinic record keeping. In short, AFIX helps assure appropriate use of VFC vaccine and reduces vaccine waste.

This report describes progress that NIP and the immunization grantees have made to operationally merge AFIX and VFC provider site visits for the period January 1, 2001 to December 31, 2001, and ongoing activities for 2002.

Background

Performance measurement with feedback to providers is a proven tool to raise immunization levels and improve immunization service delivery. This approach has been endorsed by 3 federal advisory committees based on the results of numerous studies and addresses a Healthy People 2010 objective that 90% of immunization providers should have assessment with feedback. Since the early 1990s, NIP has collaborated with state immunization programs to develop and implement quality improvement visits in public clinics, community health centers (CHC), and private physician offices. This effort has resulted in significant improvements in coverage levels in practice sites over time.

In 1994 the VFC program was introduced nationally and quickly became one of CDC's largest public-private partnerships, with widespread physician acceptance and over 43,000 enrolled provider sites participating in the program. This federally funded program provides vaccines at no cost to participating providers for eligible children. VFC program staff conduct site visits to monitor program objectives. Therefore, it seemed an effective use of resources to integrate AFIX activities with VFC site visits to ensure compliance with recommended immunization practices and vaccine handling and storage procedures.

During a typical VFC and AFIX site visit, program staff monitor, implement and evaluate the following areas:

- adherence with immunization schedule recommendations as established by the Advisory Committee on Immunization Practices (ACIP) and the American Academy of Pediatrics (AAP).
- appropriate vaccine handling, storage and ordering procedures, including a physical inspection of refrigeration units and temperature monitoring devices.
- proper documentation of children's VFC eligibility status by sampling patient records to ensure VFC purchased vaccines are going to eligible children, e.g., uninsured, Medicaid, Alaska Native/American Indian, and underinsured, when served through Federally Qualified Health Centers (FQHC).
- measurement of immunization levels and provider practices using the Clinical Assessment Software Application (CASA), a relational database used to assess coverage for a defined population and identify potential service delivery problems. For instance, CASA reports can graphically present data on missed opportunities, drop-off rates, invalid contraindications, etc. CASA is available through the National Immunization Program (NIP) website (www.cdc.gov/nip/casa) to all immunization providers at no cost.
- feedback of performance information (from CASA reports) to clinicians and office staff.
- recommendations to providers concerning system changes to improve service delivery.
- compliance with documentation, record retention, and other program requirements, including use of current Vaccine Information Statements and charging appropriate administration fees based on state caps.

Beginning in CY2000 NIP provided approximately \$5 million in funding to 37 states to conduct enhanced quality improvement visits to VFC-enrolled provider sites, particularly those in the private sector. Additional resources were provided to all 61 eligible immunization grantees in 2001 (~\$10 million) and 2002 (~\$14 million) to enable grantees to hire and train staff, contract with other organizations, promote the program to providers, and evaluate its effectiveness in improving vaccine usage and service delivery.

Administrative Activities

In order to provide guidance and administrative assistance to the states in implementing and evaluating the VFC/AFIX initiative, NIP formed interdisciplinary teams within the Immunization Services Division and the Data Management Division of NIP which perform the following functions.

- Grant guidance and monitoring—develop funding criteria, include VFC/AFIX language in the immunization grant guidance, negotiate awards to projects, monitor activities through annual reports and site visits, and provide ongoing consultation to the field.
- Training, education and partnerships—develop and revise print and electronic training and educational materials, work with national partners such as AAP and AAFP to promote the project.
- Assessment and reporting—develop and revise clinical assessment tools, including integrated VFC and CASA software, and methods to report findings and results.
- Evaluation and research—develop methods to evaluate the results of the project, conduct annual surveys of grantee activities and progress.

Training

NIP conducted 7 regional training seminars in 2001 which were attended by state and local staff from 15 projects. These 2-day workshops provided information on using a quality improvement strategy as part of VFC and AFIX provider visits. The course consists of instruction on using computer software to gather VFC and AFIX information, interpreting reports, presenting findings to the office staff, and monitoring vaccine handling and usage procedures.

To assist with capacity building, NIP provides grantees with various training materials, including slide sets and case studies. Several states have developed a training plan and VFC/AFIX manual to help implement the program locally.

Partnerships and Publicity

NIP promotes state partnerships with professional organizations, immunization coalitions, volunteer and service groups, and area businesses and pharmaceutical companies to publicize the benefits of VFC/AFIX to their constituency. Several projects have adopted Dr. Alan Kohrt's Educating Physicians in their Communities (EPIC) as a way to provide individualized education to providers to improve their immunization practices. Other states are working with state and local AAP chapters and medical societies to reach members.

NIP and the Centers for Medicare and Medicaid Services (CMS) are collaborating with the National Initiative for Children's Healthcare Quality (NICHQ)—a non-profit organization dedicated to improving the quality of pediatric preventive health services—on a pilot project proposal to evaluate gaps in immunization service delivery and develop an educational toolkit to facilitate change in provider offices. Preliminary discussions with NICHQ and an orientation meeting at CDC to explore potential areas of collaboration were held in 2001.

CMS and State Medicaid agencies are working with their immunization counterparts on meeting standards developed through the Government Performance and Review Act (GPRA) to monitor and improve immunization levels among children in the Early Periodic Screening Diagnosis and Treatment (EPSDT) program. The VFC—AFIX initiative may be a viable quality improvement activity for some grantees in the GPRA project.

Evaluation of CY2001 Activities

Each year NIP gathers information from all projects on VFC and AFIX activities for the preceding year, including the number of VFC/AFIX provider site visits made. Limitations of data collection do exist. Data is self reported by each grantee, and for CY2001 data collection focused on the number of visits made to VFC providers rather than the actual number of providers that were visited. As a result, the data collection instrument for CY2002 has already been revised to collect the number of providers that were visited during the year as well as how many visits were made. The additional information requested should provide a more in-depth analysis of VFC/AFIX activities for CY2002.

Additional information for this report was extracted from the annual immunization grant applications and progress reports, and from interactions such as site visits with program staff.

Since 2001 was the first full year of the VFC/AFIX initiative, most of the information deals with process monitoring and start-up activities.

The following table indicates the total number of VFC-enrolled provider sites for the country by type of provider and percent of total enrollment.

Table 1. VFC-enrolled provider sites as of 12/31/2001

Provider Type	Number	Percent
Public	11,822	27%
Private	31,891	73%
Total	43,713	100%

In 2001, the 61 eligible projects reported a total of 19,750 site visits, of which 7157 were VFC only, 2657 AFIX only, and 9936 combined VFC/AFIX visits. Table 2 shows the number of visits made to public and private provider sites by type of visit. Public sites include health department clinics, community/migrant health centers and other public sites. The number of visits reported within each category may not be an unduplicated count. (See attachments for project-specific information.)

Table 2. Number of VFC/AFIX site visits conducted in 2001

Type of Site Visit	Public Visits	Private Visits	Total Visits*
VFC visit only**	1520	5637	7157
AFIX visit only**	1800	857	2657
VFC/AFIX combined visit	3647	6289	9936
Total Visits	6967	12,783	19,750

*Note: The above table was constructed on the assumption that grantees reported site visits as mutually exclusive categories. Also, the number of visits reported within each visit category may not be an unduplicated count.

**A VFC provider site visit is defined as a formal visit to evaluate compliance with VFC program requirements, e.g., vaccine storage and handling, patient eligibility screening, etc. An AFIX visit involves an assessment of immunization coverage and provider practices and feedback of this information to office staff.

Table 3. Type of site visit by public and private provider for CY2000 and CY2001.

Type of Site Visit	Public Visits		Private Visits		Total Visits	
	2000	2001	2000	2001	2000	2001
VFC only	1013	1520	6103	5637	7116	7157
AFIX only	1488	1800	736	857	2224	2657
VFC/AFIX combined	3022	3647	3332	6289	6354	9936
Total visits	5523	6967	10,171	12,783	15,694	19,750

2001 Programmatic Activities

During 2001, NIP and the immunization projects accomplished the following activities:

- developed the “Core Elements for AFIX Training and Implementation” document to assist projects with training and implementing quality improvement activities in VFC provider sites. This document was a joint product of NIP and 6 states participating in an immunization workgroup. The document will be posted on the NIP website and will be used in training workshops. (attached)
- developed grant guidance, goals and objectives, and a technical review process and awarded nearly \$10 million to 61 grantees. Goals and objectives included items such as (1) distribute and promote "Standards of Pediatric Immunization Practices" to all public and private immunization providers; promote provider-based strategies to improve immunization practices and coverage, (2) train providers on immunization practices and requirements, (3) conduct feedback sessions of AFIX and VFC findings within 2 weeks of assessment, and (4) prioritize assessments with emphasis on relatively large volume practices and high-risk or underserved populations.
- made upgrades to the integrated VFC/CASA software. These enhancements include the addition of several functions to existing reports (i.e. adding another standard (4313) to the CASA Summary Report and the Quick Count Report) and reformatting several screens for better viewing and ease of use.
- publicized the VFC/AFIX initiative at the National Immunization Conference, 3 VFC regional workshops, and at meetings with state and local staff.
- NIP and the New Jersey Immunization Program produced a training video of a provider site visit to a VFC-enrolled pediatric office, which is being used as part of state training seminars.
- created a computerized template and national reporting standards for projects to collect data during site visits and report aggregate data to CDC annually. This VFC/AFIX Evaluation Software provides for the documentation of responses to the core VFC screening questions as well as CASA record assessment results. This VFC/AFIX Evaluation Software will assist in the collection of more specific data and as a result provide a better picture of grantee VFC/AFIX activity.
- NIP worked with a contractor specializing in electronic educational services and developed a requirements document for distance learning.

- updated the quality assurance section of CDC's Vaccine Preventable Disease satellite broadcast course.
- NIP conducted an interim 6-month survey of grantee's startup activities for the period Jan-Jun 2001 in order to monitor progress in implementing the program. Overall, 50 projects submitted reports; 28 projects (56%) used the VFC/AFIX software to submit their report. A total of 7623 provider visits were completed during the reporting period; 50% of visits were VFC Only; 47% of visits were AFIX Only or Combined VFC/AFIX visits, 3% of visits were follow-up visits, and 74% of visits were conducted in private provider offices.
- Began quarterly grantee conference calls to facilitate discussion between grantees and NIP on VFC/AFIX activities.

Findings

The additional resources made available to projects through the VFC/AFIX initiative have resulted in rapid expansion of provider quality improvement activities. Progress is illustrated in the increase in the number of VFC, AFIX and VFC/AFIX visits. Although no outcome measures can be presented this year, outcome measures will be collected and analyzed as AFIX programs mature.

Provider sites with large volume vaccine usage or with a history of vaccine loss are being prioritized for visits and possible follow-up. VFC staff report uncovering serious problems with vaccine storage and handling and vaccine loss due to expiration and mishandling of vaccines. Staff are taking corrective action that includes more frequent site visits to problem areas, making written recommendations to correct usage problems, and limiting the amount of vaccine shipped to some providers.

Overall quality improvement activities have been accelerated in private VFC practices as a result of assessment and feedback visits. One large state project reported making AFIX visits to 94% of its private VFC providers in 2001, compared to 1999 when 34% were visited. During the same period, immunization coverage levels in the immunization practices that were visited in this state increased from 54% to 75%. Public clinics showed the same type of results. In 1999 coverage was 56% and by 2001 had risen to 81%.