

# 3

## Immunization Information Systems

### Overview

The program goal is to increase to 95% the percentage of children under six years of age enrolled in a fully operational immunization information system (IIS) by the year 2020. In 1993, the Centers for Disease Control and Prevention (CDC) Immunization Services Division (ISD) began awarding planning grants to develop IIS in every state. Since then, federal funds have been awarded to promote and support the development of IISs throughout the U.S. as a key resource for immunization programs and their stakeholders. IISs are tools that enhance the capacity for providing the information needed to improve and sustain high levels of coverage.

IISs are population-based, computerized information systems that have been implemented at the state or local levels and are an important tool for tracking immunization records of an ever-increasing mobile population. IISs consolidate vaccination records for persons with multiple providers, provide vaccination needs assessments, generate reminder/recall notices, produce official vaccination records, and provide practice- and population-based vaccination coverage assessments.

### References

*Some key documents are listed below, and most are available on the CDC/NCIRD IIS website at: <http://www.cdc.gov/vaccines/programs/iis/default.htm> . A complete bibliography of peer-reviewed publications is available at:*

*<http://www.cdc.gov/vaccines/programs/iis/pubs/default.htm> .*

- Development of Community- and State-Based Immunization Registries (NVAC) (<http://www.cdc.gov/vaccines/programs/iis/pubs/nvac.htm> )
- Implementation Guide for Immunization Data Transactions using Version 2.5.1 of the Health Level Seven (HL7) Standard Protocol (CDC) (<http://www.cdc.gov/vaccines/programs/iis/stds/downloads/hl7-guide2010-508.pdf> )
- Recommended Core Data Set for State Immunization Information Systems (CDC)
- Technical Development Guidance (revised Programmers Evaluation Guide) (CDC)
- Progress in Development of Immunization Registries - United States 2008 (MMWR February 12, 2010)
- IIS Standards of Excellence in Support of an Immunization Program (American IIS Association's Programmatic IIS Operations Workgroup, October 15, 2002) ([http://www.immregistries.org/about/GET\\_PROW.phtml](http://www.immregistries.org/about/GET_PROW.phtml))
- Vaccines for Children Program Operations Guide: <http://www.cdc.gov/vaccines/programs/vfc/operations-guide.htm>
- All other chapters of 2008-2012 Immunization Program Operations Manual (IPOM)
- IIS Operational Best Practice Guidelines (<http://www.immregistries.org/pubs/mirow.phtml> )
- Centers for Medicare and Medicaid Services- - Guidance on the development of immunization registries as a component of the Medicaid Management Information System (MMIS) <http://www.cms.gov/smdl/downloads/smdl070600.pdf>

## **Program Goals**

### **3.1 Enroll at least 95 percent of children under six years of age in a fully operational IIS.**

#### **Required objectives**

##### **Percent of children in IIS**

- 3.1a. Increase the percentage of children under six years of age with two or more immunizations (HP2020 objective) in a fully operational IIS to at least 95% using strategies such as linking to other public health programs and health information systems (e.g., WIC, lead, newborn metabolic screening, newborn hearing, daycare centers, Head Start programs and elementary schools).

*Performance measure:* Percentage change in children <6 years of age in the IIS catchment area with 2 or more immunizations recorded in the IIS. (Progress will be measured using the Immunization Information System Annual Report and review of routine immunization program management reports using IIS data.)

*Allowable funding source:* 317 FA Operations

##### **Percent of adolescents in IIS**

- 3.1b. If applicable, increase IIS participation of adolescents 11 through 18 years of age with two or more immunizations in the IIS (HP2020 objective) to at least 80% using strategies such as linking with other public health programs and health information systems (e.g., Medicaid, STD clinics, schools, military, juvenile facilities, health plans, electronic health records and the Indian Health Service).

*Performance measure:* Percentage change in adolescents 11 through 18 years of age in the IIS catchment area with two or more immunizations recorded in the IIS. (Progress will be measured using the Immunization Information System Annual Report and review of routine immunization program management reports using IIS data.)

*Allowable funding source:* 317 FA Operations

#### **Recommended objective**

- 3.1c. If applicable, increase IIS participation of adults  $\geq 19$  years of age with one or more immunizations in the IIS using strategies such as linking with other public health programs and other health information systems (e.g., health plans, electronic health records, hospitals, nursing homes, and long term care facilities).

*Performance measure:* Percentage change in adults  $\geq 19$  years of age with one or more immunizations in the IIS catchment area who are participating in the IIS. Progress will be measured in the Immunization Information System Annual Report.

### **3.2 Produce an annual detailed report that documents how each immunization program component demonstrates IIS data use to support immunization program activities. Report should include descriptions of how the IIS supports IIS-related activities**

**including but not limited to routine surveillance and outbreak management, AFIX assessments, and Emergency preparedness.**

### **Required objectives**

#### **Provider participation**

3.2a. Increase the percentage of public and private provider sites participating in the IIS. Collaborate with provider organizations and other stakeholders in the IIS catchment area to assist with provider recruitment, planning, and implementation.

*Performance measure:* Percentage of public provider sites that routinely submit immunization events to the IIS on children <6 years of age

*Performance measure:* Percentage of private provider sites submitting immunization events to the IIS on children <6 years of age

*Allowable funding source:* 317 FA Operations

#### **Evaluate provider participation**

3.2b. Measure the timeliness and completeness of vaccines administered for children at least four months of age and under six years of age and recorded in the IIS.

*Performance measure:*

1) Percent of immunization records received and processed by the IIS from the provider within the following timeframes:

1a) Equal to or less than 1 day

1b) Greater than 1 day – equal to or less than 7 days

1c) Greater than 7 days – equal to or less than 14 days

1d) Greater than 14 days – equal to or less than 30 days

1e) Greater than 30 days

*Allowable funding source:* 317 FA Operations

2) *Performance measure:*

Percent of children in the IIS that are at least four months of age and under six years of age that are up to date on the current ACIP-recommended vaccination series, e.g., 4:3:1:3:3:1, at the provider level.

#### **Assess coverage**

3.2c. Use IIS to generate grantee management reports such as:

- Immunization coverage reports (e.g., coverage by series, up-to-date status, doses missing, pockets of need, or hepatitis b birth dose analysis)
- Immunization/IIS program operations reports (e.g., vaccine inventory, vital records upload, linkage lookups, doses administered, immunization coverage level analysis, AFIX/VFC assessments, or Moved Or Gone Elsewhere (MOGE))
- Provider participation reports (e.g., percent of providers reporting to IIS, provider list, number of IIS lookups, number of facilities requesting immunization records through IIS, VFC eligibility).

*Performance measure:* IIS data used for purposes such as doses administered reporting, vaccine recall, and VFC eligibility. Progress made will be measured using the Immunization Information System Annual Report and review of routine immunization program management reports using IIS data.

**3.3 Conduct an evaluation of the IIS operations and subject data to an independent objective analysis (e.g., review of IIS operations and data by third party assessments to certify readiness, evaluate selected measures of data quality, or use of the data in a regional or national analysis.)**

**Required objective**

**National data queries**

3.3a. Participate in at least one CDC national IIS data query such as new vaccine uptake, data quality measures, etc. Note – this excludes submission of the IS annual report data.

*Performance measure:* Number of IIS data queries to which the grantee responded  
*Allowable funding source:* 317 FA Operations

**Recommended objective**

3.3b. Conduct an evaluation of IIS use in a pandemic influenza exercise or a public health emergency, such as Hurricane Katrina.

**3.4 Update and implement a business plan for the IIS.**

**Required**

**Business plan**

3.4a. Develop or update an ISD-approved business plan describing the approach to reach the IIS program goal. The plan should include: a vision statement; goals; objectives; a needs assessment; a management and staffing plan; an implementation plan; timelines with action steps and key milestones as well as assigned responsibilities; a project monitoring and evaluation plan; and a two-year budget. The plan must also specifically address: 1) Achievement and maintenance of the twelve National Vaccine Advisory Committee (NVAC)-approved Functional Standards for immunization registries; 2) A continued increase in the proportion of children from birth through five years of age enrolled in the IIS with two or more immunizations recorded in the IIS; and 3) A continued increase in the proportion of active immunization provider sites using registries (i.e., public and private provider sites both enrolled and submitting immunization data). The plan should be updated annually.

A previously submitted and approved business plan must be referenced and updated. The updated business plan must reference the need for the project or activity; a description of the project or intervention; a management and evaluation plan; a timeline with action steps and assigned responsibilities; the benefit to the IIS; a budget and budget justification; and a description of how the project or intervention will benefit or

support the immunization program in addressing program priorities and policies, pandemic influenza preparedness, adult immunization, vaccine ordering and management, and adverse events reporting.

*Performance measure:* Business plan is developed or updated and approved by ISD

*Allowable funding source:* 317 FA Operations

### **3.5 Implement and maintain IIS in accordance with the National Vaccine Advisory Committee functional recommendation/standards of operation.**

#### **Required objective**

##### **Functional standards**

3.5a. Evaluate IIS progress towards meeting the 12 functional standards of operations. See functional standards below.

*Performance measure:* Percent of functional standards attained. Progress made will be measured in the Immunization Information System Annual Report.

*Allowable funding sources:* 317 FA Operations, 317 DA Operations

#### **Functional Standards for IIS**

- Electronically stores data on all NVAC-approved core data elements
- Establishes an IIS record within six weeks of birth for each newborn child born in the catchments area
- Enables access to and retrieval of immunization information in the IIS at the time of the encounter
- Receives and processes immunization information within one month of vaccine administration
- Protects the confidentiality of medical information
- Ensures the security of medical information
- Exchanges immunization records using Health Level Seven (HL7) standards
- Automatically determines the routine childhood immunization(s) needed, in compliance with current recommendations of the ACIP, when an individual presents for a scheduled immunization
- Automatically identifies individuals due/late for immunization(s) to enable the production of reminder/recall notifications
- Automatically produces immunization coverage reports by providers, age groups, and geographic areas
- Produces official immunization records
- Promotes accuracy and completeness of IIS data

### **3.6 Additional Required objective**

#### **NHIN Compliance**

3.6a. IISs funded through ISD, like all systems funded through CDC grants, contracts and cooperative agreements, must comply with the Nationwide Health Information Network (NHIN) standards and specifications. (The NHIN is a set of standards, services and policies that enable secure health information exchange over the Internet. The NHIN will provide a foundation for the exchange of health IT across diverse entities, within communities across the country, helping to achieve the goals of the Health Information Technology for Economic and Clinical Health Act.)

*Performance measure:* Compliance with NHIN by grantee

*Allowable funding sources:* 317 FA Operations, 317 DA Operations

This document can be found on the CDC website at:

<http://www.cdc.gov/vaccines/vac-gen/policies/ipom/downloads/chp-03-immz-info-sys.pdf>