Immunization Information Systems

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What is an IIS?

IISs are confidential, population-based, computerized databases that record all immunization doses administered by participating providers to persons residing within a given geopolitical area.
What do IISs do?

- Consolidate immunization-related information
- Track and evaluate **trends in coverage levels**
- Monitor **outbreaks and disease levels**
- Automatically **calculate vaccinations needed**
- **Generate vaccination reminder and recall notices**
- Assist providers in determining which vaccinations their patients need
- Alert providers when vaccines are due or missing

**Primary IIS Data Sources**

<table>
<thead>
<tr>
<th>Birth records</th>
<th>Direct data entry by providers</th>
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<tbody>
<tr>
<td>Death records</td>
<td>Electronic medical records</td>
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<tr>
<td>Medicaid and insurance billing/claims</td>
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IISs have various core capabilities and functionality to improve vaccination coverage. (See CDC IIS Functional Standards and IIS Functional Standards Version 4.0 Resource Guide.)

**CDC Supports IIS by**

- Providing **funding and guidance to 64 jurisdictions** to achieve immunization priorities
- Offering **direct support** to awardees through technical assistance, engagement, and communications
- Engaging technical and national **partners** to strengthen the IIS community
IISs support the standardized capture and exchange of high-quality, individual-level immunization data for all doses of ACIP*-recommended vaccines.

These data are linked across jurisdictions, providers, and partners, and to other individual-level data sources to inform public health action.

**Priority Areas**

- Data Quality
- Data Exchange
- Technology Infrastructure

* ACIP: Advisory Committee on Immunization Practices
**Jurisdictional Immunization Information System (IIS)**

IIS consolidates records from multiple sources.

**Data Sources**
- Healthcare Providers
- Pharmacies
- Hospitals
- Long Term Care
- Public Health
- Occupational Health
- Urgent Care, etc.

**IIS-IIS Exchange**
Automated send & receive data to complete vaccination records.

**Sources send & receive vaccination records**

**Healthcare Providers**
Use information to see which vaccinations their patients have had and may need.

**State and Local Public Health Authorities**
Use data to develop programs to increase vaccination coverage and decrease harm from VPDs (e.g., manage outbreak response).

**Parents and General Public**
Use records to enroll children in schools and daycare and determine when they need vaccinations. (e.g., through a consumer access portal)

**National Surveillance**
Federal government (e.g., CDC) uses data to manage vaccination coverage rates and vaccine inventory.

**De-identified records**

**Trends in Capture, 2010-2020**

Percentage of children, adolescents, adults represented in an IIS, 2010-2021

- **Percent Child Capture**
- **Percent Adolescent Capture**
- **Percent Adult Capture**

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<tbody>
<tr>
<td>Child Capture</td>
<td>22%</td>
<td>24%</td>
<td>25%</td>
<td>32%</td>
<td>32%</td>
<td>38%</td>
<td>44%</td>
<td>51%</td>
<td>56%</td>
<td>60%</td>
<td>68%</td>
<td>98%</td>
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<tr>
<td>Adolescent Capture</td>
<td>82%</td>
<td>84%</td>
<td>86%</td>
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<td>Adult Capture</td>
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**CDC IIS Annual Report, 2010-2021**

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*2023 National Adult and Influenza Immunization Summit - 5/9/23*
Since 2020, ten jurisdictions made changes to consent policies and 17 changed reporting mandates.

**Consent**
- **14** jurisdictions do **not** allow guardians to opt out of their children’s records reported to IIS.
- **12** do **not** allow adults to opt out.
- **43** include recipients under 18 unless guardian opts them out.
- **42** include adult recipients unless they opt out.

**Reporting**
- **20** jurisdictions **mandate reporting** by all providers and all vaccines to IIS.
- **16** mandate reporting for specific ages (e.g., under 18).
- **15** mandate reporting for specific provider types.

**Sharing**
- **Data sharing** policies vary more widely across jurisdictions and are still evolving.
- **21** Require a data use agreement of memorandum of understanding
- **15** Allow only for specific use(s) (e.g., disease surveillance)
IIS Costs by Budget Category – Over All Awardees

Awardees allocate most of their IIS budget to contracts with their IIS platform vendor and to personnel that operate the IIS. Most funding goes toward “keeping the lights on.” COVID funding allowed awardees to report data to CDC and invest in data modernization enhancements.

**Budget Year 4 IIS Costs: General**

$259,228,329

- **Personnel** $66,573,640 (26%)
- **Fringe** $28,239,689 (11%)
- **Other** $155,211,554 (60%)

**Budget Year 4 IIS Costs: Functions and Capabilities**

$170,386,122

- **Modernization & Enhancements** 36%
- **Operations & Maintenance** 34%
- **Provider Management** 17%
- **Data Quality & Monitoring** 8%
- **Other** 5%

Rounding may result in total slightly under/over 100%

Workforce
Immunization Program Workforce

• Immunization Program Manager Turnover
  • 2020-2023 (YTD) - 15 new interim; 31 new permanent\(^1\)

• IIS Manager Turnover
  • 56% known turnover from April 2021-February 2023\(^2\)

• Turnover in other key staff include
  • Medical Director, VFC Coordinator, Vaccine Manager, Adolescent and/or Adult Coordinator\(^1\)

Sources: 1. Association of Immunization Managers (AIM) Annual Survey, 2. American Immunization Registry Association (AIRA)
What are standards?

Standards are the recipe for how to do something

- Connect with another system (interoperability)
- Record doses administered

Standards

1. New issue emerges or existing process needs to be harmonized across systems
2. Several IIS may have implemented a way to address the new issue
3. Monitor issues and raise awareness on emerging topics

Topics that need additional work are identified & type of resource is identified
Value of IIS for Adult Providers

Adult vaccination schedules are complicated

Clinical Decision Support (CDS)
• Evaluates an individual’s vaccination history & determines recommended immunizations needed for a patient
• Delivers recommendations to the healthcare provider

Helps to ensure the right vaccine is given at the right time!
Questions

For more information, contact CDC
1-800-CDC-INFO (232-4636)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Thank you
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