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Towards Business Process Standards

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Health IT Standards Categories

- **Data standards**
  - E.g., vocabularies and terminologies

- **Information content standards**
  - E.g., Reference Information Models (RIMs)

- **Information exchange standards**
  - E.g., messaging standards

- **Identifiers standards**
  - E.g. National Provider Identifier (NPI)

- **Privacy and security standards**

- **Functional standards and business process standards**
  - E.g., process/workflow

- **Other**
  - E.g., IT standards

Session Outline

- Need for business process standards: example of immunizations
- Business process definitions
- Documenting business processes in public health
- From business processes to systems requirements
  - Building a consensus on public health high-level business areas
  - Connecting business processes, functional requirements, and IT solutions
Section A

Need for Business Process Standards: Example of Immunizations
“CDC is continuing the investment to assist states in developing immunization information systems (registries)—confidential, computerized information systems that collect vaccination data within a geographic area. By consolidating vaccination records from multiple health-care providers, generating reminder and recall notifications, and assessing clinic and vaccination coverage, registries serve as key tools to increase and sustain high vaccination coverage.

The Healthy People 2010 objective is to increase to 95% the proportion of children aged <6 years who participate (i.e., have two or more vaccinations recorded) in fully operational, population-based immunization registries.”

Example of Immunization Registries

- The goal of the Immunization Information System (Registry) is to support the business processes for preventing spread of infectious diseases by timely administering vaccination to the population (children, adults) within a geographic area.

- To achieve this goal, the Immunization Registry system will support the following functions:
  - *Consolidate* vaccination records from multiple health care providers within jurisdiction
  - *Generate reminder and recall notifications* to providers and patients
  - *Assess clinic performance* in vaccination coverage
EHR-S and IIS
Example of Immunizations

- Immunization Information Systems (IIS) serve a jurisdiction by providing a common repository for immunization information

- IIS features (functions): EHR-S
  - Collect vaccination data by patient
  - Generate reminder of next immunizations due
  - Manage vaccine inventory (generate/manage vaccine orders, order deliveries and recall notifications) within clinic
  - Assess vaccination coverage within clinic
Example of Immunizations

- Immunization Information Systems (IIS) serve a jurisdiction by providing a common repository for immunization information.

- **IIS features (functions): IIS**
  - Collect vaccination data *by clinic, by jurisdiction*
  - *Generate reminder of next immunizations due*
  - Consolidate vaccination records *from multiple clinics*
  - Manage vaccine inventory (generate/manage vaccine orders, order deliveries and recall notifications) *by jurisdiction*
  - Assess vaccination coverage *by clinic, by jurisdiction*
EHR-S and EHR-IIS Features

Patient-level and Clinic-level functions

EHR-S

IIS

Population-level and Jurisdiction-level functions
Process Interoperability: Immunization Management

EHR-S and EHR-IIS Features

Patient-level and Clinic-level functions

EHR-S

IIS

Population-level and Jurisdiction-level functions
Process Interoperability: Immunization Management

Figure 7-1. Vaccine and Drug Administration and Reporting

Perspectives/Roles

Section 7.1 Clinician
- 7.1.1 Incorporate immunization schedules into clinician systems
- 7.1.2 Identify individuals to receive vaccine or drug
- 7.1.3 Administer vaccine or drug
- 7.1.4 Report administration information to registries
- 7.1.5 Monitor for adverse events
- 7.1.6 Receive vaccine recall information

Section 7.2 Public Health
- 7.2.1 Identify individuals needing prioritized intervention

Section 7.3 Consumer
- 7.3.1 Provide available immunization information
- 7.3.2 Request immunization information
- 7.3.3 Receive vaccine recall information

Section 9.0 Information Exchange
- 9.1 Data delivery
- 9.2 Data retrieval
- 9.3 Subject-data matching
- 9.4 Data provisioning
- 9.5 Support for personally controlled health records
- 9.6 Emergency access

Section 7.4 Registries
- 7.4.1 Incorporate immunization schedules into registries
- 7.4.2 Provide vaccine or drug administration information
- 7.4.3 Retrieve vaccine or drug administration information
- 7.4.4 Receive vaccine or drug administration information
- 7.4.5 Provide vaccine recall information

Information Sources & Recipients: May be one or more of the below listed
- Immunization Knowledge Providers
- Health Registries
- Health Care Organizations
- Other Immunization Information Systems
- Payors
- Public Health Agencies
- Emergency Response Entities
- Schools
- Supply Chain

Legend
- Focus
- Contextual
- Emergency Priorities

EHR-S and EHR-IIS Features

Clinical guidelines → EHR-S → IIS → Public health guidelines

Patient-level and Clinic-level functions
Population-level and Jurisdiction-level functions
EHR-S and EHR-IIS Features

- Business processes
- Clinical guidelines
- EHR-S
- IIS
- Public health guidelines

Patient-level and Clinic-level functions
Population-level and Jurisdiction-level functions
Construction of exchanges requires clear understanding of interoperability in the context of business activities performed by the users
- Clinicians
- Public health professionals
- Patients
EHR-S: Public Health (PH) IS Features

- Business processes
- Clinical guidelines
- EHR-S: Patient-level and Clinic-level functions
- PH IS: Population-level and Jurisdiction-level functions
- Business processes
- Public health guidelines