



# IIS Competency Domain Model

Knowledge, Skills and Abilities for IIS Job Roles

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## IIS Competency Domain Models

### Standards and Interoperability

#### Description

Applies informatics standards to ensure interoperability between disparate information systems.

#### Knowledge of:

- Immunization terminology and practices, and the data elements that support them.
- Relevant IIS standards, including HL7 2.x and SOAP/Web services.
- IIS best practice documentation developed by the Modeling of Immunization Registry Operations Workgroup (MIROW).
- National initiatives such as Meaningful Use, and their impact on IIS and health information exchange.
- Standardized IIS business rules and best practices.
- Public health reporting standards.
- Clinical Decision Support Specifications developed by CDC.

#### Ability to:

- Apply local and national standards consistently.
- Quickly learn data fields commonly used in clinical practices to record vaccination encounters.
- Quickly learn new terminology.

### Project Management

#### Description

Practices project management and program management techniques to engage stakeholders and team members in achieving goals and expectations.

#### Knowledge of:

- Principles, methods and standards of project management.
- The principles of work organization and simplification.
- The outputs of computer query and reporting tools, such as SQL, Crystal Reports, Business Objects or Excel to support technical staff in running reports.
- Change management.
- Strategies for effective planning and management of informatics projects/programs based on business and management requirements.
- Diverse IIS stakeholders and funding mechanisms.

#### Skill to:

- Develop specific goals and plans to prioritize, organize, and accomplish work.
- Document status and outputs of projects and processes.
- Engage in testing of information solutions using appropriate methodologies and techniques.
- Coordinate diverse activities to ensure completion of projects, tasks and assignments.
- Apply fact-finding and work measurement techniques to organization systems.
- Synthesize diverse facts, opinions and materials into usable work plans.
- Apply quality management and improvement tools and processes to operational problems.
- Oversee testing of information solutions using appropriate methodologies and techniques.
- Manage information system projects.

**Ability to:**

- Balance multiple, competing program demands.
- Establish long-range objectives and specify the strategies and actions to achieve them.
- Synthesize voluminous and diverse facts, opinions and materials into usable work plans.

## Information Systems

**Description**

Applies fundamental knowledge of hardware, software (including business rules and algorithms), and network infrastructure essential to ensuring that public health requirements are met.

**Knowledge of:**

- Health information systems.
- Large databases and database functions/utilities.
- Electronic data transfer methods.
- Automated software applications such as IIS.
- Relevant software and computer query and reporting tools, such as SQL, Crystal Reports, Business Objects or Excel to run reports.
- Testing and troubleshooting techniques.
- Information system analysis, design and data management concepts.
- Health related vendor products such as EHRs.
- Analyzing and proposing system development or enhancement tasks.
- Basic system performance monitoring and tuning techniques.
- Computer hardware and system operations.
- The Systems Development Life Cycle (SDLC).

**Skill in:**

- Use of common software products such as Word, PowerPoint and Excel.
- Adopting complex, modern information technology and communication tools.
- Drafting end user and technical documentation.

**Ability to:**

- Solve complex issues requiring coordination, technical ability, and knowledge of computer and information systems to evaluate alternatives.

## Policy

**Description**

Ensures that information projects adhere to relevant laws, rules, policies, procedures and regulations.

**Knowledge of:**

- Applicable laws, statutes, policies and procedures regarding public health and health information.
- Types of agreements such as data use agreements and memorandums of understanding that govern data access and sharing.
- Policies and Standard Operating Procedures (SOPs) specific to IIS operations.
- Records management.
- Recommended schedules.



- Information security and privacy laws/policies as well as appropriate procedures to manage confidential data.
- The executive and legislative decision making process.

**Skill to:**

- Appropriately apply IIS policies and procedures to specific situations.
- Use relevant information to determine whether events or processes comply with laws, regulations, standards or procedures.
- Develop standard operating procedures.
- Interpret laws, rules, policies and procedures and apply interpretations to specific situations.
- Use contact management software and applications.

**Ability to:**

- Apply public health laws, regulations and policies specific to the immunization program.
- Quickly learn processes and practices.
- Recommend modifications or enhancements to systems and policies.
- Establish procedures for diagnosing and solving technical problems.
- Use relevant information and individual judgment to determine whether events or processes comply with laws, regulations or standards.
- Use relevant information and individual judgment to determine whether events or processes comply with policies and procedures.

## Communication

### Description

Practices active, effective communication between IT, public health and other relevant stakeholders.

**Knowledge of:**

- Methods and procedures of technical report writing.
- Methods for presenting statistical, demographic, programmatic and scientific information to professional and lay audiences.

**Skill in:**

- Use of phone, email, fax, text messaging, instant messaging and other telecommunications methods.
- Communicating in writing, orally, electronically and in person with linguistic and cultural proficiency.
- Applying effective communication and group dynamic strategies in interactions with individuals and groups.
- Communicating the role of public health within the health system and community to diverse audiences.
- Effectively communicating the capabilities and limitations of information systems.
- Collaborating with a wide range of internal and external stakeholders including policy makers, health care and social services, end users, agency leaders, and community.
- Managing a high-volume of incoming calls and requests from diverse stakeholders and populations.
- Communicating orally to explain decisions, services or programs.
- Resolving problems through negotiation.
- Stakeholder engagement and collaboration.



**Ability to:**

- Build mutual trust, respect and cooperation among team members.
- Communicate effectively to technical and non-technical audiences in both written and oral methods.
- Contribute as a strong member of a self-directed work team.
- Develop constructive and cooperative working relationships with others, and maintain them over time.
- Effectively express ideas orally and in writing using appropriate language and organizing ideas in an objective manner.
- Translate or explain what information means and how it can be used.
- Effectively communicate the capabilities and limitations of information technologies.
- Represent the program as a staff person for project, advisory or technical committees.
- Work effectively with senior-level decision-makers and their immediate staff members.
- Apply tact and diplomacy to gain cooperation of others.
- Clearly explain public health informatics and programmatic policies, programs and resources related to IIS.

## Analysis, Visualization and Reporting

**Description**

Translates data to information and knowledge that leads to action using consistent analytic and reporting tools and techniques.

**Knowledge of:**

- Techniques sufficient to collect, analyze, interpret and summarize data in a narrative or graphical format.
- The methods for analyzing and proposing system development tasks.
- Business process analysis.
- Standards and precedents for data design and formatting.
- Public health sciences, including behavioral, social sciences, biostatistics and epidemiology.

**Skill to:**

- Analyze business needs and product requirements to create or design a system enhancement.
- Determine how a system should work and how changes in conditions, operations and the environment will affect the outcomes.
- Analyze business needs and product requirements to create or design a system enhancement.
- Write clear and concise narratives and statistical summaries.
- Use database analysis software and applications.
- Conduct statistical analyses of program data and interpret the results of the analyses.
- Compose written and oral responses to inquiries, narrative reports and instructional materials.

**Ability to:**

- Apply general rules to specific problems.
- Exercise appropriate judgment in determining when an issue or problem needs referral to management or other staff.
- Combine pieces of information to form general rules or conclusions.
- Analyze, evaluate and solve procedural problems.
- Interpret technical materials to evaluate alternative technical solutions to address agency needs.
- Research and design the techniques, methods and principles used in complex data analysis.



- Understand the implications of new information for both current and future problem-solving and decision-making.
- Read and interpret technical materials to better assist end users.

## Evaluation

### Description

Applies rigorous methods to evaluate the effectiveness of workflows and information technology.

#### Knowledge of:

- General data quality concepts.
- Detailed quality assurance and improvement methodology.

#### Skill to:

- Identify complex problems and review related information to develop and evaluate options and implement solutions.
- Identify measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.

#### Ability to:

- Evaluate information against a set of standards of information integrity and comparability.
- Use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- Use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- Evaluate work products to ensure program objectives and agency needs are met.

## Principles and Strategy

### Description

Applies informatics principles, strategic thinking and leadership techniques to public health information needs.

#### Knowledge of:

- The development of IISs over time.
- The multiple purposes and audiences that leverage IIS data and functionality, and the methods by which they access IIS data.
- The basic concepts of vaccine management, such as inventory and accountability.
- Health care systems and practices.
- Management practices related to business operations including human resources, budgeting and financial analysis, and performance improvement.
- Methods and techniques of the analysis and reporting of financial data.
- Principles, methods and standards of program management.
- Principles, practices, and trends in public administration, business operations and management.
- Procurement of goods and services through contract agreements and experience administering standard contracts or agreements.
- Strategies for achieving effective data acquisition, management, quality, storage, use and application to address population health needs.
- The state budgetary process, including analysis of state and federal revenues and expenditures.

- Theory and principles of organizational systems and the methods of application to government operations.
- Theory, principles and practices of organizational behavior, analysis and evaluation.

**Skill in:**

- Monitoring or assessing performance of other individuals or organization systems to make improvements or take corrective action.
- Effective grant writing.
- Human relations and management.
- Applying principles, theories and practices of public administration and management to support health informatics practices in order to meet organizational objectives.
- Using grant/solicitation/collaboration software and/or online services and other systems as designed to support grant management, accounting and reporting.
- Accurately recording and entering data.

**Ability to:**

- Work independently with little or no supervision.
- Work well in a high-pressure environment.
- Apply high attention to detail to work products.
- Use independent judgment, decision making and problem resolution to perform technical, operational or administrative functions.
- Learn the organizational structures, roles and interrelationships of local public health agencies, private health care organizations, private practices, school health and health plans.
- Correctly assess the political and institutional environment in which decisions are made and implemented.
- Collaborate with governmental and non-governmental organizations to meet the information needs of a wide range of users and data sharing partners.
- Recommend, select and utilize practices and tools in support of public health data acquisition, management, analysis, planning and reporting.

## Training

### Description

Effectively applies concepts of adult learning theory to educating a broad range of technical, programmatic and clinical audiences.

**Knowledge of:**

- Techniques and methods of disseminating technical and programmatic information with external partners and stakeholders.
- Best practices in communications and training for adults.

**Skill in:**

- Creating and implementing trainings and presentations.
- Developing and writing effective training and promotional materials.
- The development and use of distance training methods, including conference call and webinar tools.
- Designing, planning and implementing trainings for a wide variety of audiences.

**Ability to:**

- Prepare, present and train on highly complex technical material and issues to non-specialists.