



Immunization Information System (IIS) Data Extract Analyst

Sample Role Description

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Note: This role description is meant to offer sample language and a comprehensive list of potential desired responsibilities with corresponding knowledge, skills and abilities (KSAs). Actual position descriptions should filter out information that is not applicable for a specific position or role. Depending on staffing levels, several roles may be combined within a single position, or several positions may fill the same role. The term “Immunization Information System” or “IIS” may be replaced with “Registry” within position titles in some jurisdictions.

Data Extract Analyst

IIS Data Extract Analyst is a role typically found in an experienced, advanced analyst series. The position typically encompasses both operational and policy responsibilities related to data and data use.

Scope

The person fulfilling this role is responsible for extracting, analyzing, and/or presenting the IIS data in response to routine, ad hoc queries and/or special studies. The person in this role develops, implements, maintains and updates data access and data use protocols for the IIS, and oversees the data use agreements process and documents. This role is also responsible for meeting designated reporting needs mandated by specific grant, funding and administrative requirements, including Prevention and Public Health Fund grants, Sentinel Grants, the annual Immunization Program Base Grant, and other reporting requirements as designated.

Budget Authority

This role may offer input into budget issues or contribute to grant writing or reporting efforts that involve current or future funding.

Position Titles

The following example job titles were gathered from existing positions at state and local health agencies:

- Data Extract Coordinator
- Informatics Specialist
- Informatician
- Informaticist
- Epidemiologist
- Data Use Coordinator
- Research Analyst
- Data Analytics Specialist

Relationship

The person in this role typically reports to the IIS Manager. Internally, this role works very closely with the rest of the IIS team, as well as the research and surveillance team. The person in this position is also responsive to administrative and executive requests for data analytics. Externally, this role works closely with end users in responding to routine and ad hoc requests, as well as special studies.

Decision Making Authority

This role exercises considerable independent judgment in carrying out responsibilities within a highly collaborative environment. Decision making generally requires substantial negotiation and compromise with a variety of considerations, including the context imposed by applicable laws,

statutes, rules, interests of stakeholders, available data, and resources. Decision making authority is commonly characterized as follows:

- Applies laws, rules, policies and best practices to develop data use protocols.
- Follows procedures that support the confidentiality and security of IIS data at all times.
- Discusses and recommends optimal analysis plan to respond to requests for data and information.
- Determines and recommends prioritization of data requests.
- In collaboration with the Data Quality Analyst, investigates, recommends resolution for and resolves data quality issues that arise in the course of data use.

Major Duties and Responsibilities

This list contains examples of duties and responsibilities that may be associated with a Data Extract Analyst role. This list offers many possible duties and responsibilities from which to select in order to create a position most appropriate to your program needs and your human resource requirements.

Data Extraction/Analysis

- Coordinate and monitor the methods and quality of IIS data extracts.
- Write and document programs and code to efficiently query IIS to extract data for analyses.
- Construct data sets, analyze data, and generate graphs, charts, and statistics to arrive at conclusions about the data.
- Conduct and lead routine and ad hoc data quality meetings and other standing committees as assigned.
- Plan and manage complex analytical projects.

Data Reporting

- Prepare operational reports and data summaries as needed.
- Write reports of findings and articles for publication including summary table, graphs, and charts.
- Explain the significance of data trends and findings to partners and program staff.
- Facilitate the development of agency performance measures.
- Manage reporting of grant benchmarking metrics.
- Develop and implement processes for creating and reporting grant metrics in a timely fashion, working with project team members and the grantor to ensure processes meet grant requirements.
- Extract and compile data from the IIS system and calculate grant metrics.
- Review metrics with project team members to ensure accuracy and resolve any issues.
- Submit grant metrics to grantor.

General Data Use

- Participate in the use of IIS data to target immunization services for populations statewide.
- Assist Program management by monitoring and tracking program and operational data,
- Participate on committees to gather information or plan studies to evaluate performance data
- Recommend refinement and development of operating procedures based on results of data analysis and study.

Presentations

- Present findings orally and in writing.
- Collaborate with others across Public Health in the development and presentation of local, statewide, and national trainings and presentations.

Operations and System Performance/Improvement

- Develop long and short range goals to impact and improve data operations and database functionality based on in-depth program knowledge.
- Design system enhancements based on evaluation.
- Develop and maintain standard operating procedures (SOPs).
- Coordinate and monitor the methods and quality of extracts using IIS data.
- Manage project steps to ensure participation of project team members and other stakeholders.
- Conduct and lead routine and ad hoc data use meetings and other standing committees as assigned.
- Prepare operational reports and data summaries as needed.
- In collaboration with training staff, coordinate the development of technical training and technical assistance materials, methods and tools for internal and external partners to assure proper implementation of program objectives and proper use of IIS data.
- Create and maintain documentation to support internal processes and cross-training.
- Design and implement recovery procedures for programming and processing errors.

Policy and Oversight

- Review and ensure compliance with IIS laws and administrative rules, and contribute to modifications of said laws as needed.
- Ensure that project information is accurate and complies with program objectives, grant guidelines, and statutory regulations.
- Evaluate forms and record system/application screens to ensure compliance with program intent and regulations.
- Coordinate communication with key project team members within Public Health.
- Work with multiple levels of Immunization and clinic staff to discuss project progress and resolve issues.

Technical Assistance/Training

- Provide support and technical assistance to Immunization Program partners and internal immunization program staff regarding data extracts, reports, and data processing within the IIS.
- Clarify technical specifications of data requests with partners.
- Interpret and assist in the implementation of grant objectives.
- Collaborate with the vendor, immunization program staff and outside partners to evaluate existing data and plan enhancements to outreach and training strategies based on evaluation.
- In collaboration with training staff, provide input into the design of training and training materials for clinics, vendors and health systems regarding their use of data from the IIS to assure proper implementation of program objectives.
- Collaborate in the development and presentation of local, statewide, and national trainings and presentations.
- Serve as a subject matter expert on IIS data analytic issues both locally and nationally as needed and by request.

Project Lead and Coordination

- Provide team leadership and coordination to IIS Extract/Data Use team to meet program and grant goals.
- Coordinate with other IIS and immunization program work groups as needed.
- Develop and maintain Standard Operating Procedures (SOPs) and data exchange specifications.
- Serve as a liaison between Internal Review Board (IRB) and organizations requesting immunization data.
- Coordinate IRB review process with data requestors.

Standard Setting, National Involvement

- Engage and provide input to the development of national standards and best practices regarding data exchange, with particular emphasis on HL7 and Web Services standards.
- Represent IIS at national meetings and conferences.

Functioning within an interdisciplinary team environment

- Consistently treats customers, stakeholders, partners, vendors and co-workers with dignity and respect.
- Creates and maintains a work environment that is welcoming and respectful of diversity.
- Sets clear guidelines and models expected professional behaviors.
- Other tasks as assigned.

Key Competencies

This list contains the key competency areas with corresponding examples of knowledge, skills, and abilities that may be associated with the IIS Data Extract Analyst role. It is not all inclusive and may vary from position to position.

Standards and Interoperability

Applies informatics standards to ensure interoperability between disparate information systems.

Knowledge Statements:

- Knowledge of immunization terminology and practices, and the data elements that support them.
- Knowledge of relevant IIS standards, including HL7 2.x and SOAP/Web Services.
- Knowledge of IIS best practice documentation developed by the Modeling of Immunization Registry Operations Workgroup (MIROW).
- Knowledge of national initiatives such as Meaningful Use, and their impact on IIS and health information exchange.
- Knowledge of standardized IIS business rules and best practices.
- Knowledge of public health reporting standards.

Abilities Statements:

- Ability to apply local and national standards consistently.
 - Ability to quickly learn data fields commonly used in clinic practices to record vaccination encounters
 - Ability to quickly learn new terminology.
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Project Management

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

Knowledge Statements:

- Knowledge of principles, methods and standards of project management.
- Knowledge of diverse IIS stakeholders and funding mechanisms.
- Knowledge of the principles of work organization and simplification.

Skills Statements:

- Skill to develop specific goals and plans to prioritize, organize, and accomplish work.
- Skill to document status and outputs of projects and processes.
- Skill to engage in testing of information solutions using appropriate methodologies and techniques.
- Skill in coordinating diverse activities to ensure completion of projects, tasks and assignments.
- Skill to apply fact-finding and work measurement techniques to organization systems.
- Skill to synthesize diverse facts, opinion and materials into usable work plans.

Abilities Statements:

- Ability to balance multiple, competing program demands.
 - Ability to establish long-range objectives and specify the strategies and actions to achieve them.
 - Ability to synthesize voluminous and diverse facts, opinions, and materials into usable work plans.
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Information Systems

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

Knowledge Statements:

- Knowledge of health information systems.
- Knowledge of large databases and database functions/utilities.
- Knowledge of electronic data transfer methods.
- Knowledge of automated software applications such as IIS.
- Knowledge of relevant software and computer query and reporting tools, such as SQL, Crystal Reports, Business Objects or Excel to run reports.
- Knowledge of testing and troubleshooting techniques.

Skills Statements:

- Skill in use of common software products such as Word, PowerPoint, Excel.
- Skill to adopt complex, modern information technology and communication tools.
- Skill in drafting end user and technical documentation.

Abilities Statements:

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

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

Knowledge Statements:

- Knowledge of applicable laws, statutes, policies and procedures regarding public health and health information.
- Knowledge of types of agreements such as data use agreements and memorandums of understanding that govern data access and sharing.
- Knowledge of policies and Standard Operating Procedures (SOPs) specific to IIS operations.
- Knowledge of records management.
- Knowledge of recommended schedules.
- Knowledge of information security and privacy laws/policies as well as appropriate procedures to manage confidential data.

Skills Statements:

- Skill in appropriately applying IIS policies and procedures to specific situations.
- Skill to use relevant information to determine whether events or processes comply with laws, regulations, standards or procedures.
- Skill to develop standard operating procedures.
- Skill in interpreting laws, rules, policies and procedures and applying interpretations to specific situations.

Abilities Statements:

- Ability to apply public health laws, regulations, and policies specific to the Immunization Program.
 - Ability to quickly learn processes, and practices.
 - Ability to recommend modifications or enhancements to systems and policies.
 - Ability to establish procedures for diagnosing and solving technical problems.
 - Ability to use relevant information and individual judgment to determine whether events or processes comply with laws, regulations or standards.
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Communication

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

Abilities Statements:

- Ability to build mutual trust, respect and cooperation among team members.
- Ability to communicate effectively to technical and non-technical audiences in both written and oral methods.
- Ability to contribute as a strong member of a self-directed work team.
- Ability to develop constructive and cooperative working relationships with others, and maintain them over time.
- Ability to effectively express ideas orally and in writing using appropriate language and organizing ideas in an objective manner.
- Ability to translate or explain what information means and how it can be used.
- Ability to effectively communicate the capabilities and limitations of information technologies.
- Ability to represent the Program as a staff person for project, advisory, or technical committees.
- Ability to work effectively with senior-level decision-makers and their immediate staff members.
- Ability to apply tact and diplomacy to gain cooperation of others.

Analysis, Visualization & Reporting

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

Knowledge Statements:

- Knowledge of techniques sufficient to collect, analyze, interpret and summarize data in a narrative or graphical format.
- Knowledge of the methods for analyzing and proposing system development tasks.
- Knowledge of standards and precedents for data design and formatting.

Skills Statements:

- Skill in use of phone, email, fax, text messaging, instant messaging and other telecommunications methods.
- Skill in communicating in writing, orally, electronically and in person with linguistic and cultural proficiency.
- Skill in applying effective communication and group dynamic strategies in interactions with individuals and groups.
- Skill in communicating the role of public health within the health system and community to diverse audiences.
- Skill in effectively communicating the capabilities and limitations of information systems.
- Skill in communicating orally to explain decisions, services or programs.
- Skill in resolving problems through negotiation.

Abilities Statements:

- Ability to apply general rules to specific problems.
- Ability to exercise appropriate judgment in determining when an issue or problem needs referral to management or other staff.
- Ability to analyze, evaluate and solve procedural problems.
- Ability to interpret technical materials to evaluate alternative technical solutions to address agency needs.

- Ability to research and design the techniques, methods, and principles used in complex data analysis.
 - Ability to read and interpret technical materials to better assist end users.
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Evaluation

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

Knowledge Statements:

- Knowledge of general data quality concepts.

Skills Statements:

- Skill to identify complex problems and review related information to develop and evaluate options and implement solutions.

Abilities Statements:

- Ability to use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
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Principles & Strategy

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

Knowledge Statements:

- Knowledge of the development of IIS systems over time.
- Knowledge of the multiple purposes and audiences that leverage IIS data and functionality, and the methods by which they access IIS data.
- Knowledge of the basic concepts of vaccine management, such as inventory and accountability.
- Knowledge of healthcare systems and practices.

Abilities Statements:

- Ability to work independently with little or no supervision.
 - Ability to work well in a high-pressure environment.
 - Ability to apply high attention to detail to work products.
 - Ability to use independent judgment, decision making and problem resolution to perform technical, operational, or administrative functions.
 - Ability to learn the organizational structures, roles, and interrelationships of local public health agencies, private health care organizations, private practices, school health, and health plans.
 - Ability to correctly assess the political and institutional environment in which decisions are made and implemented.
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Training

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

Knowledge Statements:

- Knowledge of techniques and methods of disseminating technical and programmatic information with external partners and stakeholders.

Abilities Statements:

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