



Testing Analyst

Sample role description



June 2023

This sample role description identifies typical duties and responsibilities of an immunization information system (IIS) testing analyst and indicates sample competencies of a person fulfilling this role.

Note: Actual position descriptions should include only the information applicable for the 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.

Summary

This role is responsible for drafting IIS test cases and test plans, conducting and documenting functional user acceptance testing, regression testing prior to and/or following an IIS release, tracking bugs and their resolution, and running routine test scripts to ensure optimal performance and up-time of the IIS. The testing analyst may also develop test scripts, use automated testing tools, develop and maintain data sets to use for testing, recommend when to move new system patches or releases to the IIS production environment, document bugs and identify possible workarounds, and notify staff and users of known issues that may adversely impact current functionality or workflows.

The person in this role may also provide feedback on the design of IIS functionality. The testing analyst typically reports to the IIS manager and works closely with the rest of the IIS team and internal and external technology partners responsible for enhancing, supporting and maintaining the IIS. The testing analyst exercises considerable independent judgment in carrying out responsibilities within a highly collaborative environment.

Alternate role titles

- Tester
- User acceptance tester
- System performance monitor
- Analyst

IIS core competencies

This role description is based on PHII's [IIS Core Competency Model](#), which provides functional, behaviorally-based tasks or processes that can be observed or measured and are required at an organizational level for the successful, high-performing functioning of an IIS. Major duties and responsibilities below are organized into the applicable domains from the model.

Primary duties and responsibilities (as applicable within jurisdiction)

Duties may include but *are not limited* to:



Leadership and management

- Provide guidance to a diverse team of IIS and immunization program staff to ensure implementation of thorough testing (e.g., unit, system, integration, user acceptance and regression testing) of current, new and enhanced IIS functions.



Law and policy

- Apply law, rules, policies and best practices to provide feedback on the design of IIS functionality.
- Adhere to jurisdiction policies to maintain the security and confidentiality of IIS data at all times.



Communication

- Engage external partners in IIS testing, when possible, to contribute to IIS development by activities such as informing communications and training materials, shaping expectations of the upcoming release, and identifying gaps/needed workarounds when the functionality as implemented may not meet their needs.
- Communicate IIS test plans to IIS team and technology partners, as appropriate.
- Communicate test results and any system issues found during testing to the IIS team and technology partners, as appropriate.



Data use

- Ensure that all features and functions that support core immunization program activities and IIS user routines are adequately tested; engage other immunization program staff to help with user acceptance testing.



Data quality

- Analyze testing results to inform recommendations for interventions to improve data quality.
- Conduct testing to ensure that IIS forecasting algorithms are up-to-date and conform to the Centers for Disease Control and Prevention (CDC) Clinical Decision Support for Immunization (CDSi) guidance for correctly assessing immunization histories, returning accurate forecasts of immunizations due, and producing accurate reminder/recall notifications and coverage assessments.



Information systems management

- Develop/update, conduct and/or coordinate implementation of detailed testing plans, protocols and schedules for all IIS patches, updates and releases (i.e., use documented test scripts and test cases for unit, system, integration, user acceptance and regression testing); incorporate test cases provided by the CDC CDSi, the American Immunization Registry Association (AIRA) Aggregate Analysis Reporting Tool (AART) and IIS technology partners to support various testing scenarios.
- Apply business rules and aspects of design in developing testing protocols.
- Document and track requests for testing of IIS enhancements.
- Document that tests were conducted and the outcomes, both positive and negative, of test scripts and results.
- Facilitate the reporting and escalation of potential bugs and issues identified during testing with documentation of current behavior, expected behavior, and the steps and data needed to reproduce the currently reported behavior.
- Determine disposition of application errors and/or bugs.
- Recommend the movement of new IIS versions to the production environment.
- Ensure that all IIS code tables (e.g., CVX, CPT, NDC) are maintained and updated with the release of new codes or retiring of old codes.



Training

- Assist with training of IIS staff assigned to implement testing of IIS functionality and enhancements.

Evaluation

- Evaluate the usability of the IIS during testing and recommend improvements to IIS functionality and screenflows/workflows.
- Collaborate with IIS technology partners, immunization program manager, immunization program staff, CDC, AIRA and other external partners to evaluate alignment of the IIS with the CDC IIS Functional Standards, the PHII IIS Functional Model and Requirements Traceability Matrix (RTM), and AIRA's community best practice guidance. Document gaps in IIS features and functionality to facilitate the enhancement of the IIS to achieve alignment.

Background and qualifications

Successful candidates should have:

- Master's degree (preferably in computer science or other relevant field) with a minimum of 1 year of professional experience in information systems support, preferably in a public health or health care setting

OR

- Bachelor's degree (preferably in computer science or other relevant field) with a minimum of 2 years of professional experience in information systems support, preferably in a public health or health care setting

Preferred knowledge, skills and abilities include:

- Strong oral and written communication skills
- Knowledge of health information systems and software development lifecycle framework
- Understand and use technology partner new release notes
- Knowledge of Health Level 7 (HL7) and other standards, best practices, and general guidance for accurately and securely exchanging data between an IIS and other systems, including electronic health records and other IIS
- Excellent attention to detail and strong organizational skills
- Excellent information system technical support skills
- Proficiency in Microsoft Excel, Word, SQL query tool, testing script development, manual testing and automated testing tools
- Ability to work independently and well in a high-pressure environment
- Ability to develop and maintain constructive and cooperative relationships among staff and partners