



Use Case Scenario Summary

Use Case Scenario Name:	Disease Surveillance
Use Case to Which Scenario Belongs:	Lab Orders-Results
Sponsor:	Michigan Department of Health and Human Services
Date:	August 17, 2016

Executive Summary

This brief section highlights the purpose for and value of the use case. The executive summary gives a brief description of the use case's importance while highlighting expected positive impact.

Accurate and complete disease reporting is essential to a community's health. One of the most important functions of any public health agency is to monitor laboratory test results in the form of lab reports for trends that can help identify and address outbreaks of illnesses. These trends may indicate the spread of infectious disease, bioterrorism, or other public health threats such as elevated blood lead levels in a region.

Monitoring trends on certain diseases found in lab results is called disease surveillance. Automating this process improves accuracy, completeness, and timeliness, and allows staff members at participating organizations to focus more time on their other duties.

Purpose of Use Case: The Disease Surveillance use case offers a standard, consistent method to automatically and electronically send lab results regarding reportable diseases to the state.

Overview

This overview goes into more details about the use case.

The State of Michigan requires physicians, clinical laboratories, primary and secondary schools, childcare centers and camps to report the occurrence, or suspected occurrence, of any disease, condition, or infection described in the Michigan Communicable Disease

Rules.¹ Any laboratory test result that indicates one of these occurrences is known as a reportable lab result and must be sent to the state. Examples of required submissions can include rabies, chicken pox, HIV, hepatitis, Lyme disease, measles, and influenza. The public health system depends on these reportable lab results for many reasons:

- To identify outbreaks and epidemics. If an unusual number of cases are reported for any condition, local health authorities can investigate and take appropriate action.
- To encourage preventive treatment and/or education when needed
- To help target prevention programs and identify care needs, so resources can be used efficiently
- To evaluate the success of long-term control efforts
- To facilitate research for finding a preventable cause
- To assist with national and international disease monitoring efforts. If an unusual disease or condition is detected in a region, the federal government is contacted to determine whether national or international investigation is needed.

Historically, reportable lab results were sent by mail or fax to a local health authority. In this communication, a staff member for the reporting organization provided details on the reportable lab result including a small amount of information about the patient. These non-electronic communications were inefficient because:

- They took the staff member's time away from other duties
- Errors can easily occur when reporting a case from written notes
- Answering the required questions took additional time reviewing patient records
- School and childcare workers were not always properly prepared to send these reports because they only encounter these types of situations a few times a year

Diagram

This diagram shows the information flow for this use case.

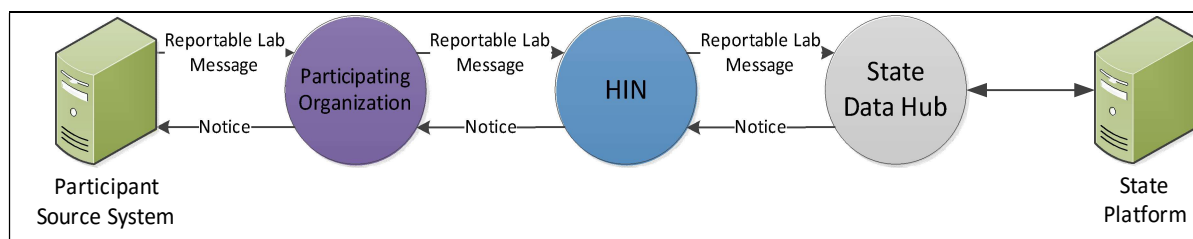


Figure 1. Data flow for Disease Surveillance

¹ "Michigan's Communicable Disease Rules," Michigan Department of Health & Human Services, accessed on April 21, 2016, http://www.michigan.gov/mdhhs/0,5885,7-339-71551_2945_5103_26138-15166--,00.html

Regulation

This section describes whether this use case is being developed in response to a federal regulation, state legislation or state level administrative rule or directive.

Legislation/Administrative Rule/Directive:

- Yes
- No
- Unknown

- Public Law 111-152 (Affordable Care Act)
- Public Law 111-5; Section 4104 (Meaningful Use)
- Michigan law MCL-333-20531 (Blood Lead reporting)

Meaningful Use:

- Yes
- No
- Unknown

The Health Insurance Portability and Accountability Act of 1996 (HIPAA) addresses the sharing of confidential medical information. Some physicians have raised questions about HIPAA confidentiality requirements and the reporting of confidential data related to communicable diseases and immunization to local health departments.

HIPAA legislation states that reporting of communicable diseases to local or state health departments or reporting immunizations to the Michigan Childhood Immunization Registry are exempt from the HIPAA Privacy Rule (within specified purposes or situations) because they are mandated within the Michigan Public Health Code and are used for surveillance and prevention of communicable diseases. This is addressed in 45 CFR 164.512(b).

The relevant sections of the Michigan Public Health Code and Administrative Rules are:

- Sec. 333.5111 (1) b - Requirements for reporting communicable and serious communicable diseases
- R 325.173 - Administrative rules detailing the reporting of communicable and serious communicable diseases

Cost and Revenue

This section provides an estimate of the investment of time and money needed or currently secured for this use case.

Cost: This use case includes the following cost points:

- Definition of message specifications required to send reportable lab results
- Participating organization development and implementation to onboard for this use case
- Health information network (HIN) costs to receive, validate, and transport reportable lab results
- Public health agency costs to receive and consume reportable lab results, and to further route them as necessary
 - *For example:* State costs to forward blood lead results to the appropriate agency
- Optional costs to automate reporting lab results from clinics such as point-of-care lab results entered into a certified electronic health record (EHR)
 - *For example:* Point-of-care blood testing devices can determine blood lead levels anywhere, including in a clinic or even in schools, a grocery store or pharmacy, without having to send the blood sample to an outside laboratory
 - The results should be able to be entered immediately into the EHR which should then provide any reportable results through the HIN to the appropriate agency

Revenue: For this use case, revenue will primarily consist of cost- and time-savings from automated reporting instead of non-electronic communications. Cost savings may be realized because:

- Required follow-up communications may be avoided
- Transcription and communication errors should be reduced or eliminated
- Regulatory reporting requirements can be automatically met
- Savings in overhead and time for ICP staff who otherwise would be manually entering case reports.

Implementation Challenges

This section describes the challenges that may be faced to implement this use case.

Implementation challenges are anticipated to be minimal because this use case leverages the existing HIN and the reportable lab message itself is relatively straightforward.



Implementing the Disease Surveillance use case requires some effort by participating organizations to establish the ability to identify and send reportable lab summaries via HIN to the state.

Some effort is also needed to validate that all required reportable lab results of concern are being reported, and are being reported using appropriate standardized terminologies, following the HL7 Messaging Standard – Version 2.5.1, including (but not limited to) Logical Observation Identifiers Names and Codes and the Systematized Nomenclature of Medicine – Clinical Terms.

Note: significant effort is needed on the part of EHR vendors to support sending reportable lab results from point-of-care testing devices.

Vendor Community Preparedness

This section addresses the vendor community preparedness to readily participate in the implementation of this use case.

Reportable labs are sent electronically using a standard HL7 2.51. ORU message. HL7 version 2.5.1 is required by Meaningful Use. Because this standard has already been tested and is currently widely in use, it can be readily applied to reportable lab results.

Support Information

This section provides known information on this support for this use case.

Support can come from multiple levels (Governor, Federal or State Legislature, Michigan HIT Commission, Michigan State Departments, CMS/ONC/CDC, MiHIN Board, Participating Organizations, payer community, interest groups [e.g. MSMS, MHA], or citizen support).

Political Support:

- Governor
- Michigan Legislature
- Health Information Technology Commission
- Michigan Department of Health and Human Services or other State of Michigan department
- CMS/ONC
- CDC
- MiHIN Board

Other: None noted

Concerns/Oppositions: None noted

Sponsor(s) of Use Case

This section lists the sponsor(s) of the use case.

- Michigan Department of Health and Human Services
- Michigan Health Information Network Shared Services

Metrics of Use Case

This section defines the target metrics identified to track the success of the use case.

The key metrics for this use case are:

- Number and percentage of laboratories participating in this use case
- Number of non-laboratory facilities participating in this use case
- Percentage of facilities sending reportable disease surveillance labs via this use case compared to all facilities sending reportable disease surveillance labs to the state
- Number of results received from laboratories for this use case
- Percentage of overall reportable disease surveillance labs via this use case compared to all reportable disease surveillance labs received by the state

Other Information

This section is provided to give the sponsor(s) an opportunity to address any additional information with regard to this use case that may be pertinent to assessing its potential impact.

A report must contain the following information:²

- Patient's full name

² For a complete list of Electronic Lab Report message criteria for reporting to Public Health, please see the State of Michigan's HL7 V2.5.1 Implementation Guide: Electronic Laboratory Result Reporting to Public Health ("Electronic Laboratory Result Reporting to the Michigan Department of Health and Human Services")



- Patient's residential address, including street, city, village or township, county, and zip code
- Patient's telephone number
- Patient's date of birth (or age) and sex
- Name of the disease, infection, or condition reported and date of onset if known
- Specific laboratory test (if tested), date performed, where performed, and results
- Name and address of reporting facility
- Name, address, and contact information of ordering physician

To the extent that the information is readily available, a report of an unusual occurrence, outbreak, or epidemic of a disease, infection, or other condition will include all of the following information:

- Nature of the confirmed or suspected disease, infection, or condition
- Approximate number of cases
- Approximate illness onset dates
- Location of the outbreak