



Use Case Summary

Use Case Name:	Imaging
Sponsor:	None
Date:	May 8, 2020

Executive Summary

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

It is well accepted that the coordination of care across the healthcare continuum can be very challenging and can have a negative impact on healthcare costs as well as patient care if data is unavailable. This is especially true for radiology imaging because duplicating certain radiology studies will expose patients to unnecessary doses of radiation and should be avoided, whenever possible.

This use case leverages the image view based on a radiology report and historical source system images from the organization's PACS. This feature offers high resolution images available for viewing at the point of care without the need for additional storage.

These images are gathered from disparate sources and available in a single patient record. These images are also available to download to a participating organization's Picture Archiving and Communication System (PACS). This feature presents data in a timely manner and in a usable, actionable format so recipients can deliver efficient and effective patient care.

Purpose of Use Case: The Imaging use case supports provider workflow improvements by providing access to a patient's images in a central location. Images shared can help improve the quality, efficiency, and cost of healthcare.

Overview

This overview goes into more details about the use case.

Imaging that is available at the point of care can help bridge the data gap that sometimes occurs when a patient is seeking medical care. Having a comprehensive collection of images available at the point of care may improve patient care, reduced unnecessary exposure to radiation, reduce healthcare costs due to repeated imaging, and provide a more positive experience for the patient.

Once the radiology study is read by the radiologist, an electronic written report of the findings are made available to the patient care team. Sometimes the actual image from the study is also needed for a variety of reasons such as comparison to a previous study, transfer to another hospital or point of care, referral to a specialist, and request for second opinion.

The types of radiology imaging that are available are numerous and may include but are not limited to:

- X-rays
- Computed Tomography (CT)
- Magnetic Resonance Imaging (MRI)
- Mammography
- Ultrasound
- Bone scan
- Nuclear Medicine studies

Radiology images accessed through Michigan Health Information Network (MiHIN) are provided by hospitals and other independent imaging sites. These images may be accessed in a variety of ways including but are not limited to:

- Viewing from within an application
- Downloading into an organization's PACS

Healthcare professionals that want access to view and/or download radiology images to an organization's PACS can participate in this use case. This may include but are not limited to:

- Hospitals
- Ambulatory clinics
- Health departments
- Physician offices
- Medical practices

Persona Story

To explain this use case, this section follows a persona example from start to finish.



Dr. Julie Lawson

Dr. Lawson is an attending physician in Gift of Mercy Hospital's Pediatric Intensive Care Unit (PICU). She thrives on the adrenaline rush that comes with that environment.

One downside to her work in the PICU is dealing with gaps of knowledge involving a pediatric patient's medical history. Many of the patients Julie treats are in critical condition, especially when transferred from smaller hospitals. The complete health information that would allow Julie to make a fully informed decision is often times unavailable. Nothing frustrates her more than working on cases where a little more information at the right time

could have made a difference in a patient's outcome.

Making "gut" decisions because of missing patient information never sits well with Dr. Lawson. She is relieved whenever she makes the right call, but it's the other times that haunt her.

Since Dr. Lawson started viewing images, she has direct access to radiology images that were completed at participating organizations before the child is transferred to the PICU, as well as historical images. She is able to make clinical decisions more quickly, reduce the number of repeated studies, and provide efficient and cost effective care to her pediatric patients.

It's that thought that helps her get up in the morning and back in the PICU the next day for more rewarding moments.

Diagram

This diagram shows the information flow for this use case.



Figure 1. Data Flow for Imaging Use Case

1. PO/DF routes radiology results to HIN
2. HIN presents list of available images
3. PO/DF views and/or downloads images through HIN
4. PO views images through HIN

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

Meaningful Use:

- Yes
- No
- Unknown

Cost and Revenue

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

Costs

The project financially covers the following components:

- HL7 message development based on the national standard
- Development of the implementation guide
- Technical development and maintenance at MiHIN
- Piloting of the message
- Partnering with certified electronic health record (EHR) systems to identify message content and send standard message types
- Participant development and implementation to onboard for this use case

Revenue

Significant cost savings are anticipated based on access to radiology images.

Implementation Challenges

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

Additional infrastructure, security, and authentication needed at customer site to allow access to PACS images.

Organizations contributing data for this use case are required to onboard to the following use cases: Active Care Relationship Service, Common Key Service, and Health Directory.

Vendor Community Preparedness

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

None

Support Information

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

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

Sponsor(s) of Use Case

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

- None

Metrics of Use Case

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

- The number of images viewed

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.

- None