



Use Case Summary

Use Case Name:	Longitudinal Record
Sponsor:	None
Date:	May 6, 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.

The Longitudinal Record is a single comprehensive patient record comprised of data from numerous data sources across the healthcare continuum. It is designed to be one record per patient by using comprehensive patient matching logic wrapped in a consent management model. The data sent to the Michigan Health Information Network (MiHIN) by participating organizations (PO) is further standardized and normalized by MiHIN before indefinite storage.

The Longitudinal Record, when used for Treatment, Payment, Operations, Public Health, Federal Programs, Individual Authorizations, or permitted or required by law, allows providers and other healthcare professionals to have efficient access to clinical data. This will help with clinical decision support, trending analysis, population health management, medication management, and numerous other care activities.

The coordination of care across the healthcare continuum can be very challenging. When data is unavailable it can have a negative impact on healthcare costs as well as patient care. The Longitudinal Record presents this 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 Longitudinal Record use case supports provider workflow improvements by displaying clinical results in a central location and other services performed at the point of care across disparate systems. This single electronic patient record of clinical data contributed and accessed through an interconnected network of POs can help improve the quality, efficiency, and cost of healthcare.



Overview

This overview goes into more details about the use case.

When a patient seeks medical care from a provider and/or hospital, admission information is collected and clinical tests are often performed. Admission, discharge, or transfer information and clinical results are a crucial component of caring for a patient yet are often not shared in a timely manner when transitioning a patient to other members of their care team. This sometimes results in adverse events from uninformed providers or duplicative tests and/or services being performed, both of which are costly, burdensome to the provider, and can be harmful to the patient.

The patient's interaction with the healthcare system creates specific electronic message types that are sent by the PO to MiHIN, which operates the central repository of data called the Longitudinal Record.

The Longitudinal Record can help bridge the data gap that sometimes occurs from one patient's visit to the next. It provides a comprehensive collection of clinical results and other relevant health information, such as allergies and diagnoses, at the time of service. Based on the organization's data access preferences, this data can be made available in a variety of ways including but not limited to:

- Web Based User Interface
- Single Sign On via the provider's EHR
- Query and Retrieve
- Report Delivery

Clinical results and other vital information found in the Longitudinal Record are collected, standardized, normalized, and stored for use across the healthcare continuum. This data is subjected to rigorous matching logic that ensures patient data is correctly matched despite coming from disparate sources. The types of data found in the Longitudinal Record may include but are not limited to:

- Admissions, Discharges, and Transfers
- Allergies
- Diagnoses
- Medications
- Procedures
- Laboratory Results
- Radiology and Cardiology Results
- Radiology Images
- Transcription Documents
- Advance Care Documents

- Patient Care Documents including Care Plans and Tele-Health Medicine Visit Summaries
- Continuity of Care Documents
- Social Determinants of Health
- Referrals

The Longitudinal Record can enhance the individual's care experience, provide better patient outcomes, and reduce the cost of care. In the event of a disaster, the Longitudinal Record is a tremendous resource providing quick access to health information across the healthcare community.

For patients who do not want their health information accessible to other healthcare providers in the Longitudinal Record, the option to opt out is available via written request to MiHIN. Opting out prevents data from being accessed and viewed in the Longitudinal Record.

Persona Story

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



Joan Chen

Joan Chen's life is not easy. She feels like she spends every hour worrying about her son Billy. While pregnant, Joan was exposed to rubella and Billy was born with complications resulting from the disease, including cataracts, hearing loss, and congenital heart disease. Joan says that taking care of Billy's healthcare needs is another full-time job, but the truth is it's far more stressful than her day job.

Being a full-time mother to a sick child is exhausting enough without having to mentally juggle the details on who Billy has seen previously, where his medical information needs to be shared, and how his providers would like to be updated. Nothing is as easy as it should be, and many times Joan feels like the healthcare world is working against her. She dreads answering the phone when it shows an incoming call from another healthcare office worker. Joan sometimes feels she spends more time updating Billy's specialists than she does with her own child.

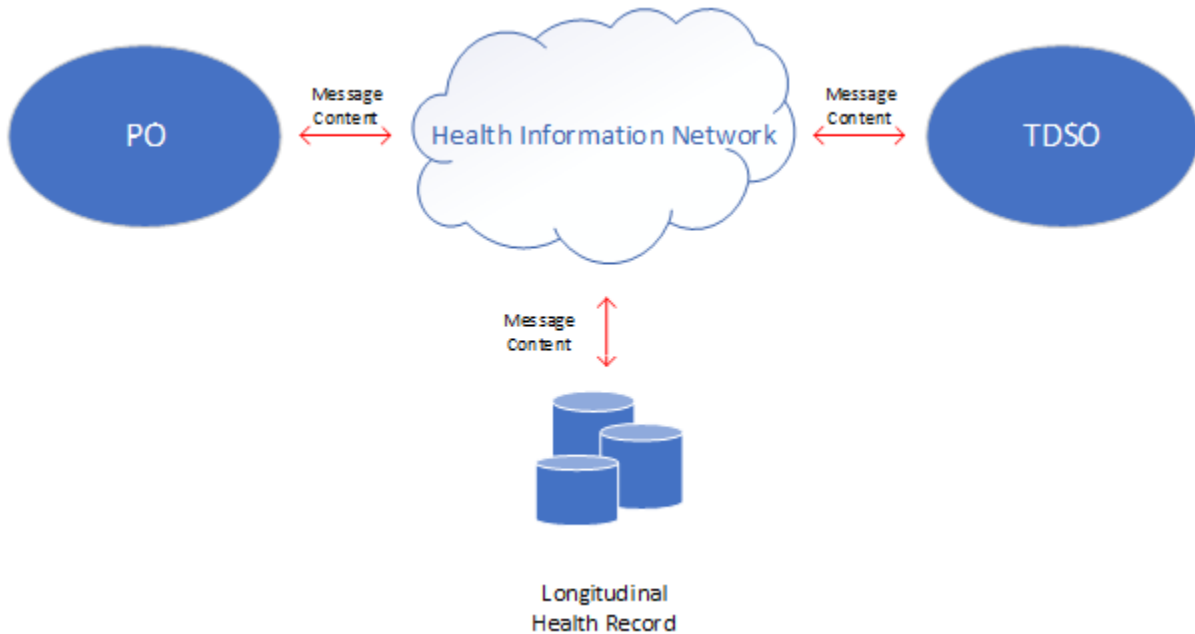
Billy currently sees 13 different specialists and physicians. Joan can never assume for a moment that each of his doctors are on the same page, so the trunk of her car is filled with files and boxes of healthcare information and prescription receipts. She keeps the important information in binders and sometimes jokes about what a workout they are for

her to carry. At this point she would love anything that could help keep everyone informed and make her life easier.

Providers that access data in the LR may immediately reduce Joan's stress and anxiety because her child's vital information will be quickly available. As members of the healthcare team begin to access this data, the need for her to carry around the binder should be eliminated. She can now spend her valuable time caring for her child.

Diagram

This diagram shows the information flow for this use case.



1. PO and/or Trusted Data Sharing Organization (TDSO) sends Message Content to HIN
2. HIN stores Message Content and makes the Message Content available to PO and/or TDSOs
3. PO and/or TDSOs access Message Content

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 faster, more efficient access to a patient's essential information.

Implementation Challenges

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

Implementation challenges associated with this use case include conformance to standards and the consistency of data elements within the standard structure. There are often limits to the amount and consistency of patient data entered by the source system.

Even if data fields are populated as required by this use case's implementation guide and the source system (data-sharing organization) sends the correct event types, certain data elements may be omitted for a variety of reasons.

Incomplete or inconsistent demographic information contained in the message can affect accurate patient matching and inconsistent or missing data in required fields can affect the accuracy of clinical results.

Organizations contributing data for this use case are required to onboard to the following use cases: Statewide Admission Discharge Transfer (ADT) Notifications, Health Directory, Active Care Relationship Service, Common Key Service, Exchange Consolidated Clinical Document Architecture, Statewide Lab Orders-Results, Radiology Document Delivery, and Transcribed Document Delivery.

Vendor Community Preparedness

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

The data format will be HL7 or CDA messages that are routed to MiHIN and stored for the Longitudinal Record use case. POs may require integration of these messages into their appropriate systems and workflow to ensure that messages are routed properly to the Longitudinal Record.

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

Other: None

Concerns/Oppositions:
None

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 patient searches
- The number of patient records viewed
- The number of active users

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