Michigan Health Information Network

Implementation Guide for Quality Measure Information's State Medicaid Use Case Scenario

Version 35

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Table of Contents

Acronyms and Abbreviations Guide

BCC	Blind Carbon Copy
API	Application Programming Interface
CAH	Critical Access Hospital
CAT 1	Category 1
CAT 3	Category 3
CC	Carbon Copy
CCD®	Continuity of Care Document
CCDA	Consolidated Clinical Documentation Architecture
CDA®	Clinical Document Architecture
CEHRT	Certified Electronic Health Record Technology
CHAMPS	Community Health Automated Medicaid Processing System
CMS	Centers for Medicare & Medicaid Services
CPI	Continuous Process Improvement
CQI	Clinical Quality Improvement
CQM	Clinical Quality Measure
CQMRR	Clinical Quality Measurement Reporting and Repository
DQA	Data Quality Assurance
DSA	Data Sharing Agreement
DSM	Direct Secure Messaging
eCQM	electronic Clinical Quality Measure
EH	Eligible Hospital

EHNAC-DTAAP	Electronic Healthcare Network Accreditation Commission – Direct Trusted Agent Accreditation Program
EHR	Electronic Health Record
EHR-MIPP	Electronic Health Record Medicaid Incentive Payment Program
EP	Eligible Professional
HEDIS	Healthcare Effectiveness Data and Information Set
HHS	U.S. Department of Health and Human Services
HIN	Health Information Network
HIPAA	Health Insurance Portability and Accountability
HISP	Health Internet Service Provider
HL7	Health Level Seven
HPD	Health Provider Directory
HQMF	Health Quality Measures Format
HTTP	HyperText Transfer Protocol
JSON	JavaScript Object Notation
MDHHS	Michigan Department of Health and Human Services
MIDIGATE	Medical Information Direct Gateway
MiHIN	Michigan Health Information Network Shared Services

MU	Meaningful Use
MUCA	Master Use Case Agreement
NCQA	National Committee for Quality Assurance
NPI	National Provider Identifier
NQF	National Quality Forum
PHI	Protected Health Information
POST	Posting a file to server
PQRS	Physician Quality Reporting System
QRDA	Quality Reporting Document Architecture
QRS	Quality Rating System
RAS	Registration and Attestation System
REST	Representational State Transfer
SOM	State of Michigan
SSL	Secure Socket Layer
TDSO	Trusted Data Sharing Organization
TIN	Tax Identification Number
UCA	Use Case Agreement
UCS	Use Case Summary
URL	Uniform Resources Locators
VPN	Virtual Private Network
XML	Extensible Markup Language

Definitions

Applicable Laws and Standards. In addition to the definition set forth in the Data Sharing Agreement, the federal Confidentiality of Alcohol and Drug Abuse Patient Records statute, section 543 of the Public Health Service Act, 42 U.S.C. 290dd-2, and its implementing regulation, 42 CFR Part 2; the Michigan Mental Health Code, at MCLA §§ 333.1748 and 333.1748a; and the Michigan Public Health Code, at MCL § 333.5131, 5114a.

C32. HITSP Summary Documents Using HL7 Continuity of Care Document Component - http://www.hitsp.org/ConstructSet_Details.aspx?&PrefixAlpha=4&PrefixNumeric=32.

C62. The HITSP Unstructured Document Component is provided for the capture and storage of patient identifiable, unstructured document content, such as text, PDF, and images rendered in PDF. It is based on the Cross-Enterprise Sharing of Scanned Documents (XDS-SD) profile from IHE - http://www.hitsp.org/ConstructSet_Details.aspx?&PrefixAlpha=4&PrefixNumeric=62

C83. The HITSP CDA Content Modules Component. The CDA Content Modules Component defines the content modules for document based HITSP constructs utilizing clinical information- http://www.hitsp.org/ConstructSet_Details.aspx?&PrefixAlpha=4&PrefixNumeric=83

Critical Access Hospital (CAH). A Critical Access Hospital as defined under the Medicaid EHR Incentive Program.

Data Sharing Agreement. Any data sharing organization agreement signed by both HIN and a participating organization. Data sharing organization agreements include but are not limited to: Qualified Data Sharing Organization Agreement, Virtual Qualified Data Sharing Organization Agreement, Consumer Qualified Data Sharing Agreement, Sponsored Shared Organization Agreement, State Sponsored Sharing Organization Agreement, Direct Data Sharing Organization Agreement, Simple Data Sharing Organization Agreement, or other data sharing organization agreements developed by HIN.

Electronic Address. A string that identifies the transport protocol and end point address for communicating electronically with a recipient. A recipient may be a person, organization or other entity that has designated the electronic address as the point at which it will receive electronic messages. Examples of an electronic address include a secure email address (Direct via secure SMTP) or secure URL (SOAP / XDR / REST / FHIR). Communication with an electronic address may require a digital certificate or participation in a trust bundle.

Electronic CQM (eCQM). CQMs that are specified in a standard electronic format and are designed to use data from Health IT systems for measurement.

Electronic Medical Record or Electronic Health Record (EMR/EHR). A digital version of a patient's paper medical chart.

Eligible Hospital (EH). An Eligible Hospital as defined under the Medicare and Medicaid EHR Incentive Programs.

Eligible Professional (EP). An Eligible Professional as defined under the Medicare and Medicaid EHR Incentive Programs.

Exhibit. Collectively, a use case exhibit or a pilot activity exhibit.

Health Level 7 (HL7). An interface standard and specifications for clinical and administrative healthcare data developed by the Health Level Seven organization and approved by the American National Standards Institute (ANSI). HL7 provides a method for disparate systems to communicate clinical and administrative information in a normalized format with acknowledgement of receipt

Health Information. Any information, including genetic information, whether oral or recorded in any form or medium, that (a) is created or received by a health provider, public health authority, employer, life insurer, school or university, or healthcare clearinghouse; and (b) relates to the past, present, or future physical or mental health or condition of an individual; the provision of health care to an individual; or the past, present, or future payment for the provision of health care to an individual.

Health Information Network (HIN). An organization or group of organizations responsible for coordinating the exchange of protected health information (PHI) in a region, state, or nationally.

Health Plan. An individual or group plan that provides, or pays the cost of medical care (as "group health plan" and "medical care" are defined in section 2791(a)(2) of the Public Health Service Act, 42 U.S.C. 300gg-91(a)(2)). Health plan further includes those entities defined as a health plan under HIPAA, 45 C.F.R 160.103.

Health Professional means (a) any individual licensed, registered, or certified under applicable Federal or State laws or regulations to provide healthcare services; (b) any person holding a nonclinical position within or associated with an organization that provides or coordinates healthcare or healthcare related services; and (c) people who contribute to the gathering, recording, processing, analysis or communication of health information. Examples include, but are not limited to, physicians, physician assistants, nurse practitioners, nurses, medical assistants, home health professionals, administrative assistants, care managers, care coordinators, receptionists and clerks.

Health Provider means facilities/hospitals, health professionals, health plans, caregivers, pharmacists/other qualified professionals, or any other person or organization involved in providing healthcare.

HIN Infrastructure Service. Certain services that are shared by numerous use cases. HIN infrastructure services include, but are not limited to, Active Care Relationship Service (ACRS), Health Provider Directory (HPD), Statewide Consumer Directory (SCD), and the Medical Information DIrect GATEway (MIDIGATE®).

HIN Services. The HIN infrastructure services and additional services and functionality provided by HIN allowing the participating organizations to send, receive, find, or use information to or from HIN as further set forth in an exhibit.

Information Source. Any organization that provides information that is added to a HIN infrastructure service.

Master Use Case Agreement (MUCA). Legal document covering expected rules of engagement across all use cases. Trusted data sharing organizations sign master use case agreement one time, then sign use case exhibits for participation in specific use cases.

Meaningful Use. Using certified EHR technology to improve quality, safety and efficiency of healthcare, and to reduce health disparities as further contemplated by title XIII of the American Recovery and Reinvestment Act of 2009.

Message. A mechanism for exchanging message content between the participating organization to HIN services, including query and retrieve.

Message Content. Information, as further defined in an Exhibit, which is sent, received, found or used by a participating organization to or from HIN services. Message content includes the message content header.

Message Header ("MSH") or Message Content Header. The MSH segment present in every HL7 message type that defines the Message's source, purpose, destination, and certain syntax specifics such as delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

Michigan Health Information Network Shared Services. The HIN for the State of Michigan.

Patient Data. Any data about a patient or a consumer that is electronically filed in a participating organization or participating organization participant's systems or repositories. The data may contain protected health information (PHI), personal credit information (PCI), and/or personally identifiable information (PII).

Person Record. Any record in a HIN infrastructure service that primarily relates to a person.

REST. REST stands for Representational State Transfer, which is an architectural style, and an approach to communications that is often used in the development of web services.

Specifications. Specifications provide a standard set of service interfaces that enable the exchange of interoperable health information among the health information exchanges.

Trusted Data Sharing Organization (TDSO). An organization that has signed any form of agreement with HIN for data sharing.

Use Case. (a) A use case agreement previously executed by a participating organization; or (b) the use case summary, use case exhibit and a use case implementation guide that participating organization or TDSO must follow to share specific message content with the HIN.

Use Case Exhibit. The legal agreement attached as an exhibit to the master use case agreement that governs participation in any specific use case.

Use Case Implementation Guide (UCIG). The document providing technical specifications related to message content and transport of message content between participating organization, HIN, and other TDSOs. use case implementation guides are made available via URLs in exhibits.

Use Case Summary. The document providing the executive summary, business justification and value proposition of a use case. Use case summaries are provided by HIN upon request and via the HIN website at www.mihin.org.

XCA. The IHE (Integrating the Healthcare Enterprise®) standard for Cross-Community Access which provides specifications to query and retrieve patient relevant health information held by other communities.

XDS.b. The IHE (Integrating the Healthcare Enterprise®) standard for Cross-Enterprise Document Sharing revision b, which provides specifications to query and retrieve patient relevant healthcare data held within a community.

1 Introduction

1.1 Purpose of Use Case Scenarios

The State Medicaid use case scenario enables healthcare providers to send and validate clinical quality measures electronically for Medicaid Meaningful Use attestation. It also enables State Medicaid to receive electronic clinical quality measures sent by Medicaid providers. Finally, this use case enables senders, receivers, and other concerned parties (such as Medicaid) to access and view eCQMs across their provider spectrum.

Clinical quality measures (CQMs) are measures of healthcare quality. They are generated in a clinical setting using information such as lab results, vital signs, symptoms, x-rays, etc. CQMs, when properly utilized, can help transform healthcare delivery, which could improve care for patients and help transform healthcare payments, making them quality-based instead of volume-based.

CQMs are also needed at the national level for reporting and strategy, including *determining where to apply resources*.

Electronic clinical quality measures, called eCQMs, are clinical quality measures that are electronically captured or calculated locally in a clinical setting. For example, in a clinic's electronic health record (EHR) system, and then potentially transported electronically and securely to a centralized repository for analysis and comparison with other clinics.

The U.S. Department of Health and Human Services (HHS) and the National Quality Forum (NQF) have defined eCQMs as:

> To further enable electronic measurement of EHR data, the NQF, under contract with the U.S. Department of Health and Human Services (HHS), supported the development of a Health Level Seven (HL7) standard known as the Health Quality Measures Format (HQMF) for representing a health quality measure as an electronic Extensible Markup Language (XML) document. A health quality measure encoded in HQMF is referred to as an "eMeasure" or "eCQM" (*electronic clinical quality measure*). Through standardization of a measure's structure, metadata, definitions, and logic, the HQMF provides for quality measure consistency and unambiguous interpretation. HQMF is a component of a larger quality end-to-end framework in which providers will ideally be able to push a button and import these eMeasures into their EHRs. The eMeasures can be turned into queries that automatically query the EHR's data repositories and generate reports for quality reporting. From there,

individual and/or aggregate patient quality data can be transmitted to the appropriate agency.[1]

The widespread use of eCQMs is transformational for healthcare, not simply because of Meaningful Use but because of the better outcomes that will result from the "continuous process improvement" (CPI) feedback loop that CQMs can drive in clinics. This is sometimes referred to as "clinical quality improvement" (CQI).

There are four key attributes of eCQMs that set them apart and highlight their critical importance to improving outcomes in healthcare:

1. eCQMs are generated by measuring actual clinical data, not from payer/claims data. The clinically-derived measures come directly from clinical lab results, vital signs, etc. The type of quality measures that can be derived from clinical data cannot be generated from claims data.
2. eCQMs enable healthcare providers to have and use their own tools for real-time (or near real-time) tracking of changes to their practice. eCQMs act as a monitoring and feedback system to help providers to identify the need for and to effect changes that improve outcomes. For example, by monitoring their own clinical quality measures throughout the day, providers can identify care gaps within a care team the same day and close care gaps, potentially even while a patient is still present in the clinic.
3. Payers, not just providers, will benefit tremendously also, as eCQMs represent a faster, less expensive way to generate quality measures. A study by Kaiser Permanente revealed that clinical quality measures can save up to 50% over chart abstraction. So that the healthcare industry can move to truly value-based purchasing and value-based care, eCQMs can give better clinical outcome information at lower cost and are more effective at driving change because they are real-time and locally "owned" by the providers.
4. As we move to consumer-directed and patient-centered care, patient-reported outcomes work well with eCQMs but it is unclear whether claims-based measures can support this.

Report Once: This use case scenario allows providers to report measures once. Then the health information network (HIN) will validate, convert, and route those measures to multiple quality measure reporting programs, satisfying the many different requirements providers must meet. This "Report Once" capability greatly simplifies providers' and payers' workflow and removes burdens from the process of reporting quality of care.

[1] Centers for Medicare & Medicaid Services, *Guide for Reading Eligible Professionals (EP) and Eligible Hospitals (EH) eMeasures*, v3, (April 2013), accessed on January 6, 2017, https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/GuidetoReading_EPandEH_eCQMs_April2013.pdf

1.1.1 State Medicaid Scenario

In the context of Meaningful Use, the Center for Medicaid and Medicare Services defines CQMs:

> Clinical quality measures, or CQMs, are tools that help us measure and track the quality of healthcare services provided by eligible professionals, eligible hospitals and critical access hospitals (CAHs) within our healthcare system. These measures use data associated with providers' ability to deliver high-quality care or relate to long term goals for quality healthcare. CQMs measure many aspects of patient care including:
>
> - health outcomes
> - clinical processes
> - patient safety
> - efficient use of health care resources
> - care coordination
> - patient engagements
> - population and public health
> - adherence to clinical guidelines[2]

This use case scenario enables healthcare providers to send and validate clinical quality measures electronically for Medicaid Meaningful Use attestation. It also enables State Medicaid to receive electronic clinical quality measures sent by Medicaid providers. Finally, this use case enables senders, receivers, and other concerned parties (such as Medicaid) to access and view eCQMs across their provider spectrum.

1.2 Message Content

For this use case, Message Content means a Quality Reporting Document Architecture (QRDA) Category 1 and/or Category 3 file.

1.3 Data Flow and Actors

1.2.1 Data Flow – Sending Quality Reporting Document Architecture (QRDA) Files Through HIN – Transport Options

Figure 1 is a visualization of the steps in the quality measure reporting process beginning with a patient's visit to a healthcare provider.

[2] Clinical Quality Measures Basic," *Centers for Medicare & Medicaid Services*, accessed January 6, 2017, https://www.cms.gov/regulations-and-guidance/legislation/ehrincentiveprograms/clinicalqualitymeasures.html

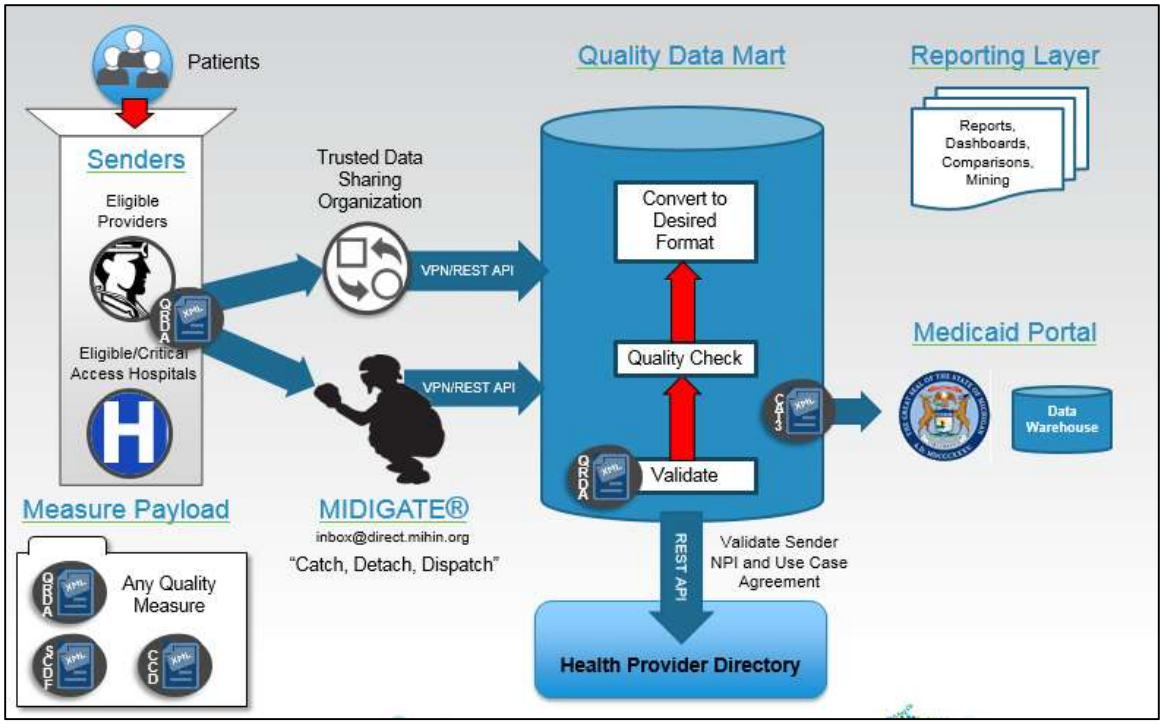

Figure 1. Data Flowing Through the CQMRR Process

For more information about this use case scenario, refer to the documents linked below:

Use Case Summary:

https://mihin.org/qmi-state-medicaid/

2 Standard Overview

2.1 Allowed Sending and Reporting Periods

QRDA files may be sent by eligible hospitals (EHs), eligible professionals (EPs), or critical access hospitals (CAHs) for Medicaid Meaningful Use credit, but any provider or organization may send QRDA files to HIN. Currently the required standard for Medicaid is to report CQMs on an annual reporting cycle. Providers may send QRDA files as frequently as desired. More frequent submissions can facilitate clinical quality improvements.

For more information on reporting periods visit:

http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/.

EPs may choose nine measures to report from the full "menu" of 64 CQMs for Meaningful Use. EHs and CAHs choose 16 measures to report from a menu of 29 CQMs for Meaningful Use.

2.1.1 QRDA Category 1 Files

A QRDA Category 1 (CAT 1) file contains individual patient quality results and thus contains Protected Health Information (PHI). EPs, EHs and CAHs may report QRDA CAT 1 files.

For an overview of QRDA CAT 1 files visit the eCQM QRDA guide at the eCQM library hosted by the Centers for Medicare and Medicaid Services (CMS) at:

https://ecqi.healthit.gov/qrda

2.1.1.1 Document Structure and Examples

See the "HL7 Implementation Guide for CDA® R2: Quality Reporting Document Architecture - Category 1 (QRDA) DSTU Release 2 (US Realm)" at

http://www.hl7.org/implement/standards/product_brief.cfm?product_id=35

2.1.2 QRDA Category 3 Files

Unlike QRDA Category 1 files, QRDA Category 3 (CAT 3) files contain aggregate quality results and do not contain PHI. Only EPs reporting individually may report CAT 3 files.

2.1.2.1 Document Structure and Examples

For an overview of CAT 3 files see the "Guide to Quality Reporting Architecture, QRDA," for eCQMs on CMS's eCQM library at

https://ecqi.healthit.gov/qrda

2.1.2.2 QRDA Implementation

See the "CMS Implementation Guide for Quality Reporting Document Architecture Category I and Category III" at:

https://www.cms.gov/regulations-and-guidance/legislation/ehrincentiveprograms/downloads/qrda_ep_hqr_guide_2015.pdf

2.2 Sending QRDA Files Via Direct Secure Messaging

When sending CQMs via Direct Secure Messaging (DSM), CAT 1 files and CAT 3 files are sent via DSM as email attachments. Every email must adhere to the following specifications:

1. One or more QRDA CAT 1 or QRDA CAT 3 file(s) must be attached per Direct Secure Message. Each file must be a separate attachment.
2. Direct Secure Messages will not have any CCs and/or BCCs.
3. The subject line will be "[Document Type] for [NPI code]"
   a. [Document Type] shall be either "CAT 1" or "CAT 3"
   b. [NPI Code] will be the 10-digit National Provider Identifier code for the provider
   c. *Example:* CAT 3 for 1234567890

Senders should have the ability to receive DSM email for the HIN response.

- CAT 1 files will be sent to CAT1@direct.mihin.org
- CAT 3 files will be sent to CAT3@direct.mihin.org

Organizations wishing to fully automate the sending of QRDA files from their EHR to HIN should request a MiHIN Direct account and the MiHIN Direct API Guide during the technical onboarding process.

2.3 Sending QRDA Files Via REST API Over VPN

The REST API allows transport of QRDA CAT 1 and CAT 3 files to HIN in a language-neutral environment. CAT 1 and CAT 3 APIs are identical except for a difference in the service URL. QRDA files are HL7 CDA XML documents. A submission via REST API consists of sending an HTTP POST request to the Clinical Quality Measure Reporting and Repository (CQMRR) service along with the document (QRDA file) and proper authentication.

2.4 Message Notes and Examples

2.4.1 Response and Request Formatting

All requests in the HL7 CDA XML string must be posted as raw messages. All responses to the client are encoded in JSON.

2.4.2 Standard API Errors

Code	Description
400	*Bad Request.* Occurs whenever an invalid parameter has been passed to the server. The most common invalid parameters are incorrectly formatted dates and processing invalid or empty messages.
500	*Server Error.* An error occurred through no fault of the client. The attempted operation failed, and a retry is necessary.

2.4.3 Operations

2.4.3.1 QRDA CAT 1 or CAT 3 (POST)

To send a document, send an HTTP POST request to the CQMRR service along with the data and proper authentication. Users are authenticated using basic authentication, which requires an HTTP header to be set appropriately. Since CQMRR will be receiving XML data, the content type on the request must be annotated as such. Below is a sample of the headers:

```
Content-Type: application/xml
Authorization: Basic <keyprovided>
```

To receive authorization credentials, please contact us at https://mihin.org/requesthelp/.

2.4.3.2 Errors

The CQMRR service may return two groups of errors. The data from the received QRDA file is stored by HIN in the first group of errors. This means that a tracking identifier was issued, so operations can follow up with any questions or concerns. The second set of errors are those for which the data has not been stored by HIN. The client and server can each cause both groups of errors. All errors are JSON encoded – a sample is shown below:

```
{
 "error": "Could not connect to the database",
 "developer": "Error occurred at line xyz in file abc"
}
```

The table below depicts a list of errors, why they would occur, and if the message is stored by HIN.

HTTP Status	Reason	Message Stored by MiHIN
400	Bad Request. The request was mal-formatted, and the data could not be processed	No
401	When the Authorization header is not sent or invalid credentials are sent.	No
404	Request sent to CQMRR service could not be completed because the URL does not exist.	No
415	When the Content-Type header is not sent/as, application/xml.	No
422	The data that was sent was malformed and could not be fully processed.	Yes
500	Through no fault of the client, the server could not process the request. There's a helpful error message in the response.	Only if a tracking ID is returned in the JSON response.

2.4.3.3 Returns

The newly received message header's unique tracking ID is used for tracking the status and the data involving that message. If there is an error, it also returns the error code and the error message. A sample response:


```
{
  "score": 80,
  "trackingId": "55a54fa61283024dd9905637",
  "validation": [
    {
      "errors": "",
      "name": "cda-2014",
      "weight": 20
    },
    {
      "errors": "",
      "name": "schematron-2014",
      "weight": 60
    },
    {
      "errors": "Unrecognized npi: 1010101010",
      "name": "dynamic-npi-check",
      "weight": 20
    }
  ]
}
```

Name	Type	Description
trackingID	string	24 hexadecimal characters that are unique across all requests.
score	integer	Approximates to an integer value the structure validity of the given document. The score will be between 0 and 100 inclusively.
validation	array of objects	Denotes what validation the document underwent and if there were any associated errors. The validation object's names in aggregate represent all the validation tests. If the errors are blank, the test passed and the document score increases by the given weight, but anything else means the test failed. The message generated from the failed test is entirely dependent upon the test and the CQMRR service makes no attempt at normalization. The string response may be XML, plain text, etc.

2.4.3.4 Security and cURL Samples

Since the HL7 CDA QRDA messages may contain confidential information, it is necessary to transfer the message from the client to the API in a secure manner over SSL (Secure Socket Layer).

Below is an example of creating a POST request through the command line program cURL that transfers the HL7 message through SSL. The example assumes that the HL7 CDA QRDA message is contained inside the file *QRDA_CAT_I_AGEMeasure_55.xml*. The "-H" flag allows the custom header needed for the POST request to be accepted by the server. The sample also assumes that the API is housed on *mqs-fip.mihin.org*, communicating through the secure port of *8443.*

To post a message through cURL, where *QRDA_CAT_I_AGEMeasure_55.xml* is the sample QRDA request:

```
curl -H "Content-Type: application/xml" -u <username> -d @<file-name> https:// mqs-fip.mihin.org:8443/mqs/v1/CAT1-2014
```

2.4.3.5 CAT 1 Example Usage

The Data Mart where QRDA CAT 1 files are processed is deployed at HIN and the REST service can be accessed at the following URL:

```
curl -H "Content-Type: application/xml" -u <username> -d @<file-name> https:// mqs-fip.mihin.org:8443/mqs/v1/CAT1-2014
```

2.4.3.6 CAT 3 Example Usage

The Data Mart where QRDA CAT 3 files are processed is deployed at HIN and the REST service can be accessed at the following URL:

```
curl -H "Content-Type: application/xml" -u <username> -d @<file-name> https:// mqs-fip.mihin.org:8443/mqs/v1/CAT3-2014
```

Note:

- Replace <file-name> with the filepath that contains the QRDA CAT 1 or CAT 3 xml
- Replace <username> with your username

3 Onboarding Process

3.1 Initial Onboarding

Organizations wishing to participate in this or any other use case with MiHIN must complete both the legal onboarding and technical connectivity onboarding processes.

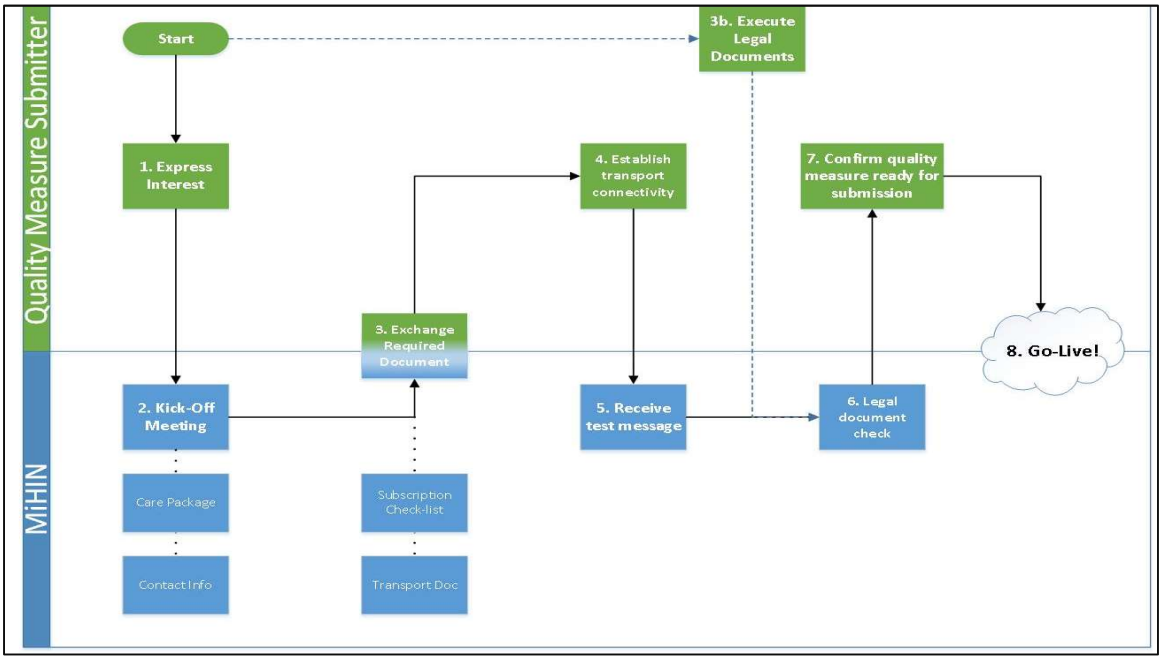

Figure 2. MiHIN Onboarding Flowchart for Quality Measure Information Use Case Scenarios

These onboarding processes may happen concurrently: the organization can review and complete legal agreements with MiHIN while simultaneously establishing and testing technical connectivity. The two processes are described in more detail below.

To initiate onboarding, please notify MiHIN at https://mihin.org/requesthelp/.

3.1.1 Initial Legal Process

The first time an organization undergoes the legal onboarding process with HIN, the organization negotiates and enters into a master organization agreement and master use case agreement (MUCA) which then allows the organization to enter into one or more use cases or scenarios via use case exhibits.

Once an organization has entered into a MUCA, the organization can enter into an unlimited number of use cases and scenarios with HIN. All of HIN's use cases and scenarios are available at:

http://mihin.org/about-mihin/resources/

3.1.2 Initial Technical Connectivity Process

HIN considers itself "transport agnostic" and offers multiple options for organizations to establish technical connectivity to transport data to HIN. Organizations should select one or more connectivity methods for message transport based on their technical capabilities, and put in a service request at www.mihin.org/requesthelp. Currently HIN accepts the following transport methods:

- DSM – Direct Secure Messaging
- API - Application Program Interface

Additional transport methods may be added in the future. These can include NwHIN, XCA, REST/RESTFUL APIs, FHIR, and others.

The following steps describe the technical onboarding process. However, HIN typically conducts "onboarding kickoff" meetings with new organizations to go through each of these steps in detail and answer any questions.

1. The organization selects one or more supported transport methods and establishes connectivity with HIN. This step varies based on the method selected:
   a. Direct Secure Messaging – HIN accepts Direct Secure Messages from Health Internet Service Provider (HISPs) that have EHNAC-DTAAP (DirectTrust) accreditation. Test messages are sent to verify HISP connectivity ("ping pong"). The Message Header section in the test messages is verified for appropriate routing configuration.
   b. Application Program Interface – Please see separate documents for detailed instructions for how to call the API protocol.
2. Test messages are sent by the organization to HIN.
   a. Test traffic is routed via HIN to the appropriate destination. For State Medicaid, the destination is the State of Michigan Data Warehouse.
   b. The end destination monitors for inbound test traffic and confirm receipt with HIN, which confirms with the organization.

4 Specifications

4.1 Document Delivery Events

EPs, EHs, and CAHs are required to report CQMs during each year of participation to participate in Stage 2 of the EHR Incentive Program. EHs and CAHs participate on the fiscal year, whereas EPs do so on the calendar year. MiHIN recommends CAT 1 files be sent as soon as a patient visit has been completed, allowing for future extensive reporting services and real-time feedback.

4.2 General Document Requirements

HL7 QRDA XML is the accepted format for CQMs for Meaningful Use attestation and credit.

Measures must adhere to general requirements for Meaningful Use eCQMs by conforming to the specifications for the reporting year which can be found at:

http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/eCQM_Library.html.

Both the sender's NPI and Tax Identification Number (TIN) must be included in the document header for all parties seeking MU credit.

The following are the xpaths for the NPI followed by the TIN:

```
/ClinicalDocument[templateId/@root='2.16.840.1.113883.10.20.24.1.3']/
documentationOf/serviceEvent[@classCode="PCPR"]/performer[@typeCode="PRF"]/as
signedEntity/id[@root='2.16.84 0.1.113883.4.6']

/ClinicalDocument[templateId/@root='2.16.840.1.113883.10.20.24.1.3']/document
ationOf/serviceEvent[@classCode="PCPR"]/performer[@typeCode="PRF"]/assignedEn
tity/representedOrganization/id[@root='2.16.840.1.113883.4.2']
```

The version-neutral measure ID for all included measures must be included in all QRDA files sent in. For parties sending QRDA CAT 1 files, date information must be included for all patient data elements. For QRDA CAT 3 files, the optional "Performance Rate" and supplemental data fields must be present.

4.3 Requirements for Sending CQMs

4.3.1. EHR Certification

To satisfy Meaningful Use requirements of the Medicaid EHR Incentive Program, EPs, EHs, and CAHs must report CQMs. Meaningful Use also requires that healthcare

providers use certified EHR technology (CEHRT) that meets or surpasses minimum government requirements for security, privacy, and interoperability. For year-specific CEHRT requirements visit:

https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/2015_EHR2015_2017.pdf

Additionally, the CEHRT must allow the provider to meet Meaningful Use requirements based on the stage of Meaningful Use for which the provider is attesting. CEHRT can be a standalone EHR or a series of modules combined to attain Meaningful Use functionality and certification. CEHRT must be equipped to successfully transmit eCQMs.

For more information about certification, visit the website of the Office of the National Coordinator for Health Information Technology at http://oncchpl.force.com/ehrcert

4.3.2 EHR Incentive Program

EPs and EHs must supply CQM data to the State of Michigan when registering for Medicaid EHR Incentive program, which is accomplished in the State's EHR-MIPP system (Electronic Health Record Medicaid Incentive Payment Program). CQMs, in the form of standard QRDA CAT 1 or CAT 3 XML files, can be produced by the providers' CEHRT and then sent through MiHIN via Direct Secure Messaging or via REST API over Virtual Private Network (VPN) as shown in Figure 1 on page 15 above.

Please note that EPs may enroll in either the Medicare Meaningful Use program or the Medicaid Meaningful Use program, not both.

4.3.3 CQM Versions

EPs and EHs sending CQM data must adhere with CMS reporting period guidelines. To view CMS measure specifications by year, see

https://ecqi.healthit.gov/

5 Troubleshooting

5.1 Production Support

	Severity Levels			
	1	***2***	***3***	***4***
Description	***Critical Impact/ System Down:*** Business critical software is down or critical interface has failed. The issue is impacting all production systems, causing all participating organizations' or other organizations' ability to function to be unusable.	***Significant Business Impact:*** Software component severely restricted. Entire organization is unable to continue business functions, causing all communications and transfer of messages to be halted.	**Partial Failure or Downtime:** Program is useable and less significant features unavailable. The service is online, though may not working as intended or may not currently working as intended or may not currently be accessible, though other systems are currently available.	**Minimal Business:** A non-critical software component is malfunctioning, causing minimal impact, or a test system is down.
Example	All messages to and from HIN are unable to be sent and received, let alone tracked	HIN cannot communication (send or receive) messages between single or multiple participating organizations, but can still successfully communicate with other organizations.	Messages are lost in transit, messages can be received but not sent.	Additional feature requested.
Primary Initiation Method	***Phone:*** (517) 336-1430	***Phone:*** (517) 336-1430	Web form at http://mihin.org/requesthelp	Web form at http://mihin.org/requesthelp
Secondary Initiation Method	Web form at http://mihin.org/requesthelp	Web form at http://mihin.org/requesthelp	Email to help@mihin.org	Email to help@mihin.org
Tertiary Initiation Method	Email to help@mihin.org	Email to help@mihin.org	N/A	N/A
Initial Response	Within 2 hours	Within 2 hours	1 business day	1 business day
Resolution Goal	24 hours	24 hours	3 business days	7 business days

A list of common questions regarding the Quality Measure Information use case and its associated scenarios can be found at:

https://mihin.org/quality-measure-information/

If you are experiencing difficulties or have questions, please contact the HIN Help Desk:

- www.mihin.org/requesthelp
- Phone: (517) 336-1430
- Monday – Friday 8:00 AM – 5:00 PM (Eastern)

6 Legal Advisory Language

This reminder applies to all use cases covering the exchange of electronic health information:

The Data Sharing Agreement (DSA) establishes the legal framework under which participating organizations can exchange messages through the HIN Platform, and sets forth the following approved reasons for which messages may be exchanged:

a. By health care providers for Treatment, Payment and/or Health Care Operations consistent with the requirements set forth in HIPAA
b. Public health activities and reporting as permitted by HIPAA and other Applicable Laws and Standards
c. To facilitate the implementation of "Meaningful Use" criteria as specified in the American Recovery and Reinvestment Act of 2009 and as permitted by HIPAA
d. Uses and disclosures pursuant to an Authorization provided by the individual who is the subject of the Message or such individual's personal representative in accordance with HIPAA
e. By Data Sharing Organizations for any and all purposes, including but not limited to pilot programs and testing, provided that such purposes are consistent with Applicable Laws and Standards
f. For any additional purposes as specified in any use case, provided that such purposes are consistent with Applicable Laws and Standards

Under the DSA, "***Applicable Laws and Standards***" means all applicable federal, state, and local laws, statutes, acts, ordinances, rules, codes, standards, regulations and judicial or administrative decisions promulgated by any governmental or self-regulatory agency, including the State of Michigan, the Michigan Health Information Technology Commission, or the Michigan Health and Hospital Association, as any of the foregoing may be amended, modified, codified, reenacted, promulgated or published, in whole or in part, and in effect from time to time. "Applicable Laws and Standards" includes but is not limited to HIPAA; the federal Confidentiality of Alcohol and Drug Abuse Patient Records statute, section 543 of the Public Health Service Act, 42 U.S.C. 290dd-2, and its implementing regulation, 42 CFR Part 2; the Michigan Mental Health Code, at MCLA §§ 333.1748 and 333.1748a; and the Michigan Public Health Code, at MCL § 333.5131, 5114a.

It is each participating organization's obligation and responsibility to ensure that it is aware of Applicable Laws and Standards as they pertain to the content of each message sent, and that its delivery of each message complies with the Applicable Laws and Standards. This means, for example, that if a use case is directed to the exchange of physical health information that may be exchanged without patient authorization under HIPAA, the participating organization must not deliver any message containing health

information for which an express patient authorization or consent is required (e.g., mental or behavioral health information).

Disclaimer: The information contained in this implementation guide was current as of the date of the latest revision in the Document History in this guide. However, Medicare and Medicaid policies are subject to change and do so frequently. HL7 versions and formatting are also subject to updates. Therefore, links to any source documents have been provided within this guide for reference. HIN applies its best efforts to keep all information in this guide up-to-date. It is ultimately the responsibility of the participating organization and sending facilities to be knowledgeable of changes outside of HIN's control.

Appendix A. Additional References

Clinical Quality Measure Basics:

http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/ClinicalQualityMeasures.html

eCQI Resource Center:

https://ecqi.healthit.gov/

Technical Explanation of CAT 3 files:

http://blog.agilehealthservices.com/2013/11/example-qrda-category-3-xml-for.html

CAT 1 versus C32/CCDA Comparison:

http://blog.agilehealthservices.com/2012/10/the-qrda-category-1-xml-for-meaningful.html

CMS Educational Webinar: Quality Reporting Document Architecture (QRDA): Overview of Category 1 and 3 Reports

http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/VendorWorkgroupCall_April16.pdf