Integrating the Healthcare Enterprise

IHE Quality, Research and Public Health Technical Framework Supplement

Quality Measure Execution – Early Hearing (QME-EH)

Trial Implementation

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Please verify you have the most recent version of this document. See here for Trial Implementation and Final Text versions and here for Public Comment versions.

Foreword

This is a supplement to the IHE Quality, Research and Public Health (QRPH) Technical Framework V0.1. Each supplement undergoes a process of public comment and trial implementation before being incorporated into the volumes of the Technical Frameworks.

This supplement is published on August 27, 2015 for trial implementation and may be available for testing at subsequent IHE Connectathons. The supplement may be amended based on the results of testing. Following successful testing it will be incorporated into the Quality, Research and Public Health Technical Framework. Comments are invited and can be submitted at http://www.ihe.net/QRPH_Public_Comments.

This supplement describes changes to the existing technical framework documents.

"Boxed" instructions like the sample below indicate to the Volume Editor how to integrate the relevant section(s) into the relevant Technical Framework volume.

Amend Section X.X by the following:

Where the amendment adds text, make the added text **bold underline**. Where the amendment removes text, make the removed text **~~bold strikethrough~~**. When entire new sections are added, introduce with editor's instructions to "add new text" or similar, which for readability are not bolded or underlined.

General information about IHE can be found at: www.ihe.net.

Information about the IHE QRPH domain can be found at: http://www.ihe.net/IHE_Domains.

Information about the organization of IHE Technical Frameworks and Supplements and the process used to create them can be found at: http://www.ihe.net/IHE_Process and http://www.ihe.net/Profiles.

The current version of the IHE QRPH Technical Framework can be found at: http://www.ihe.net/Technical_Frameworks.

CONTENTS

Introduction to this Supplement

This is a content module profile which defines the patient-level quality report needed for the Newborn Hearing Screening (CMS31v4, NQF1354) electronic clinical quality measure (eCQM) defined by the Centers for Disease Control and Prevention's Early Hearing Detection and Intervention program. The measure is used to assess the quality of the process of hearing screening for newborns. To support all realms, the profile uses generalized content modules (documents) which are then bound to specific content documents in the realm specific sections of Volume 4.

The US Realm section of Volume 4 contains mapping information that relates the data elements used for the Newborn Hearing Screening measure to the templates used in the Quality Reporting Document Architecture patient-level quality report. If use of the Newborn Hearing Screening measure spreads to additional realms, realm-specific content modules, vocabulary bindings, and derivation rules can be added to Volume 4.

Use cases documented in chapter X.4 should be reviewed as a prerequisite for understanding the material in Volume 1. Although complete understanding of the use cases requires a detailed understanding of the technical definitions established in this profile, familiarity with the use case descriptions provides a contextual foundation that facilitates an understanding of the technical definitions for the actors, options, and transactions.

Open Issues and Questions

Item	Issue Description	Status
1	Dependent on PCC implementing CP-PCC-211 which provided definitions of the Content Creator and Content Consumer Actors without any requirements on the transport mechanism.	In progress. It has gone through Public Comment and is in the process of being published.

Closed Issues

Item	Issue Description	Status
1	The measure definition included in Volume 1, appendix C is version 3 of the CMS31 Newborn Hearing Screening Measure, not version 4	The 2015 annual update for this measure will not be available from CMS until after May 30, 2015.

Item	Issue Description	Status
		Resolved – Published on May 1st and is included.
2	The use of references to an external document for template conformance requirements in Volume 3 has not been authorized by IHE.	IHE guideline for how to reference conformance information generated by template management tools will not be available from IHE until after April 27th. Resolved – content moved into this one Profile Tech Supplement.
3	QRDA Category I is in the process of being versioned. We decided to work with the currently balloted version of these standards, QRDA Category I, so as to absorb as many of the changes as were available at the time of ballot. THIS WAS A KNOWN RISK. Presently, the changes expected to be released following ballot reconciliation will be significant. The Diagnosis Active and Diagnostic Study Performed data type are both undergoing major revisions in QRDA Cat I. THE DSTU is projected to be released after May 15th, 2015. We are also working with the current version of the EHDI Newborn Hearing Screening measure (result of the 2015 Annual Update process) CMS31 v4. This measure definition will be released to the general public on May 1st, 2015. A new dependency was discovered which involves assertion of an additional layer of specifications which tighten the content requirements for the US Realm to conform to the CMS EH quality reporting program. The profile utilized the 2014 CMS specification as a place-holder to	Closed on 4/25/2015-Eric Larsen has proposed moving the entire profile to public comment knowing that due to other content dependencies the profile will not be voted 'yes' to go Trial Implementation status at the July 2015 F2F. A "contingent approval" with specific content updates listed will be discussed with Co-chairs, or other available process options will be explored to re-submit the updated profile for approval in September. John Eichwald approved this approach. This issue requires re-assessment. The changing specifications are creating sizable differences. Significant re-work will be required to incorporate changes in the new standards which will not be finished until after the IHE Public

Item	Issue Description	Status
	demonstrate the type of additional conformances that are added by this layer of specification. New CMS 2015 specifications are expected by the end of July, 2015. We WILL need to incorporate significant changes into the Volume 4 of this profile to adopt these newer versions of the underlying standards and intermediate standards affecting the US Realm. We also face new challenges to incorporate use of template tooling with the development and publishing of the profile for Public Comment. Technical and process oriented details on how to utilize the tooling in conjunction with the current IHE publishing process remain to be worked out.	Comment period closes. Recommendation: 1. Release Volume 1 for public comment. 2. Include Volume 3 and Volume 4 as an "informative" aspect of the specification, but limit public comment feedback to specific question about the format and process of include content module specifications created with new template management tools. 3. Schedule an out of cycle Public Comment period in September or October on the update content modules in Volume 3 and Volume 4. 4. Continue to work with IHE to evolve the IHE Profile development process to clarify the use and inclusion of sample snippets, document instances, schematron validation modules, integration with the IHE Technical Supplement template, on-line access to template definitions and

Item	Issue Description	Status
		potential use of on-line html-based publishing of template IGs. Recommendation modified on 5/5/2015. All content will be copied into the IHE TS Template.
4	Public Comment input may be desirable as a way to gathering feedback on new publishing methods and formats which support the use of automated tooling for template creation and management. This profile has taken an approach which uses the IHE TF structure in Volume 3 to identify the IHE universal realm Content Modules by name within the IHE numbered chapter heading framework, then points by OID reference to the defined template for the Content Module. Content Module names and template names match exactly by convention. In keeping with the existing IHE Technical Supplement Volume 3 template, references are included for document-, section-, and entry-level templates. In Volume 4 where the IHE Technical Supplement is less specific, references are included for document-level templates only.	Specific questions relating to the use of template tooling may need to be developed by QRPH or IHE and included as a part of what goes to public comment. The Public Comment spreadsheet for this Profile could be seeded with the identified question in order to solicit feedback on key aspects of the new documentation process and output. Tabled on 5/8/2015 – Out of scope
5	Will this profile deprecate the previous QME-EH Profile? No, the QME-EH Profile is in Trial Implementation, which is a state where updates and major revisions are planned. This work will be applied as a large CP to update profile.	Closed. As of discussion at the February F2F review session, 2015. This work will be treated as a CP for the whole specification. It fully supports but replaces the prior specification for the

Item	Issue Description	Status
		QME-EH actors and the defined content modules.
6	Need to determine where to document that it is outside the scope of this profile to address the mechanism for establishing the queue of documents to be processed in a "run". A run is the set of summary of care documents to be processed. In this profile there is a run of clinical summary documents and then a run of patient-level quality reports. It is possible that the run of documents would be all summary of care documents that are being submitted as relevant for the initial patient population (IPP). This is more of a policy/business practice decision and is not within the scope of the technical specification. This specification focuses only on documenting how to process the files in the run.	Definition of a "run" has been added to the glossary and a statement has been added to the description of the measure to explain that this profile does not address how to determine if the set of documents supplied in a run is the complete/correct set of records that should be processed. Closed on 2/21/2015
7	Representation of derivation rules is an open issue.	Mappings between the summary of care document named in volume 4 and the data elements of the patient-level quality report will be defined using CQL syntax. Closed on 2/21/2015
8	Reduce the Actor Transaction Diagram to just two actors….	No. I still disagree with doing this. To be discussed further on Wednesday 2/25/2015
9	Determine if the use case where the QR Creator will read CDA's and only produce a QRDA level 3 document would be useful Adjust the content module specifications to align with the new actor options. Add additional use case for scenarios to exercise the new options.	Closed – 1/15/2015 version now covers the additional use cases where Content Creator has options to produce a patient-level, aggregate-level, or summary of care document.
10	Rename the LHS Option to be a described capability of the actor that is not named and	2/25/2015 Done

Item	Issue Description	Status
	is not required. Refer to it as an “exception report” that can be used to provide “closed loop” communication with the Content Creator supplying the SoCD.	
11	Consider using longer option names rather than using the abbreviated acronyms.	2/26/2015 The committee decided to go with the shorter option names.
12	The header constraints for the Patient-level and Aggregate-level reports in Volume 4 may not have the correct information that will be required by CMS for the 2015 Reporting Year measures.	The July 2015 version of the CMS Implementation Guide for Quality Reporting Document Architecture Category I and Category III, Eligible Professional Programs and Hospital Quality Reporting (HQR), Supplementary Implementation Guide for 2016 was reviewed and compared to the constraints in the profile. In some cases this CMS IG provides more specific information for encoding header items. The guidance in these templates may be less specific for the document headers and will be more specific for the document body. The two specifications are aligned. They are intended to be used together.

General Introduction

Update the following Appendices to the General Introduction as indicated below. Note that these are not appendices to Volume 1.

This supplement is written for Public Comment. It is written as an addition to the Trial Implementation Quality, Research and Public Health Technical Framework.

This supplement also references the following documents[1]. The reader should review these documents as needed:

- PCC Technical Framework, Volume 1
- PCC Technical Framework, Volume 2
- PCC Technical Framework Supplement: CDA® Content Modules
- IT Infrastructure Technical Framework Volume 1
- IT Infrastructure Technical Framework Volume 2
- IT Infrastructure Technical Framework Volume 3
- HL7® Quality Report Document Architecture Standard, Category I R2 DSTU Release 3
- HL7® Quality Report Document Architecture Standard, Category III, Release 1
- NQF Quality Data Model Release 4.1.2
- Hearing Screening Prior to Discharge quality measure Definition, CMS #31 version 4.0, NQF #1354. This measure definition is available at http://ecqi.healthit.gov/eh under the 2014 eCQM Specifications for Eligible Hospitals Update June 2015.

CMS Implementation Guide for
Quality Reporting Document Architecture Category I and Category III, Eligible Professional Programs and Hospital Quality Reporting (HQR), Supplementary Implementation Guide for 2016 (Note: this is a draft document as of 7/8/2015. Final version will be available on the eCQI Resource Center. https://ecqi.healthit.gov/ecqm)
[Note: the QME-EH Profile is intended to align with the requirements of the CMS IG for QRDA Cat I and QRDA Cat III. It is a more detailed specification addressing the particular requirements of the Newborn Hearing Screening Measure (CMS31) which is one of the 29 Quality Measures associated with the CMS Hospital Quality Reporting program, an incentive program for Eligible Hospitals under Meaningful Use legislation.]

[1] The first six documents are located on the IHE Website at http://ihe.net/Technical_Frameworks/. The remaining documents can be obtained from their respective publishers.

Appendix A – Actor Summary Definitions

Add the following actors to the IHE Technical Frameworks General Introduction list of Actors:

Actor	Definition
Report Assembler	This actor consumes standard CDA summary of care documents and creates standard patient level quality reports. Additionally, this actor may consume patient-level quality reports and produce the corresponding aggregate-level quality report for an electronic clinical quality measure.

Appendix B – Transaction Summary Definitions

Add the following transactions to the IHE Technical Frameworks General Introduction list of Transactions:

No new transactions

Glossary

Add the following glossary terms to the IHE Technical Frameworks General Introduction Glossary:

Glossary Term	Definition
Run	A "run" is a set of documents to be processed. There can be a run of summary of care documents or a run of patient-level quality report documents. When validating a document produced from a run of documents, the content in that resulting document must demonstrate proper processing of the content in all documents with the run of incoming.
Assembler	A system that faithfully combines available information and does not create new information in the process of assembling the available data.
Composer	A system that creates new information about the patient. The new information may be introduced while assembling other available data.
Patient-level Quality Report	A quality report that includes data about a single patient.
Aggregate-level Quality Report	A quality report that includes data computed from a set of patients across a set of encounters or another measured item.

Volume 1 – Profiles

Copyright Licenses

None

Add the following to the IHE Technical Frameworks General Introduction Copyright section:

Domain-specific additions

None

Add Section X

X Quality Measure Execution-Early Hearing (QME-EH) – Content Profile

The Quality Measure Execution-Early Hearing (QME-EH) Content Profile specifies how to create and consume standard electronic patient-level and aggregate-level quality reports for the Newborn Hearing Screening (CMS31v4) electronic clinical quality measure (eCQM). It also specifies how to reuse data from a standard summary of care document generated by an EHR to create a patient-level quality report. Additionally it specifies how to create an aggregate-level quality report for the Newborn Hearing Screening quality measure from multiple patient-level quality reports.

The Newborn Hearing Screening measure is a process measure conducted as a part of the U.S. Centers for Disease Control and Prevention (CDC) Early Hearing Detection and Intervention (EHDI) public health program. It measures the proportion of newborns who receive hearing screening prior to discharge at birth.

This profile specifies information exchange methods which permit greater data transparency and consistency for the quality measurement process and which reduce the burden of compliance with quality measurement programs.

This profile does not specify how to determine if the set of documents (clinical summary documents or patient-level quality reports) supplied for processing is the correct and complete set of documents to be processed for the measure. Actors creating quality reports need to determine if a document that is supplied in the run meets the measure definition's criteria for the initial population of the measure before processing the rest of the data. Data in documents which meet the initial population (IP) criteria should be included in the quality report. Refer to QRPH TF-3: X.6.3 for considerations regarding the use of a mechanisms defined within the IHE QRPH Newborn Admission Notification Information (NANI) Profile to confirm if the run of documents processed for the quality measure is complete.

X.1 Actors, Transactions, and Content Modules

Figure X.1-1 shows the actors directly involved in the QME-EH Profile and the direction that the content is exchanged.

A product implementation using this profile must group actors from this profile with actors from a workflow or transport profile to be functional. The grouping of the content module described in this profile to specific actors is described in more detail in the "Required Actor Groupings" section below.

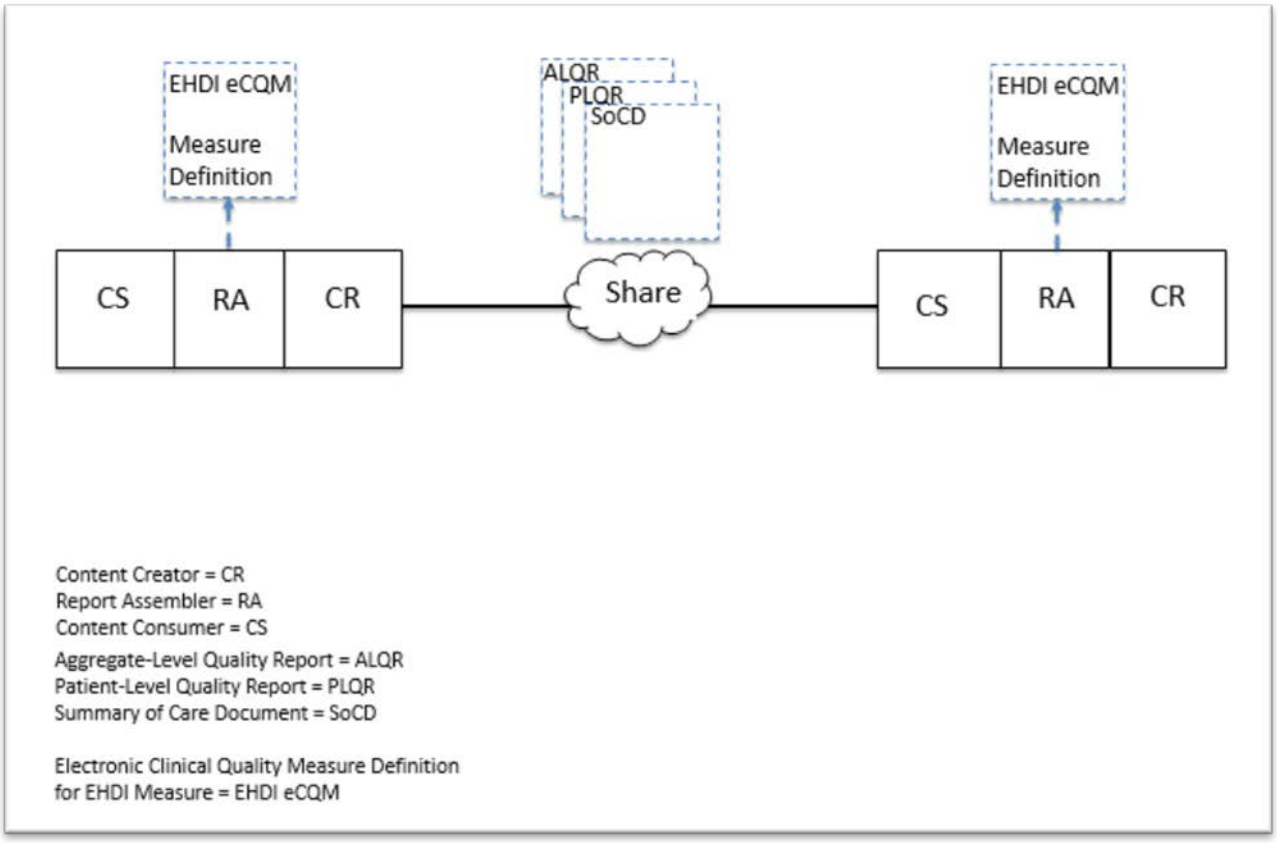

Figure X.1-1: Quality Measure Execution-Early Hearing Actor Diagram

Note: The Actor Diagram for this profile is modular in nature. Options are used to indicate the grouping requirements/capabilities of a system participating in the information exchange supporting creation of the quality measure reports. The actor options for a participating system are determined by the role the system intends to play in a particular use case for this profile (see Section X.2 and X.3). Use Cases in Section X.3 include customized diagrams which specify the actor options needed to support the various use cases. Section X.4.1 contains additional information about the concepts behind the modular grouping options in this profile.

Table X.1-1 lists the content module(s) defined in the QME-EH Profile. To claim support with this profile, an actor shall support all required content modules (labeled "R") and may support optional content modules (labeled "O").

Table X.1-1: QME-EH - Actors and Content Modules

Actors	Content Modules (See Note 1)	Optionality	Reference
Report Assembler	EHDI Measure Definition (eCQM EDHI)	R	QRPH TF-1:Appendix C

Actors	Content Modules (See Note 1)	Optionality	Reference
Content Consumer (See Note 1)	Summary of Care Document (SoCD)	O	A C-CDA Clinical summary. For the US Realm this is a CCD or Discharge Summary which includes information needed to populate the data elements defined for a PLQR.(See QRPH TF-4: Appendix D.1.1)
	Aggregate-Level Quality Report (ALQR)	O	For US Realm, see QRPH TF-4: R1.3.1.1.D2
	Patient-Level Quality Report (PLQR)	O	For US Realm, see QRPH TF-4: R1.3.1.1.D1
Content Creator (See Note 1)	Summary of Care Document (SoCD)	O	Any C-CDA clinical summary such as a CCD or Discharge Summary which includes information needed to populate the data elements defined for a PLQR. For US Realm, see QRPH TF-4: Appendix D.1.1
	Aggregate-Level Quality Report (ALQR)	O	For US Realm, see QRPH TF-4: R1.3.1.1.D2
	Patient-Level Quality Report (PLQR)	O	For US Realm, see QRPH TF-4: R1.3.1.1.D1

Note 1: Actor options and groupings contain further details on content module requirements; see Sections X.2 and X.3. Universal (UV) Realm definitions in Volume 3 are generalizations that provide a starting point for any realms to reference. The UV Realm definitions ensure a level of consistency but lack enough specificity to be useful. An implementation needs specifics to be implemented, thus implementers must look to realm-specific content modules to have something to actually implement.

X.1.1 Actor Descriptions and Actor Profile Requirements

Most requirements are documented Content Modules (Volume 3). This section documents any additional requirements on profile's actors.

X.1.1.1 Report Assembler

A Report Assembler consumes the definition of the quality measure. Processing of an eMeasure Definition for the Newborn Hearing Screening measure is an assumed capability by this profile for systems that act as the Report Assembler.

This profile does not place requirements on how the measure's definition is consumed. The Report Assembler implements the data element processing, logic criteria assessment capabilities, and computational functionality required to execute the defined Newborn Hearing Screening quality measure.

An example of the measure definition is included in QRPH TF-1: Appendix C. Appendix C also provides a link to access the current Newborn Hearing Screening measure definition for the US Realm. UV Realm definitions in this profile are generalizations that provide a starting point for any realms to reference. The UV Realm definitions ensure a level of consistency by lack enough specificity to be useful. An implementation needs specifics to be implemented, thus you must look to realm-specific content modules to have something to actually implement. The UV Realm templates provide a general "framework" for a Newborn Hearing Screening measure, but for an implementation, a realm needs to "fill in" their specifics to make the specification useful.

See Section X.2 for options that may be supported by the Report Assembler, enabling it to assemble Patient-Level and Aggregate-Level Quality Reports.

The Report Assembler MAY implement an exception reporting function. The exception report may document data element processing errors detected while processing incoming documents. For example, when a data element in the Patient-Level Quality Report specified by this profile cannot be populated, the Report Assembler would report this as an exception. Formatting of the exception information is not specified by this profile. The exception report MAY include information such as an identifier for the Summary of Care Document and the data elements that could not be populated in the corresponding Patient-Level Quality Report.

X.1.1.2 Content Consumer

See Section X.2 for options that may be supported by the Content Consumer, enabling it to consume Summary of Care Documents or Patient-Level or Aggregate-Level Quality Reports.

X.1.1.3 Content Creator

See Section X.2 for options that may be supported by the Content Creator, enabling it to create Summary of Care Documents or Patient-Level or Aggregate-Level Quality Reports.

X.2 Actor Options

Options that may be selected for each actor in this profile, if any, are listed in Table X.2-1. Dependencies between options when applicable are specified in notes.

Table X.2-1: QME-EH – Actors and Options

Actor	Option Name	Reference
Content Creator (See Note 1)	Aggregate-Level Quality Report (ALQR) Option	QRPH TF-1:X.2.1

Actor	Option Name	Reference
	Patient-Level Quality Report (PLQR) Option	QRPH TF-1:X.2.2
	Summary of Care Document (SoCD) Option	QRPH TF-1:X.2.3
Content Consumer (See Note 2)	Aggregate-Level Quality Report (ALQR) Option	QRPH TF-1:X.2.1
	Patient-Level Quality Report (PLQR) Option	QRPH TF-1:X.2.2
	Summary of Care Document (SoCD) Option (See Note 3)	QRPH TF-1:X.2.3
Report Assembler (See Note 4)	Assemble Patient-Level Quality Report from Summary of Care Document (SoCD to PLQR) Option	QRPH TF-1:X.2.4
	Assemble Aggregate-Level Quality Report from Patient-Level Quality Report (PLQR to ALQR) Option	QRPH TF-1:X.2.5

Note 1: A Content Creator SHALL implement one or more of the following options: Aggregate-Level Quality Report Option, Patient-Level Quality Report Option, or Summary of Care Document Option.

Note 2: A Content Consumer SHALL implement one or more of the following options: Aggregate-Level Quality Report Option or Patient-Level Quality Report Option

Note 3: This profile does not support a Content Consumer that only supports the Summary of Care Option. This option exists solely to support grouping a Content Consumer with a Report Assembler doing the Assemble Patient-Level Quality of Care Report from Summary of Care Document Option.

Note 4: A Report Assembler SHALL implement one or more of the following options: Assemble PLQR from SoCD, or Assemble ALQR from PLQR.

X.2.1 Aggregate-Level Quality Report Option

This option enables creation and consumption of an Aggregate-Level Quality Report.

- A Content Creator that supports this option SHALL create and share valid Aggregate-Level Quality Report documents
- A Content Consumer that supports this option SHALL consume and process Aggregate-Level Quality Report documents and SHALL support the View Option for these documents.

X.2.2 Patient-Level Quality Report Option

This option enables creation and consumption of a Patient-Level Quality Report.

- A Content Creator that supports this option SHALL create and share valid Patient-Level Quality Report documents

- A Content Consumer that supports this option SHALL consume and process Patient-Level Quality Report documents and SHALL support both the View Option and Discrete Data Import Option for these documents.

X.2.3 Summary of Care Document Option

This option enables creation a Summary of Care Document.

- A Content Creator that supports this option SHALL create and share valid Summary of Care Documents.
- A Content Consumer that supports this option SHALL consume and process valid Summary of Care Documents and SHALL support both the View Option and Discrete Data Import Option for these documents.

X.2.4 Assemble Aggregate-Level Quality Report from Patient-Level Quality Report Option

This option enables a Report Assembler to consume a set of Patient-Level Quality Reports and use them as input to create an Aggregate-Level Quality Report. This option supports Use Case #4 in Section X.4.2.4.

A Report Assembler that supports this option SHALL:

- be grouped with a Content Consumer with the Patient-Level Quality Report Option. See Section X.2.2.
- be grouped with a Content Creator with the Aggregate-Level Quality Report Option. See Section X.2.1.

The mechanism for establishing the set of Patient-Level Quality Reports to be consumed is outside the scope of this profile. For the provided set of Patient-Level Quality Report (PLQR) documents, The Report Assembler SHALL determine which PLQRs match the criteria for the initial population, given the measure definition for the Newborn Hearing Screening measure. The Report Assembler SHALL create a valid Aggregate-level quality report (ALQR) for that set of PLQR documents. The Report Assembler SHALL consume and process Patient-Level Quality Report (PLQR) documents by utilizing the realm-assigned document type. The Report Assembler SHALL create Aggregate-Level Quality Report (ALQR) documents by utilizing the realm-assigned document type.

X.2.5 Assemble Patient-Level Quality Report from Summary of Care Document Option

This option enables a Report Assembler to consume one or more Summary of Care Documents for the Newborn Hearing Screening measure and use them as input to create a Patient-Level Quality Report according to this measure's definition. This option supports Use Case #3, #4, and #5 in Sections X.4.2.3, X.4.2.4, and X.4.2.5.

A Report Assembler that supports this option SHALL:

- be grouped with a Content Consumer of a Summary of Care Document with both the View Option and Discrete Data Import Option implemented. The Discrete Data Import processing functionality is defined by the information documented in the eMeasure Definition file for the Newborn Hearing Screening quality measure.
- be grouped with a Content Creator with the Patient-Level Quality Report Option. See Section X.2.1.

The mechanism for establishing the set of Summary of Care Documents to be consumed is outside the scope of this profile. For each Summary of Care Document, the Report Assembler SHALL determine if the information in the file matches the criteria for the initial population, given the measure definition for the Newborn Hearing Screening measure. The Report Assembler SHALL consume and process Summary of Care (SoCD) documents by utilizing an accepted Summary of Care document for the realm. The Report Assembler SHALL create Patient-Level Quality Report (PLQR) documents by utilizing the realm-assigned document type.

X.3 Required Actor Groupings

An actor from this profile (Column 1) shall implement all of the required transactions and/or content modules in this profile ***in addition to*** all of the transactions/content required for the grouped actor (Column 2).

Section X.5 describes some optional groupings that may be of interest for security considerations and Section X.6 describes some optional groupings in other related profiles.

Table X.3-1: QME-EH - Required Actor Groupings

QME-EH Actor	Actor to be grouped with	Reference	Content Bindings Reference
Report Assembler with Assemble PLQR from SoCD Option	Content Consumer (SoCD Option) and Content Creator (PLQR Option)	This grouping supports Use Case #3 and Use Case #4 QRPH TF–1: X.4.2.3 QRPH TF–1: X.4.2.4	QRPH TF–1: X.2.3 QRPH TF–4: R1.3.1.1.D1
Report Assembler with Assemble ALQR from PLQR Option	Content Consumer (PLQR Option) and Content Creator (ALQR Option)	This grouping supports Use Case #4 QRPH TF–1: X.4.2.4	QRPH TF–4: R1.3.1.1.D1 QRPH TF–4: R1.3.1.1.D2QRPH TF–1: X.2.9

X.4 Overview

X.4.1 Concepts

In the context of quality measure reporting, two or more systems share reports that summarize data or they share data that can be summarized into a reports. The information can be shared as

an aggregate-level quality report (ALQR) where computation has already been applied to compute the measure. The information can be supplied as a patient-level quality report (PLQR) to support computation of an aggregate-level report from a set of PLQRs. The information can also be supplied in the form of a clinical summary (also called a Summary of Care Document (SoCD). A SoCD can be processed to determine the data needed to populate the data elements in a PLQR. Examples of SoCDs include an HL7® Continuity of Care Document, and HL7® Discharge Summary Document, or possibly an EPSOS Patient Summary Document.

ALQR – Aggregate-Level Quality Report

PLQR – Patient-Level Quality Report

SoCD – Summary of Care Document

Systems that act as a Report Assembler include the functionality needed to process externally defined electronic quality measure definitions (eMeasure Definitions). The eMeasure Definition is not defined in the QME-EH Profile. It is defined using a supported standard for expressing quality measure definitions. Processing of an eMeasure Definition for the Newborn Hearing Screening measure is an assumed capability by this profile for systems that act as the Report Assembler. An eMeasure Definition is specific to a particular realm because the quality measure definition is established for or adopted by a specific jurisdiction. For example, the Newborn Hearing Screening measure definition for the US Realm is defined using HQMF and has been endorsed by the National Quality Forum (NQF) for the United States.

When a system is involved in quality measure reporting it may have varying levels of capability to support quality report assembly. A system that can perform report assembly tasks needs to read or be informed by the quality measure definition file so as to apply the defined logic for the measure's definition. A system that does not have direct access to patient EHR data needs to process input documents to get the needed data the input may come as a Patient-Level Quality Report or as a Summary of Care Document, depending on the capabilities of the system providing the input.

A system that shares information with another system needs to create documents in a standard format (Content Creator). Depending on the expected level of participation in the quality report creation process and the inherent access to data, the system participating in the flow of information will need different levels of Content Creator capabilities. In cases where other systems do more of the processing, the system may only need to create a Summary of Care Document. For example, when a "middle-man system" handles the creation of the PLQR from an SoCD and creates the ALQR from the set of created PLQRs, then the system originating the data needs only to create the SoCD input file used by the "middle-man" system. In this case, the ultimate consumer system, such as a Public Health system, needs only to consume the ALQR output by the "middle-man" system.

Over time, to support scalability of quality measurement capabilities, all systems involved in quality reporting will likely aim to develop the ability to read and process data based on a standard eMeasure Definition. Along the way they may just get started by implementing options that allow them to contribute or consume quality measure information in these less sophisticated

ways. The modular “option-based” definition of the actors in the QME-EH Profile is designed to support an “evolution” of various Use Cases and is achieved by “mixing and matching” systems with various levels of information processing capability.

X.4.2 Use Cases

X.4.2.1 Use Case #1: Two-system Aggregate-Level Reporting

A birthing facility participates in a quality measurement program that assesses the quality of the process used to perform hearing screening for newborns. The facility employs a system capable of producing an aggregate-level quality report for the Newborn Hearing Screening measure (EHDI eCQM) defined by the program. The system assembles the final aggregate-level quality report based on data available in the system. It shares the report so that an organization, such as CMS or a Public Health Agency, can access the information. No patient-level information is supplied to support validation of the computation used to generate the aggregate report or to provide patient-level insight information that might be used to do risk adjustment.

This Use Case represents the simplest form of electronic sharing of clinical quality measure results. However, it offers low transparency for information receivers and puts a high processing burden on senders.

X.4.2.1.1 Use Case Description

A system that includes functionality to compute the EHDI eCQM produces a valid aggregate-level report for the Newborn Hearing Screening measure and supplies it for consumption. The shared aggregate-level report is consumed by another system.

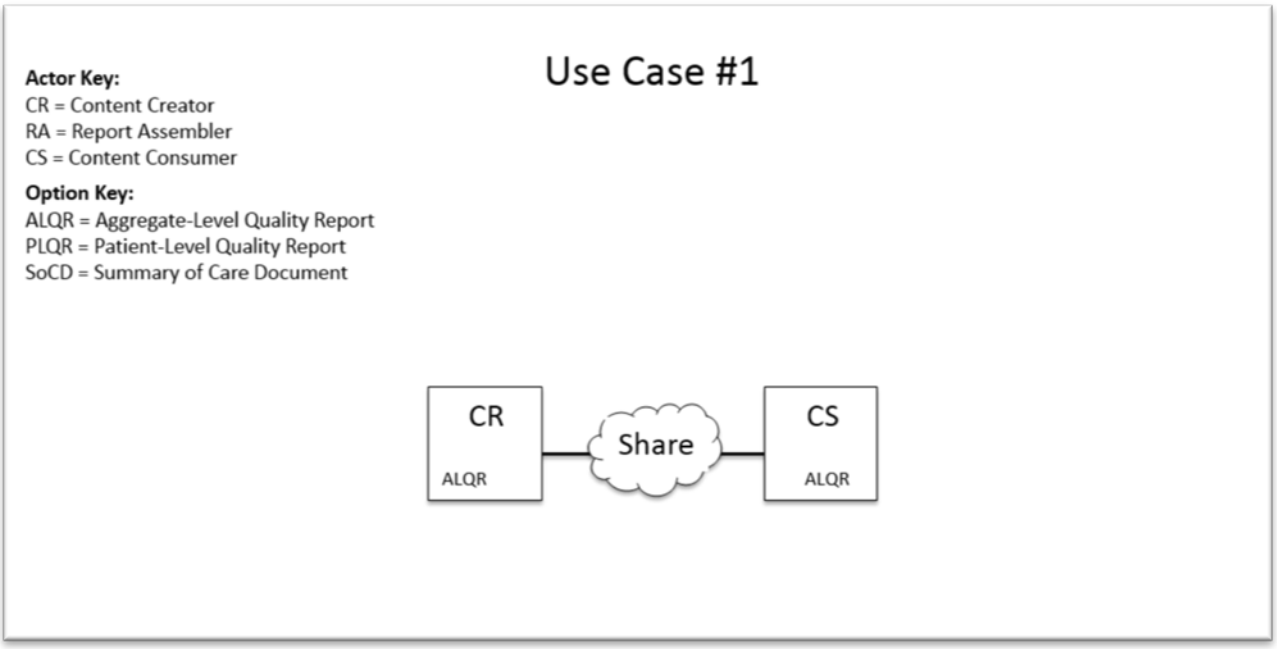

Figure X.4.2.1.1-1: Use Case 1 Specific Actor Transaction Diagram

X.4.2.1.1.1 Pre-conditions

None

X.4.2.1.1.2 Main Flow

A birthing facility participates in a quality measurement program that assesses the quality of the process used to perform hearing screening for newborns. The facility employs a system capable of producing an aggregate-level quality report for the Newborn Hearing Screening measure (EHDI eCQM) defined by the program.

Based on the EHDI eCQM definition, a system uses internally defined methods and internally available data to generate an aggregate-level quality report for the EHDI eCQM.

Another system accesses the aggregate-level quality report and processes it. The receiving system is operated by an organization like CMS or a Public Health Agency.

X.4.2.1.1.3 Post-conditions

The organization accessing the aggregate-level report receives the measure performance result, but gains no insight about patient-level information aggregated in the report. Consequently, the receiving system cannot validate the computation used to generate the report, nor can it compute

any risk adjustments for the result. Results reported may be based on data extraction and computation practices that are not consistent with other facilities practices.

X.4.2.1.2 Processing Steps

Step 1 – A Content Creator with the ALQR Option produces an aggregate-level quality report and shares the document.

Step 2 – A Content Consumer with the ALQR Option accesses the Newborn Hearing Screening measure aggregate-level quality report and consumes it for processing.

X.4.2.1.3 Process Flow

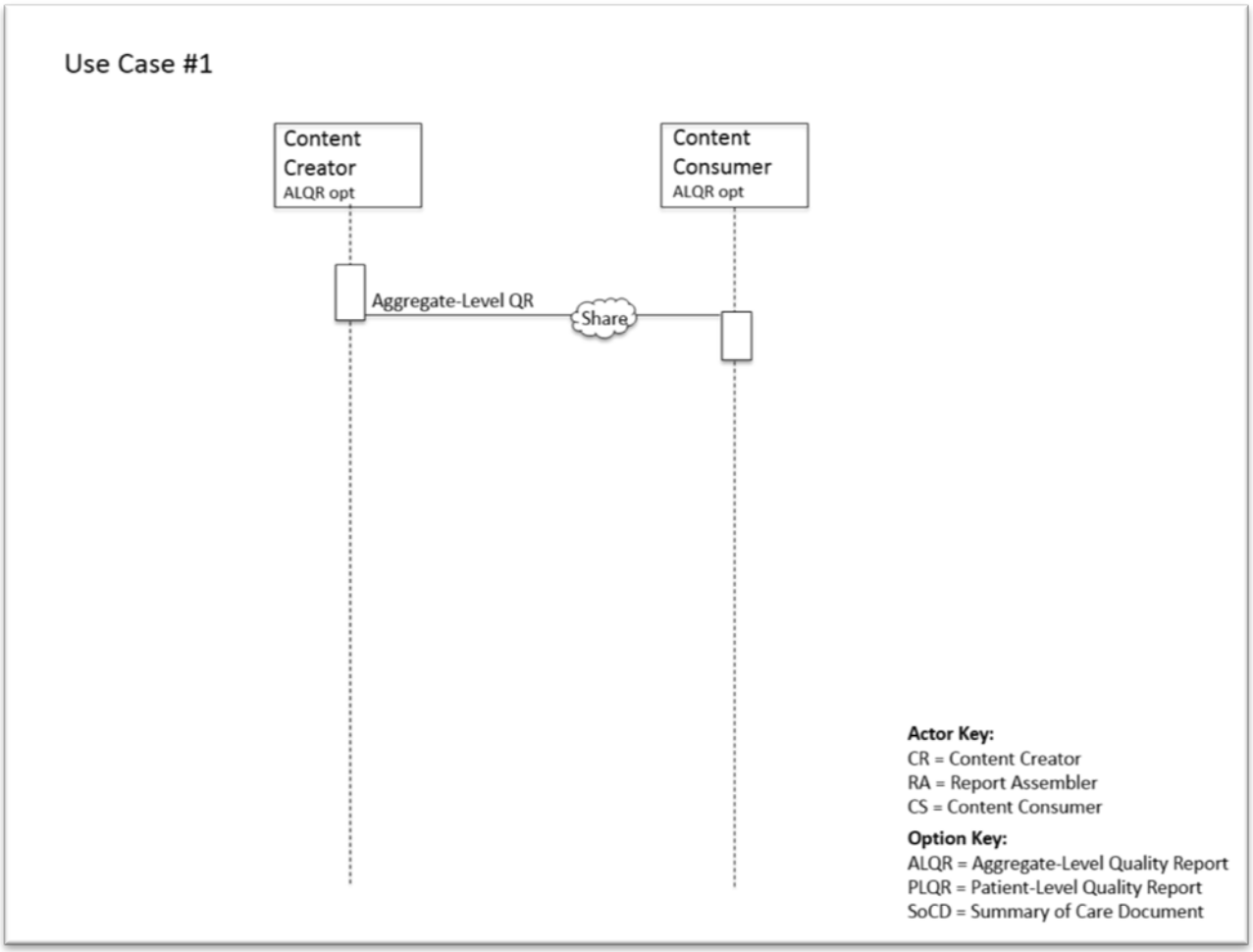

Figure X.4.2.1.3-1: Process Flow Diagram

X.4.2.2 Use Case #2: Two-system Patient-Level Reporting

A birthing facility participates in a quality measurement program that assesses the quality of the process used to perform hearing screening for newborns. The facility employs a system capable of producing patient-level quality reports for the Newborn Hearing Screening measure as defined by the eMeasure Definition. The system assembles patient-level quality reports based on data available in the system. It shares the reports with an organization, such as CMS, a Public Health Agency, or a company that offers quality measurement and assessment services.

This Use Case spreads the processing burden across information senders and receivers. Senders only need to submit Patient-Level Quality Reports. Receivers process the Patient-Level Quality Reports to determine the Aggregate-Level results. It offers better transparency for information receivers but an increased burden because they must process Patient-Level Quality Reports to get the needed results.

X.4.2.2.1 Use Case Description

A system that includes functionality to produce patient-level reports for the Newborn Hearing Screening measure creates these reports and supplies them for consumption. The shared patient-level reports are consumed by another system.

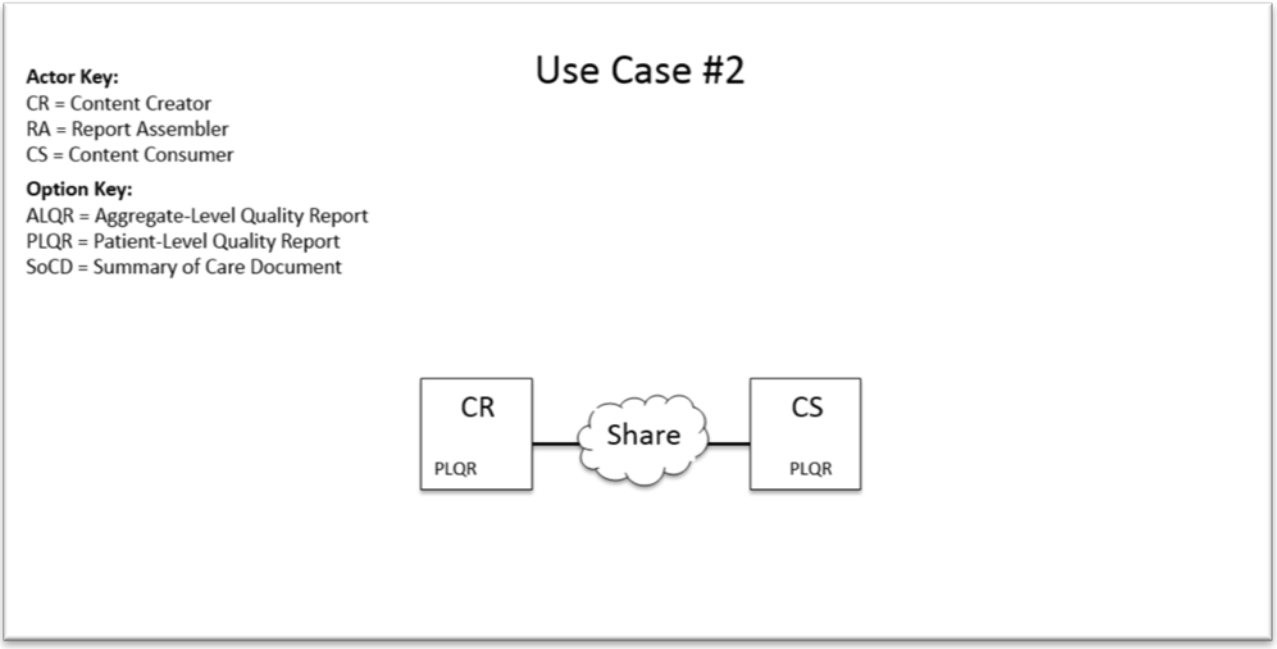

Figure X.4.2.2.1-1: Use Case 2 Specific Actor Transaction Diagram

X.4.2.2.1.1 Pre-conditions

None

X.4.2.2.1.2 Main Flow

A birthing facility participates in a quality measurement program that assesses the quality of the process used to perform hearing screening for newborns. The facility employs a system capable of producing a patient-level quality reports for the Newborn Hearing Screening measure.

Based on the Newborn Hearing Screening eMeasure Definition, a system uses internally defined methods and internally available data to generate patient-level quality reports for the EHDI eCQM.

Another system accesses the patient-level quality reports and processes them. The receiving system is operated by an organization like CMS or a Public Health Agency or an organization that provides quality measure services. The receiving system consumes and processes the patient-level reports. The profile does not specify the mechanisms used for any subsequent processing of the PLQR documents.

X.4.2.2.1.3 Post-conditions

The organization receiving the patient-level reports receives data that can be used to compute measure performance results as defined by the eMeasure Definition or using the organization's own methods. Risk adjustments can be applied and are transparent for the receiving organization. Although data extraction practices may vary across organizations submitting the patient-level reports allows validation that performance results can be computed consistently across different facilities when the same eMeasure Definition is applied.

X.4.2.2.2 Processing Steps

Step 1 – A Content Creator with the PLQR Option produces patient-level quality report as defined by the Newborn Hearing Screening eMeasure Definition and shares the documents.

Step 2 – A Content Consumer with the PLQR Option accesses the Newborn Hearing Screening measure patient-level quality reports and consumes them for processing.

X.4.2.2.3 Process Flow

A loop is used to indicate iterative processing of the set of PLQR documents shared with the Content Consumer.

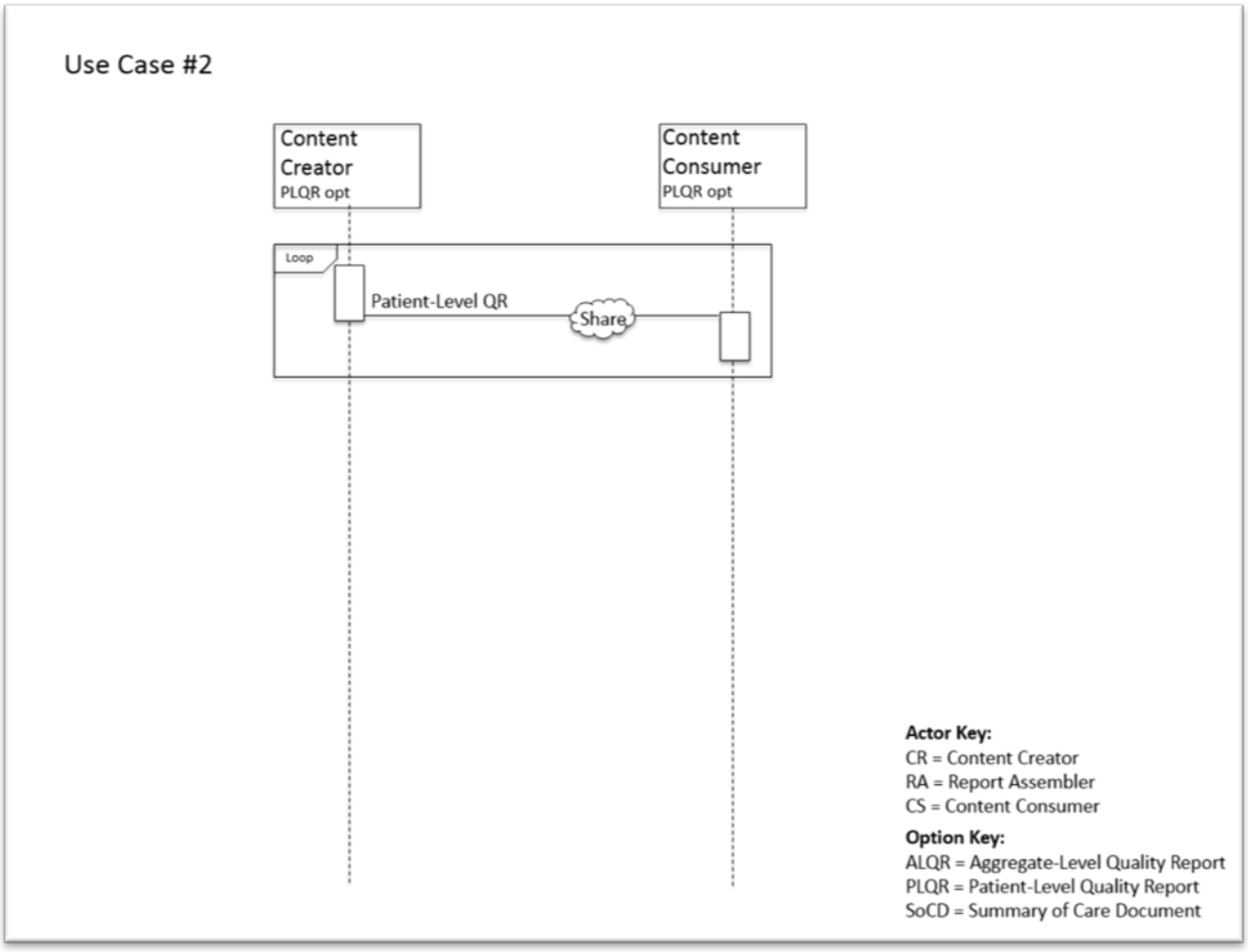

Figure X.4.2.2.3-1: Process Flow Diagram

X.4.2.3 Use Case #3: Three-system Patient-Level Reporting from Summary of Care Documents

A birthing facility participates in a quality measurement program that assesses the quality of the process used to perform hearing screening for newborns. The facility does not employ a system capable of producing patient-level quality reports for the Newborn Hearing Screening measure as defined by the eMeasure Definition. The system creates summary of care documents based on data available in the system to facilitate continuity of care.

Information available in the summary of care document is shared with a “middle-man” system which processes the summaries of care to produce the patient-level quality reports defined by the eMeasure Definition. The “middle-man” system assembles the patient-level reports and shares them for subsequent processing by recipient systems.

The “middle-man” system may produce an exception report as it produces the patient-level quality reports. The exception report can be used to create a feedback loop to improve the quality of the data in the care summary records being produced by the birthing facility.

A third system at an organization such as CMS or a Public Health Agency accesses the patient-level quality reports.

This Use Case shifts data processing burden off the information senders. It offers greater transparency for information receivers because they receive patient-level quality reports, but information receivers carry the burden of processing the patient-level quality reports.

X.4.2.3.1 Use Case Description

A system that does not includes functionality to create aggregate- or patient-level quality report documents for the EHDI eCQM produces and shares valid summary of care documents. The shared summary of care documents are consumed by a second “middle-man” system. The “middle-man” system assembles patient-level quality report documents based on the Newborn Hearing Screening eMeasure Definition and then shares them. The shared patient-level reports are consumed by another system.

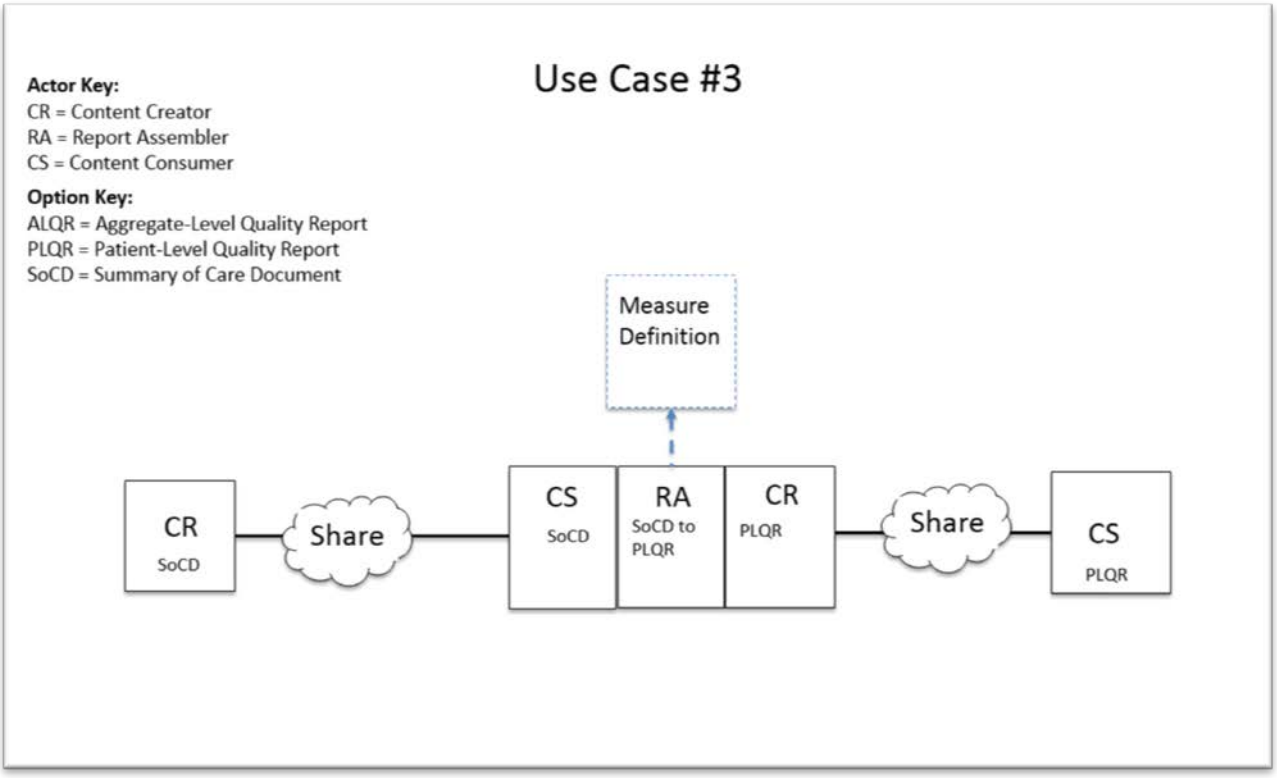

Figure X.4.2.3.1-1: Use Case 3 Specific Actor Transaction Diagram

X.4.2.3.1.1 Pre-conditions

Summary of Care Documents generated by the birthing facility included the data elements required the patient-level quality report associated with the Newborn Hearing Screening eMeasure Definition.

X.4.2.3.1.2 Main Flow

A birthing facility participates in a quality measurement program that assesses the quality of the process used to perform hearing screening for newborns. The facility does not employ a system capable of producing aggregate- or patient-level quality reports for the Newborn Hearing Screening eMeasure Definition. The facility produces and shares summary of care documents to support continuity of care and business operations.

A "middle-man" system accesses the summary of care documents and processes them. Based on the EHDI eCQM definition, the system uses internally defined methods to generate patient-level quality reports for the data supplied in the summary of care documents. The patient-level quality reports are shared for subsequent processing.

An organization such as CMS or a Public Health Agency consumes the patient-level quality reports in order to assess the original organization's Newborn Hearing Screening process performance or to facility coordination of care.

X.4.2.3.1.3 Post-conditions

In this use case, the birthing facility reporting the Newborn Hearing Screening measure does not produce any quality reports. The birthing facility simply focuses on producing high quality interoperable clinical summary of care documents for each newborn.

The middle-man system contains all the information needed to validate and verify that quality measure computations and assessments were performed accurately and consistently, assuming the summary of care documents were accurate and included all relevant information needed for computing the quality measure as defined in the eMeasure Definition.

The organization receiving the patient-level reports receives data that can be used to compute measure performance results as defined by the eMeasure Definition or using the organization's own methods. Risk adjustments can be applied and are transparent for the receiving organization. Although data extraction practices may vary across organizations submitting the patient-level reports allows validation that performance results can be computed consistently across different facilities when the same eMeasure Definition is applied.

X.4.2.3.2 Processing Steps

Step 1 – A Content Creator with the SoCD Option produces summary of care documents for newborns in support of continuity of care and makes them available for sharing.

Step 2 – A Report Assembler with the SoCD to PLQR Option accesses the summary of care documents. It assembles the Newborn Hearing Screening patient-level quality reports as defined

by the eMeasure Definition. The patient-level quality reports are shared for subsequent processing.

Step 3 – A Content Consumer with the PLQR Option accesses the Newborn Hearing Screening measure patient-level quality reports and consumes them for processing.

X.4.2.3.3 Process Flow

Loops are used to show iterative processing of the set of SoCD and the set of PLQR documents.

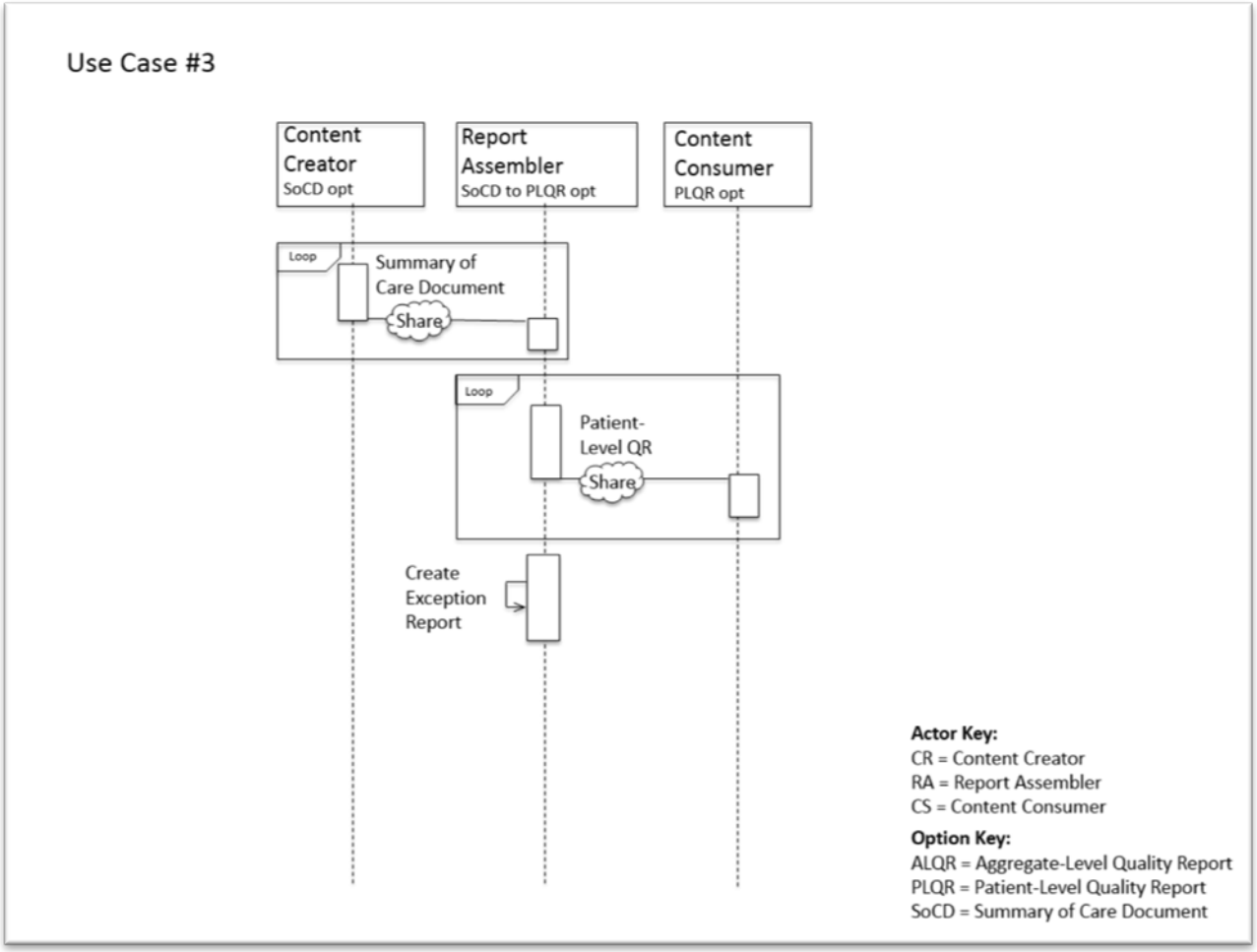

Figure X.4.2.3.3-1: Process Flow Diagram

X.4.2.4 Use Case #4: Three-system Aggregate-Level Reporting from Summary of Care Documents

A birthing facility participates in a quality measurement program that assesses the quality of the process used to perform hearing screening for newborns. The facility does not employ a system capable of producing patient-level quality reports for the Newborn Hearing Screening measure as defined by the eMeasure Definition. The system creates summary of care documents based on data available in the system to facilitate continuity of care.

Information available in the summary of care document is shared with a "middle-man" system which processes the summaries of care to produce the patient-level quality reports defined by the eMeasure Definition. The "middle-man" system assembles the patient-level reports and then processes them to produce the aggregate-level quality report as defined by the eMeasure definition. The aggregate-level quality report is shared for subsequent access.

The "middle-man" system may produce an exception report as it produces the patient-level quality reports. The exception report can be used to create a feedback loop to improve the quality of the data in the care summary records being produced by the birthing facility.

A third system at an organization such as CMS or a Public Health Agency accesses the aggregate-level quality reports in order to track and monitor process performance against the Newborn Hearing Screening measure.

This Use Case shifts data processing burden off the information senders and the information receivers. A new "middle-man" system absorbs the work of processing data already produced by the information sender and does the work of putting the result in a format that can be consumed by the information receiver. Information recipients who do not need transparency into the underlying details may benefit from simply receiving the aggregate-level quality report.

X.4.2.4.1 Use Case Description

A system that does not includes functionality to create aggregate- or patient-level quality report documents for the EHDI eCQM produces and shares valid summary of care documents. The shared summary of care documents are consumed by a second "middle-man" system. The "middle-man" system assembles patient-level quality report documents based on the Newborn Hearing Screening eMeasure Definition. It processes the patient-level quality reports to produce the aggregate-level quality report as defined by the eMeasure definition. The aggregate-level quality report is shared for subsequent access by another system supporting an organization such as CMS or a Public Health agency.

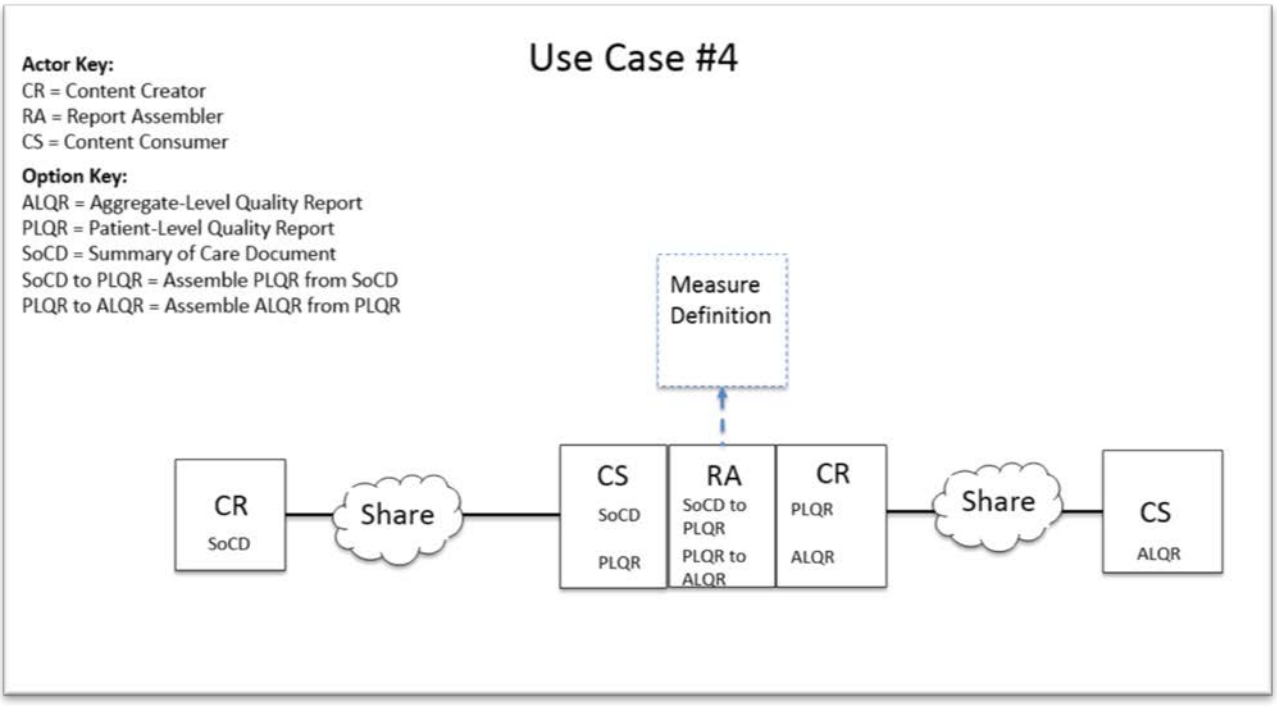

Figure X.4.2.4.1-1: Use Case 4 Specific Actor Transaction Diagram

X.4.2.4.1.1 Pre-conditions

Summary of Care Documents generated by the birthing facility included the data elements required the patient-level quality report associated with the Newborn Hearing Screening eMeasure Definition.

X.4.2.4.1.2 Main Flow

The birthing facility participating in the quality measurement program does not need to employ a system capable of producing quality reports. It simply produces the summary of care documents required to support continuity of care. This system acts as the Content Creator.

The Report Assembler extracts data available in the care summary and transforms it to meet the requirements of the patient-level quality measure report. While processing the data, the Report Assembler may produce a report which details and summarizes any problems with the data provided in the care summary reports. The set of patient-level reports are then processed and a single aggregate-level quality report is created. The aggregate-level report is shared with an organization such as CMS or a Public Health agency which receives performance measure information. This system only needs to process aggregate-level quality reports.

X.4.2.4.1.3 Post-conditions

In this use case, the birthing facility reporting the Newborn Hearing Screening measure does not produce any quality reports. The birthing facility simply focuses on producing high quality interoperable clinical summary of care documents for each newborn.

The middle-man organization receiving the summary of care documents is responsible for computing the measured performance result. The organization gains insight into the summary of care data and the patient-level information used to compute the measure, but no aggregate-level report is generated. Computation is performed for the aggregate-level report document and the information is shared. This can be used to deliver a completed aggregate-level report to the quality program.

The receiving organization, such as CMS or a Public Health agency, is relieved of the burden of computing the performance result for the quality measure.

X.4.2.4.2 Processing Steps

Step 1 – A Content Creator with the SoCD Option produces summary of care documents for newborns in support of continuity of care and makes them available for sharing.

Step 2 – A Report Assembler with the SoCD to PLQR Option and with the PLQR to ALQR Option accesses the summary of care documents. It assembles the Newborn Hearing Screening patient-level quality reports as defined by the eMeasure Definition.

Step 3 – The Report Assembler processes the patient-level quality reports. It assembles the Newborn Hearing Screening aggregate-level quality report as defined by the eMeasure Definition and shares the report.

Step 4 – The Report Assembler may produce an exception report which describes processing problems for care summary reports.

Step 5 – A Content Consumer with the ALQR Option accesses the Newborn Hearing Screening measure aggregate-level quality reports and consumes it for processing.

X.4.2.4.3 Process Flow

Loops are used to show iterative processing the set of SoCD and PLQR documents.

765

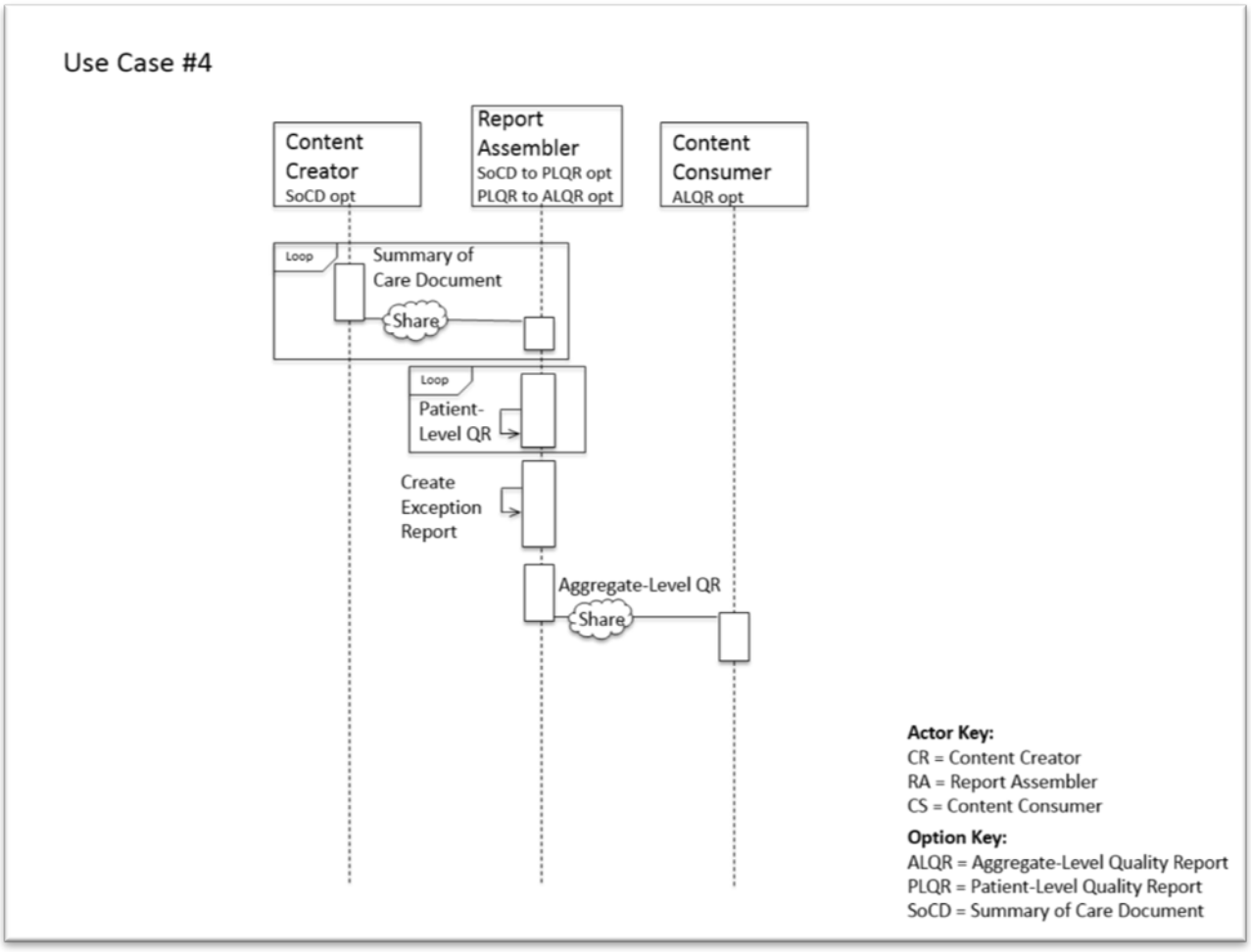

Figure X.4.2.4.3-1: Process Flow Diagram

X.4.2.5 Use Case #5: Two-system Closed Loop

This Use Case is a variation for Use Case #4. It shows that the system which does the work of producing the Aggregate-Level Quality Report can share the quality measure results back with the information sender of the original clinical summary data. It shows how closed-loop information sharing can be created for quality reporting.

A birthing facility participates in a quality measurement program that assesses the quality of the process used to perform hearing screening for newborns. The facility does not employ a system capable of producing patient-level quality reports for the Newborn Hearing Screening measure as defined by the eMeasure Definition. The system creates summary of care documents based on data available in the system to facilitate continuity of care.

Information available in the summary of care document is shared with a "middle-man" system which processes the summaries of care to produce the patient-level quality reports defined by the eMeasure Definition. The "middle-man" system assembles the patient-level reports and then processes them to produce the aggregate-level quality report as defined by the eMeasure Definition. The aggregate-level quality report is shared for subsequent access.

The "middle-man" system may produce an exception report as it produces the patient-level quality reports. The exception report can be used to create a feedback loop to improve the quality of the data in the care summary records being produced by the birthing facility.

This Use Case does not focus on sharing the aggregate-level quality report with a third system at an organization such as CMS or a Public Health Agency. Rather, it focuses on creating a closed loop communication with the system providing the summary of care documents. The system at the birthing facility accesses the aggregate-level quality reports in order to track and monitor their process performance against the Newborn Hearing Screening measure.

This Use Case shifts data processing burden off the information senders and the information receivers. A new "middle-man" system absorbs the work of processing data already produced by the information sender and does the work of putting the result in a format that can be consumed by the information receiver. Information recipients who do not need transparency into the underlying details may benefit from simply receiving the aggregate-level quality report, but more importantly, aggregate-level quality reports are made available to the organization participating in the quality program.

X.4.2.5.1 Use Case Description

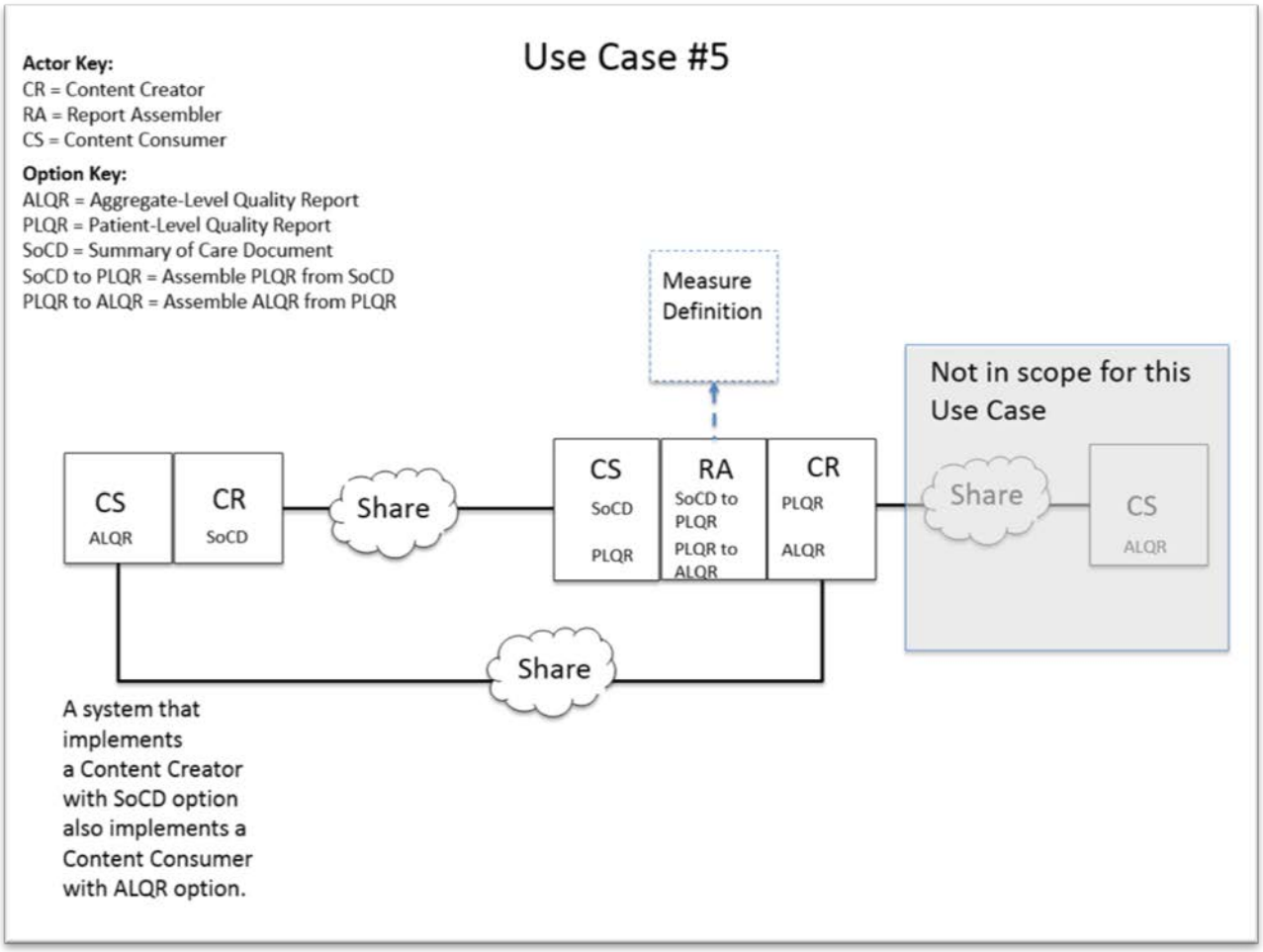

Figure X.4.2.5.1-1: Use Case 5 Specific Actor Transaction Diagram

X.4.2.5.1.1 Pre-conditions

Summary of Care Documents generated by the birthing facility included the data elements required the patient-level quality report associated with the Newborn Hearing Screening eMeasure Definition.

The Content Creator with SoCD Option also supports Content Consumer with ALQR.

X.4.2.5.1.2 Main Flow

The birthing facility participating in the quality measurement program does not need to employ a system capable of producing quality reports. It simply produces the summary of care documents required to support continuity of care. This system acts as the Content Creator.

The Report Assembler extracts data available in the care summary and transforms it to meet the requirements of the patient-level quality measure report. While processing the data, the Report Assembler may produce a report which details and summarizes any problems with the data provided in the care summary reports. The set of patient-level reports are then processed and a single aggregate-level quality report is created. While the aggregate-level report may be shared with an organization such as CMS or a Public Health agency which receives performance measure information, this Use Case shows the aggregate-level quality report information flowing back to the birthing facility system to create a closed-loop communication.

X.4.2.5.1.3 Post-conditions

The organization participating in the quality program receives the aggregate-level quality report so that they can track and monitor their performance for the Newborn Hearing Screening process.

X.4.2.5.2 Processing Steps

Step 1 – A Content Creator with the SoCD Option produces summary of care documents for newborns in support of continuity of care and makes them available for sharing.

Step 2 – A Report Assembler with the SoCD to PLQR Option and with the PLQR to ALQR Option accesses the summary of care documents. It assembles the Newborn Hearing Screening patient-level quality reports as defined by the eMeasure Definition.

Step 3 – The Report Assembler processes the patient-level quality reports. It assembles the Newborn Hearing Screening aggregate-level quality report as defined by the eMeasure Definition and shares the report.

Step 4 – The Report Assembler may produce an exception report which describes processing problems for care summary reports.

Step 5 – The Content Creator involved in Step 1 accesses the Newborn Hearing Screening measure aggregate-level quality reports and consumes it for processing (see 4.2.5.1.1 Pre-condition).

X.4.2.5.3 Process Flow

Loops are used to show iterative processing the set of SoCD and the set of PLQR documents.

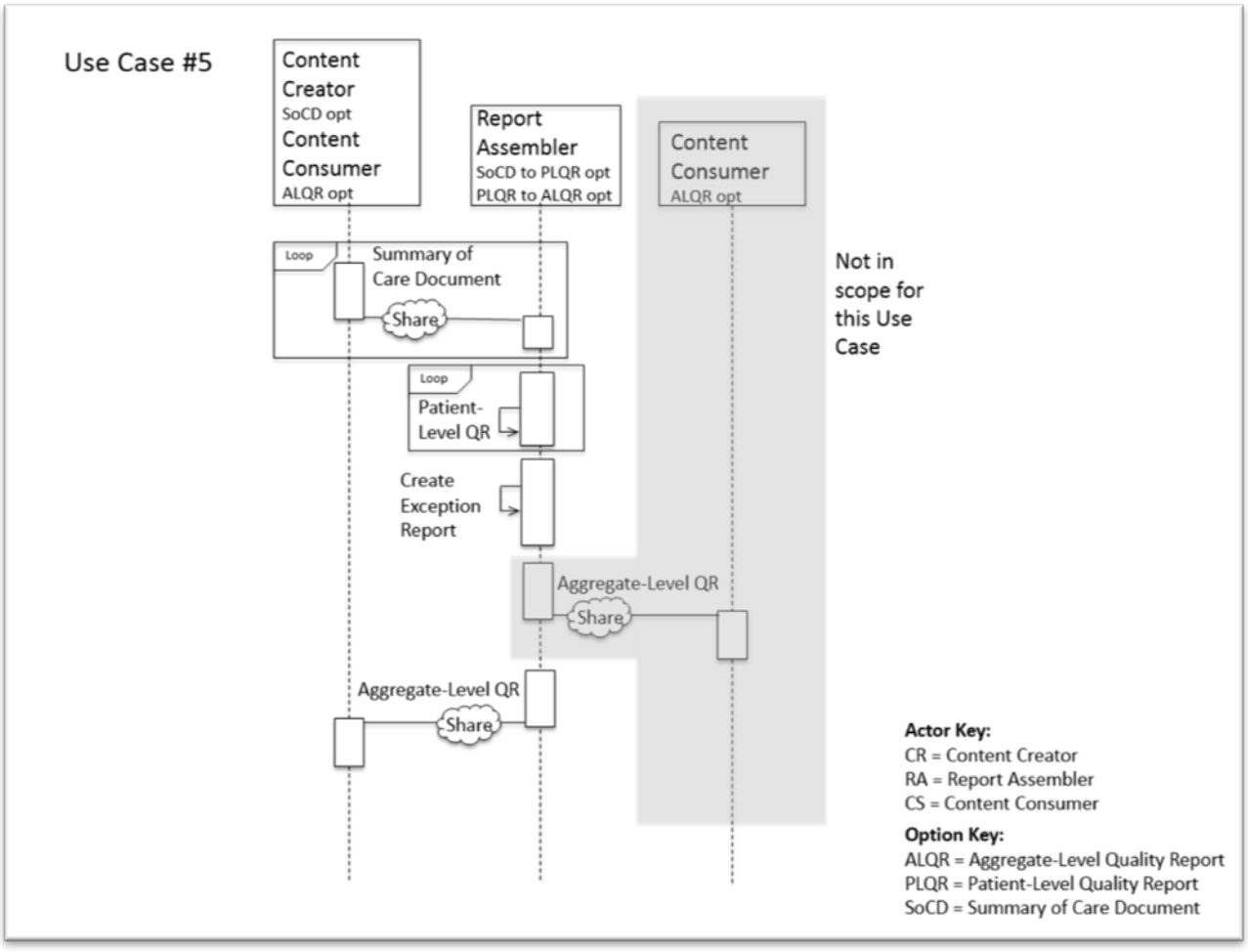

Figure X.4.2.5.3-1: Process Flow Diagram

Note: In the last step, the System playing the Content Consumer is grouped with a Report Assembler that is grouped with a Content Creator.

X.5 Security Considerations

Patient-level quality report and summary of care documents includes clinical content related to the information subject. As such, it is anticipated that the transfers of Protected Health Information (PHI) SHOULD be processed using best practices. Systems implementing IHE transactions which transfer PHI SHOULD include capabilities described in the IHE ITI ATNA Integration Profile. Other private security mechanisms MAY be used to secure content within enterprise managed systems.

Actors responsible for creating persistent content, in the form of a saved form or CDA® document, MAY include a digital signature using ITI Digital Signature (DSG) to assure that the form content submitted cannot be changed.

For security purposes, when sending information to Public Health, specifically to vital records Electronic Registration Systems, systems will also may need to know the identity of the user and the location to identify the of the data source. In this case, Cross-enterprise User Assertion (XUA) and Audit Trail and Node Authentication (ATNA) MAY be utilized to support this implementation.

X.6 Cross Profile Considerations

The following informative narrative is offered as implementation guidance.

X.6.1 Document Sharing and Security Profiles

The use of the IHE family of transactions for cross-enterprise document sharing is encouraged to support standards-based interoperability between systems acting as Content Creator and Content Consumer. The grouping of Content Creator and Content Consumer actors with ITI actors from this family of profiles is defined in the PCC Technical Framework (PCC TF-1:3.7.1). Below is a summary of recommended IHE profiles that MAY be utilized by systems playing the roles of Content Creator or Content Consumer to support the use cases defined in this profile:

- A Document Source in XDS.b, a Portable Media Creator in XDM, or a Document Source in XDR might be grouped with the Content Creator. A Document Consumer in XDS.b, a Portable Media Importer in XDM, or a Document Recipient in XDR might be grouped with the Content Consumer.
- The Document Registry/Repository infrastructure defined by XDS.b can be leveraged to facilitate retrieval of public health related information from a document sharing infrastructure using the Multi-Patient Query (MPQ), and Document Metadata Subscription (DSUB) Profiles.
- A media-based infrastructure is defined by the IHE Cross Enterprise Document Media Interchange (XDM) Profile. A Portable Media Creator in XDM might be grouped with the Content Creator. A Portable Media Importer in XDM might be grouped with the Content Consumer,
- A reliable messaging-based infrastructure is defined by the IHE Cross Enterprise Document Reliable Interchange (XDR) Profile. Document Source in XDR might be grouped with the Content Creator. A Document Recipient in XDR might be grouped with the Content Consumer,
- All of these infrastructures support security and privacy through the use of the Audit Trail and Node Authentication (ATNA) Profile. A Secure Node and/or a Secure Application in ATNA might be grouped with the Content Creator, Content Consumer, or Report Assembler.

These profiles are defined in the IHE IT Infrastructure Technical Framework.

X.6.2 Sharing Value Set (SVS)

Actors in the QME-EH Profile may support the Value Set Consumer in the ITI Sharing Value Set (SVS) Integration Profile in order to use a common uniform managed vocabulary for dynamic management of form mapping rules.

X.6.3 Newborn Admission Notification Information (NANI)

Actors in the QME-EH Profile may support functionality defined in the Newborn Admission Notification Information Profile in order to establish an expectation of the total number of births recorded at a hospital. This information can be used to determine if the run of documents processed for the quality measure is complete. This profile also may supply discharge information which can be used to improve the quality of the available patient-level data and may be used to trigger production of the Patient-Level Quality Report.

Appendices

Appendix A – New Actors

910 This appendix A includes the brief definitions of any new IHE Actors being defined for the first time in this profile.

A.1 Brief Actor Definitions for New Actors

Actor	Definition
Report Assembler	This actor consumes standard CDA summary of care documents and creates standard Patient-level Quality Reports by re-using the available data. Optionally, the Report Assembler consumes Patient-level Quality Reports and generates an Aggregate-level report for the quality measure.

Appendix B – New Transactions

Appendix B includes the brief definitions of any new IHE Transactions being defined for the first time in this profile.

B.1 Brief Transaction Definitions

No new transaction defined.

Appendix C – Quality Measure Definitions

This appendix includes an example of an electronic definition for the Newborn Hearing Screening quality measure for the QME-EH Profile. It provides as illustration of the type of eMeasure Definition that a Report Assembler would need to have the capability to process in order to correctly process data according to this quality measure definition. Access to this type of eMeasure Definition is assumed for use cases where a Report Assembler processes information to produce either a Patient-Level Quality Report or an Aggregate-Level Quality Report.

Title	Description
Hearing Screening Prior To Hospital Discharge	This measure assesses the proportion of births that have been screened for hearing loss before hospital discharge. Hearing Screening Prior to Discharge quality measure Definition, CMS #31 version 4.0, NQF #1354. This measure definition is available at http://ecqi.healthit.gov/eh under the 2014 eCQM Specifications for Eligible Hospitals Update June 2015.

The measure definition is included with this profile as illustrative material. Note that the current version of the measure is located on the CMS website in the CQI Resource Center https://ecqi.healthit.gov/eh

In the US Realm, Implementers of the Report Assembler need to be able to support assembling of Patient-Level Quality Reports and Aggregate-Level Quality Reports using the Newborn Hearing Screening Measure definition file as defined for the Centers for Medicaid and Medicare Services (CMS) quality program 2016 Reporting Year.

Value sets used in this profile for US Realm documents are defined and maintained in the Value Set Authority Center (VSAC). They are included as illustrative examples. Implementers should retrieve current value set definitions and expansions (the full set of coded concepts) directly from the VSAC when implementing this profile (https://vsac.nlm.nih.gov/). The correct versions of the value sets used in this profile are referenced in the Measure Definition package. The value set spread sheet included in the package lists the value set OID (column B) and Revision Date (column C).

eMeasure Title	1 Hearing Screening Prior To Hospital Discharge		
eMeasure Identifier (Measure Authoring Tool)	31	**eMeasure Version number**	4.0.000

NQF Number	1354	**GUID**	0924fbae-3fdb-4d0a-aab7-9f354e699fde
Measurement Period	January 1, 20XX through December 31, 20XX		
Measure Steward	CDC National Center on Birth Defects and Developmental Disabilities		
Measure Developer	CDC Early Hearing Detection and Intervention Program		
Endorsed By	National Quality Forum		
Description	This measure assesses the proportion of births that have been screened for hearing loss before hospital discharge.		
Copyright	None		
Disclaimer	These performance measures are not clinical guidelines and do not establish a standard of medical care, and have not been tested for all potential applications. The measures and specifications are provided without warranty. CMS has contracted with Mathematica Policy Research and its subcontractors, Lantana and Telligen, for the continued maintenance of this electronic measure.		
Measure Scoring	Proportion		
Measure Type	Process		
Measure Item Count	Encounter, Performed: Encounter Inpatient		
Stratification	None		
Risk Adjustment	None		
Rate Aggregation	None		
Rationale	Birthing facility staff should review the effectiveness and timeliness of screening relative to nursery discharge. Benchmarks set within the EHCP may trigger hospital or jurisdictional compliance activities, such as re-writing of procedural guidelines or re-training of screening staff.		
Clinical Recommendation Statement	None		
Improvement Notation	Improvement noted as an increase in rate.		
Reference	HRSA Title V Block Grant MCHB Performance Measure: Percentage of newborns who have been screened for hearing before hospital discharge.		
Reference	U.S. Preventive Services Task Force (http://www.ahrq.gov/clinic/uspstf/uspsnbhr.htm) Year 2007 Position Statement: Principles and Guidelines for Early Hearing Detection and Intervention Programs. Joint Committee on Infant Hearing. Pediatrics 2007;120;898-921 (http://pediatrics.aappublications.org/cgi/content/full/120/4/898?ijkey=oj9BAleq21OlA&keytype=ref&siteid=aapjournals)		
Reference	HRSA Title V Block Grant MCHB Performance Measure: Percentage of newborns who have been screened for hearing before hospital discharge.		
Definition	None		
Guidance	The measurement period is one calendar year but the reporting period is jurisdictionally defined.		

Transmission Format	TBD
Initial Population	Live birth encounters at a hospital or birthing facility where the newborn was discharged during the measurement period.
Denominator	Denominator is equal to the Initial Population.
Denominator Exclusions	Live birth encounters where the patient expires prior to discharge and has not received hearing screening for the left or right ear.
Numerator	Live birth encounters during the measurement period where a patient born at the facility is screened for hearing loss prior to discharge or not screened due to medical reasons.
Numerator Exclusions	Not applicable
Denominator Exceptions	None
Measure Population	Not applicable
Measure Population Exclusions	Not applicable
Measure Observations	Not applicable
Supplemental Data Elements	For every patient evaluated by this measure also identify payer, race, ethnicity and sex.

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Population Criteria

- Initial Population =
  - AND: Occurrence A of $EncounterInpatient ends during "Measurement Period"
  - AND: Union of:
    - "Diagnosis, Active: Liveborn Newborn Born in Hospital"
    - "Diagnosis, Active: Livebirth"

- starts during Occurrence A of $EncounterInpatient

- Denominator =
  - AND: Initial Population
- Denominator Exclusions =
  - OR:
    - AND: Intersection of:
      - Occurrence A of $EncounterInpatient
      - "Encounter, Performed: Encounter Inpatient (discharge status: Patient Expired)"
    - AND NOT: Union of:
      - "Diagnostic Study, Performed: Newborn Hearing Screen Left (result: Pass Or Refer)"
      - "Diagnostic Study, Performed: Newborn Hearing Screen Right (result: Pass Or Refer)"
    - during Occurrence A of $EncounterInpatient
- Numerator =
  - AND: Union of:
    - "Diagnostic Study, Performed: Newborn Hearing Screen Left (result: Pass Or Refer)"
    - "Diagnostic Study, Performed not done: Medical Reasons" for "Newborn Hearing Screen Left"
    - during Occurrence A of $EncounterInpatient
  - AND: Union of:
    - "Diagnostic Study, Performed: Newborn Hearing Screen Right (result: Pass Or Refer)"
    - "Diagnostic Study, Performed not done: Medical Reasons" for "Newborn Hearing Screen Right"
    - during Occurrence A of $EncounterInpatient
- Numerator Exclusions =

  None
- Denominator Exceptions =

- None
- Stratification =
  - None

Data Criteria (QDM Variables)

- $EncounterInpatient =
  - "Encounter, Performed: Encounter Inpatient" satisfies all
    - (length of stay <= 120 day(s))
    - ends during "Measurement Period"

Data Criteria (QDM Data Elements)

- "Diagnosis, Active: Livebirth" using "Livebirth SNOMEDCT Value Set (2.16.840.1.114222.4.1.214079.1.1.1)"
- "Diagnosis, Active: Liveborn Newborn Born in Hospital" using "Liveborn Newborn Born in Hospital Grouping Value Set (2.16.840.1.113762.1.4.1046.6)"
- "Diagnostic Study, Performed: Newborn Hearing Screen Left" using "Newborn Hearing Screen Left LOINC Value Set (2.16.840.1.114222.4.1.214079.1.1.3)"
- "Diagnostic Study, Performed: Newborn Hearing Screen Right" using "Newborn Hearing Screen Right LOINC Value Set (2.16.840.1.114222.4.1.214079.1.1.4)"
- "Diagnostic Study, Performed not done: Medical Reasons" using "Medical Reasons SNOMEDCT Value Set (2.16.840.1.114222.4.1.214079.1.1.7)"
- "Encounter, Performed: Encounter Inpatient" using "Encounter Inpatient SNOMEDCT Value Set (2.16.840.1.113883.3.666.5.307)"
- Attribute: "Result: Pass Or Refer" using "Pass Or Refer SNOMEDCT Value Set (2.16.840.1.114222.4.1.214079.1.1.6)"
- Attribute: "Discharge status: Patient Expired" using "Patient Expired SNOMEDCT Value Set (2.16.840.1.113883.3.117.1.7.1.309)"

Supplemental Data Elements

- "Patient Characteristic Ethnicity: Ethnicity" using "Ethnicity CDCREC Value Set (2.16.840.1.114222.4.11.837)"
- "Patient Characteristic Payer: Payer" using "Payer SOP Value Set (2.16.840.1.114222.4.11.3591)"
- "Patient Characteristic Race: Race" using "Race CDCREC Value Set (2.16.840.1.114222.4.11.836)"

- "Patient Characteristic Sex: ONC Administrative Sex" using "ONC Administrative Sex AdministrativeGender Value Set (2.16.840.1.113762.1.4.1)"

Risk Adjustment Variables

- None

Measure Set `Early Hearing Detection and Intervention (EHDI)`

Figure C-1: Rendering of the US eMeasure Definition for Newborn Hearing Screening (CMS31v4, NQF1354)

Appendix D – Data Element Concepts

This appendix defines the set of data element concepts used in the Newborn Hearing Screening quality measure for the QME-EH Profile in terms of the NQF Quality Data Model (QDM) standard.

These data element concepts are included to help implementers of a QME-EH Content Creator or Content Creator. The mappings to the reference quality data model clarify the meaning of the information used in the content modules. Value set bindings for these concepts will be realm specific. See the National Extensions volume of the Technical Framework for specific value set bindings.

D1.1 Summary of Care Document Data Element Concepts

The Summary of Care Document needs to include, as a minimum, data elements used to populate the Patient-Level Quality Report (PLQR) data elements. The clinical summary may include additional information to summarize a patient encounter or set of encounters. See D1.1.2 for details.

D1.2 Patient-Level Quality Report Data Element Concepts

Concept Variable Name	Description in terms of the QDM Data Model
$XXXX (a variable name)	The description of this element's QDM representation as it is used in the context of the CMS31 Newborn Hearing Screening measure definition.
$PATIENT	The person for whom the data in the report pertains.
$AUTHOR	The organization responsible for creating the document. The authoring device holds information about the system used by the organization to author the report.
$CUSTODIAN	The organization that is responsible for maintaining the Patient-level Quality Report document.
$LEGAL_AUTHENTICATOR	The organization that signs off on, and attests to the accuracy of the Patient-Level report.
$SERVICE_EVENT	The service event being measured and may include the clinician information for clinicians responsible for performing the event.
$ENCOMPASSING_ENCOUNTER	The encompassing encounter in which the service event being measured occurred and may include the clinician information for clinicians responsible for the encounter as well as the healthcare facility information for the facility where the encounter was performed.
$EMEASURE_TITLE	The title of the measure for which the Patient-Level data was gathered.
$VERSION_SPECIFIC_IDENTIFIER	The id which identifies the version specific instance of the measure. This is a globally unique id that changes each time the setId and versionNumber change for the measure.
$VERSION_NEUTRAL_IDENTIFIER	The id which identifies the electronic quality measure. It is a globally unique id which identifies a specific measure.

Concept Variable Name	Description in terms of the QDM Data Model
$EMEASURE_VERSION_NUMBER	The id which identifies the version number associated with a specific measure. It is an integer.
$MEASUREPERIOD	The time interval applicable for the data collection. It is given by a start date and an end date.
$INPATIENT_ENCOUNTER	Data elements that meet criteria using this datatype should document that the encounter indicated by the QDM category and its corresponding value set has been completed.
$ETHNICITY	Data elements that meet criteria using this datatype should document that the patient has one or more of the ethnicities indicated by the QDM category and its corresponding value set.
$RACE	Data elements that meet criteria using this datatype should document the patient's race.
$GENDER	Data elements that meet criteria using this datatype should document that the patient's sex matches the QDM category and its corresponding value set.
$PAYER	Data elements that meet criteria using this datatype should document that the patient has one or more of the payers indicated by the QDM category and its corresponding value set
$LIVEBORN_IN_HOSPITAL	To meet criteria using this datatype, the diagnosis indicated by the Condition/Diagnosis/Problem QDM category and its corresponding value set should reflect documentation of an active diagnosis. Keep in mind that when this datatype is used with timing relationships, the criterion is looking for an active diagnosis for the time frame indicated by the timing relationships.
$LIVEBIRTH	To meet criteria using this datatype, the diagnosis indicated by the Condition/Diagnosis/Problem QDM category and its corresponding value set should reflect documentation of an active diagnosis. Keep in mind that when this datatype is used with timing relationships, the criterion is looking for an active diagnosis for the time frame indicated by the timing relationships.
$EXPIRED	The *Patient Characteristic Expired* data element should document that the patient is deceased. Note: *Patient Characteristic Expired* is fixed to SNOMED-CT® code 419099009 (Dead) and therefore cannot be further qualified with a value set.
$LEFT_EAR_SCREENED	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.

Concept Variable Name	Description in terms of the QDM Data Model
$LEFT_EAR_NOT_SCREENED_REASON	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.
$LEFT_EAR_NOT_SCREENED_NEGATION_RATIONALE	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.
$LEFT_EAR_NOT_SCREENED_PATIENT_PREFERENCE	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.
$LEFT_EAR_NOT_SCREENED_PHYSICIAN_PREFERENCE	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.
$RIGHT_EAR_SCREENED	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.
$RIGHT_EAR_NOT_SCREENED_REASON	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.
$RIGHT_EAR_NOT_SCREENED_NEGATION_RATIONALE	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.
$C_RIGHT_EAR_NOT_SCREENED_PATIENT_PREFERENCE	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.
$C_RIGHT_EAR_NOT_SCREENED_PHYSICIAN_PREFERENCE	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.

D1.3 Aggregate-Level Quality Report Data Element Concepts

1045 The data elements used in an Aggregate-Level Quality Report are determined in the HQMF and QRDA Category III standards. They depend on the type of measure being reported. The Newborn Hearing Screening measure is a Proportional Measure and does not include any stratification or rate adjustment.

Concept Variable Name	Description
$XXXX	The description of this element as it is used in the context of this quality measure.
$PATIENT	Individual patient information is not included in an Aggregate-Level Quality Report. The Aggregate-Level Quality Report does not include the concept of a patient. (In an implementation that uses a document standard requiring a patient to be included, the patient information is populated with a null value.)
$AUTHOR	The organization responsible for creating the document. The authoring device holds information about the system used by the organization to author the report.
$CUSTODIAN	The organization that is responsible for maintaining the Patient-level Quality Report document.
$LEGAL_AUTHENTICATOR	The organization that signs off on, and attests to the accuracy of the Patient-Level report.
$INFORMATION_RECIPIENT	The organization to whom the Aggregate-Level Quality Report will be submitted.
$SERVICE_EVENT	The service events which were measured and may include the clinician information for clinicians responsible for performing the each measured service event.
$C_MEASURE_PERIOD	The time interval applicable for the data collection. This is defined through a start time and an end time for the period.
$C_MEASURE_REFERENCE	The information which identifies the e-Measure definition and its version.
$C_MEASURE_RESULTS	The individual components of the measure, called “populations” and the corresponding result. Each population also includes the defined stratifications required by the measure definition.
$IPOP	The Initial Population which includes all entities to be evaluated by an eMeasure which may but are not required to share a common set of specified characteristics within a named measurement set to which the eMeasure belongs.
$DENOM	The Denominator is the same as the Initial Population or a subset of the Initial Population to further constrain the population for the purpose of the eMeasure.
$DENEX	Entities to be removed from the Initial Population and Denominator before determining if the Numerator Criteria are met. Denominator Exclusions are used in Proportion and Ration Measures to help narrow the Denominator
$NUMER	The process or outcome for each entity defined in the Denominator of a Proportion or Ratio measure.
$NUMEX	Entities that should be removed from the eMeasure’s Numerator. Numerator exclusions are used in Proportion and Ratio measures to help narrow the Numerator (for inverted measures which show improvement as they decrease).
$DENEXCEP	Those conditions that should remove a patient, procedure, or unit of measurement from the Denominator only if the Numerator criteria are not met. Denominator exceptions allow for adjustment of the calculated score for example to account for a higher risk population.

Volume 2 – Transactions

This profile does not create any new transactions. It does not constrain or extend any previously defined transactions.

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Volume 3 – UV Content Module Definitions

5 Namespaces and Vocabularies

Add to Section 5.1.1 Code Systems

codeSystem	codeSystemName	Description
2.16.840.1.113883.6.96	SNOMED CT	Systemized Nomenclature for Medicine
2.16.840.1.113883.6.1	LOINC	Logical Observation Identifiers, Names and Codes

Add to Section 5.1.1 IHE Format Codes

Profile	Format Code	Media Type	Template ID
EHDI QME-EH	urn:ihe:qrph:NHS-CatI-UV:2015	Text/XML	1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.1.1
EHDI QME-EH	urn:ihe:qrph:NHS-CatIII-UV:2015	Text/XML	1.3.6.1.4.1.19376.1.7.3.1.1.18.6.1.1.1
EHDI QME-EH	urn:ihe:qrph:CMS31v4-CatI:2015	Text/XML	1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.1.1
EHDI QME-EH	urn:ihe:qrph:CMS31v4-CatIII:2015	Text/XML	1.3.6.1.4.1.19376.1.7.3.1.1.18.6.2.1.1

Add to Section 5.1.2 IHE ActCode Vocabulary

NA

Add to Section 5.1.3 IHE RoleCode Vocabulary

NA

6 UV Realm Content Modules

Universal (UV) Realm content modules are a generalization of the content modules used in the US Realm so as to provide the high level of structural and semantic commonality that other realms can reference when defining their realm Specific implementation of the Newborn Hearing Screening measure.

6.1 Conventions

Intentionally left blank

6.2 Folders

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6.3 Content Modules

6.3.1 CDA® Document Content Modules

6.3.1.D1 EHDI NHS QRDA Category I Report UV

6.3.1.D1.1 Format Code

Intentionally left blank

6.3.1.Dx.2 Conformance Constraints

```
[ClinicalDocument: identifier
urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.1.1:2015-04-17 (open)]
```

Table 6.3.1.Dx.2-1: EHDI NHS QRDA Category I Report UV Contexts

Contained By:	Contains:
	EHDI NHS Measure Reference Section UV EHDI NHS Patient Data Section UV EHDI NHS Reporting Parameters Section UV

This template describes Universal Realm header constraints that apply to the Quality Reporting Document

Architecture (QRDA) Category I document for measuring assesses the proportion of births that have been screened for hearing loss before hospital discharge.

Table 6.3.1.Dx.2-2: EHDI NHS QRDA Category I Report UV Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
ClinicalDocument (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.1.1:2015-04-17)					
realmCode	1..1	SHALL		1193-33427	
templateId	1..1	SHALL		1193-33404	
@root	1..1	SHALL		1193-33405	1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.1.1
@extension	1..1	SHALL		1193-33406	2015-04-07
templateId	1..1	SHALL		1193-33424	
@root	0..1	MAY		1193-33425	2.16.840.1.113883.10.20.24.1.1
@extension	0..1	MAY		1193-33426	2014-12-01
id	1..1	SHALL		1193-33365	
effectiveTime	1..1	SHALL		1193-33403	
languageCode	1..1	SHALL		1193-33313	urn:oid:2.16.840.1.113883.6.121 (Language)
versionNumber	0..1	MAY		1193-33364	
recordTarget	1..1	SHALL		1193-33317	
patientRole	1..1	SHALL		1193-33318	
id	1..1	SHALL		1193-33319	
@root	1..1	SHALL		1193-33439	
@extension	1..1	SHALL		1193-33441	
patient	1..1	SHALL		1193-33320	
administrativeGenderCode	0..1	MAY		1193-33321	
birthTime	0..1	MAY		1193-33322	
raceCode	0..1	MAY		1193-33323	

XPath	Card.	Verb	Data Type	CONF#	Value
sdtc:raceCode	0..*	MAY		1193-33324	
ethnicGroupCode	0..1	MAY		1193-33325	
sdtc:ethnicGroupCode	0..*	MAY		1193-33432	
custodian	1..1	SHALL		1193-33326	
assignedCustodian	1..1	SHALL		1193-33428	
representedCustodianOrganization	1..1	SHALL		1193-33429	
id	1..1	SHALL		1193-33430	
@root	1..1	SHALL		1193-33431	
informationRecipient	1..*	SHALL		1193-33338	
intendedRecipient	1..1	SHALL		1193-33339	
id	1..1	SHALL		1193-33340	
@root	1..1	SHALL		1193-33434	
participant	0..*	MAY		1193-33314	
documentationOf	1..1	SHALL		1193-33330	
serviceEvent	1..1	SHALL		1193-33331	
performer	0..*	MAY		1193-33437	
componentOf	0..1	MAY		1193-33436	
encompassingEncounter	1..1	SHALL		1193-33438	
component	1..1	SHALL		1193-33410	
structuredBody	1..1	SHALL		1193-33411	
component	1..1	SHALL		1193-33412	

XPath	Card.	Verb	Data Type	CONF#	Value
section	1..1	SHALL		1193-33413	EHDI NHS Reporting Parameters Section UV (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.2:2015-04-17
component	1..1	SHALL		1193-33414	
section	1..1	SHALL		1193-33416	EHDI NHS Measure Reference Section UV (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.1:2015-04-17
component	1..1	SHALL		1193-33415	
section	1..1	SHALL		1193-33417	EHDI NHS Patient Data Section UV (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.3:2015-04-17

The UV realmCode template is generalized at the highest level to create a reference model which permits documents of the same type, specified in different realms, to be similar in the places determined by the UV model.

1. **SHALL** contain exactly one [1..1] **realmCode** (CONF:1193-33427).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1193-33404) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.1.1" EHDI NHS QRDA Category I Report UV (CONF:1193-33405).
    b. **SHALL** contain exactly one [1..1] **@extension**="2015-04-07" (CONF:1193-33406).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1193-33424) such that it
    a. **MAY** contain zero or one [0..1] **@root**="2.16.840.1.113883.10.20.24.1.1" QRDA Category I Framework (V2) (CONF:1193-33425).
    b. **MAY** contain zero or one [0..1] **@extension**="2014-12-01" (CONF:1193-33426).
4. **SHALL** contain exactly one [1..1] **id** (CONF:1193-33365).
    a. This id **SHALL** be a globally unique identifier for the document (CONF:1193-33402).
5. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1193-33403).
6. **SHALL** contain exactly one [1..1] **languageCode**, which **SHALL** be selected from CodeSystem Language (urn:oid: 2.16.840.1.113883.1.11.11526) **DYNAMIC** (CONF:1193-33313).
7. **MAY** contain zero or one [0..1] **versionNumber** (CONF:1193-33364).

a. If versionNumber is present, setId **SHALL** be present (CONF:1193-33401).

Note: The NHS Category I QRDA includes information about a single patient.

8. **SHALL** contain exactly one [1..1] **recordTarget** (CONF:1193-33317).
    a. This recordTarget **SHALL** contain exactly one [1..1] **patientRole** (CONF:1193-33318).
        i. This patientRole **SHALL** contain exactly one [1..1] **id** (CONF:1193-33319) such that it
            1. **SHALL** contain exactly one [1..1] **@root** (CONF:1193-33439).
                a. The root attribute **SHALL** represent the organization at which the patient is referenced by the id specified in the associated extension attribute (CONF:1193-33440).
            2. **SHALL** contain exactly one [1..1] **@extension** (CONF:1193-33441).
                a. The extension attribute **SHALL** represent the id by which the person is referenced within the organization specified in the associated root attribute (CONF:1193-33442).
            3. The combination of root and extension for the id **SHALL** be a unique identifier that is registered to the person through the organization represented in the root attribute of the id (CONF:1193-33371).
        ii. This patientRole **SHALL** contain exactly one [1..1] **patient** (CONF:1193-33320).
            1. This patient **MAY** contain zero or one [0..1] **administrativeGenderCode** (CONF:1193-33321).
                a. When the patient's administrative sex is unknown, nullFlavor="UNK" **SHALL** be submitted (CONF:1193-33443).
            2. This patient **MAY** contain zero or one [0..1] **birthTime** (CONF:1193-33322).
            3. This patient **MAY** contain zero or one [0..1] **raceCode** (CONF:1193-33323).
            4. This patient **MAY** contain zero or more [0..*] **sdtc:raceCode** (CONF:1193-33324).
            5. This patient **MAY** contain zero or one [0..1] **ethnicGroupCode** (CONF:1193-33325).
                a. When the patient declined to specify his/her ethnicity, nullFlavor="ASKU" **SHALL** be submitted (CONF:1193-33444).

b. When the patient's ethnicity is unknown, nullFlavor="UNK" **SHALL** be submitted (CONF:1193-33445).

6. This patient **MAY** contain zero or more [0..*] **sdtc:ethnicGroupCode** (CONF:1193-33432).

Note: The custodian is responsible for maintaining the persistent document instance created according to this specification, thus the custodian's copy of this instance of the document is the "original" document.

9. **SHALL** contain exactly one [1..1] **custodian** (CONF:1193-33326).
    a. This custodian **SHALL** contain exactly one [1..1] **assignedCustodian** (CONF:1193-33428).
        i. This assignedCustodian **SHALL** contain exactly one [1..1] **representedCustodianOrganization** (CONF:1193-33429).
            1. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **id** (CONF:1193-33430) such that it
                a. **SHALL** contain exactly one [1..1] **@root** (CONF:1193-33431).
                    i. The combination of root and extension for the id **SHALL** be a globally unique identifier that is registered to the entity and can be used to determine the identity of the entity (CONF:1193-33433).

Note: An information recipient is an organization which is intended to receive a copy of this document.

10. **SHALL** contain at least one [1..*] **informationRecipient** (CONF:1193-33338).
    a. Such informationRecipients **SHALL** contain exactly one [1..1] **intendedRecipient** (CONF:1193-33339).
        i. This intendedRecipient **SHALL** contain exactly one [1..1] **id** (CONF:1193-33340) such that it
            1. **SHALL** contain exactly one [1..1] **@root** (CONF:1193-33434).
                a. The combination of root and extension for the id **SHALL** be a globally unique identifier that is registered to the entity and can be used to determine the identity of the entity (CONF:1193-33435).

Note: A participant role may be used to identify the EHR system used to collect the clinical data for which this Patient-level Quality Report is being produced.

11. **MAY** contain zero or more [0..*] **participant** (CONF:1193-33314).

Note: Service Event information is used to categorize the type of care provided.

12. **SHALL** contain exactly one [1..1] **documentationOf** (CONF:1193-33330) such that it
    a. **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:1193-33331).

i. This serviceEvent **MAY** contain zero or more [0..*] **performer** (CONF:1193-33437).

Note: Encounter information is used to record information about the encounter such as the type of encounter, the facility where the encounter occurred, the discharge disposition, and entities responsible for or involved in the encounter.

13. **MAY** contain zero or one [0..1] **componentOf** (CONF:1193-33436).
    a. The componentOf, if present, **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:1193-33438).
14. **SHALL** contain exactly one [1..1] **component** (CONF:1193-33410).
    a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:1193-33411).
        i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1193-33412) such that it
            1. **SHALL** contain exactly one [1..1] **EHDI NHS Reporting Parameters Section UV** (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.2:2015-04-17) (CONF:1193-33413).
        ii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1193-33414) such that it
            1. **SHALL** contain exactly one [1..1] **EHDI NHS Measure Reference Section UV** (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.1:2015-04-17) (CONF:1193-33416).
        iii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1193-33415) such that it
            1. **SHALL** contain exactly one [1..1] **EHDI NHS Patient Data Section UV** (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.3:2015-04-17) (CONF:1193-33417).

6.3.1.Dx.3 Referenced Standards

HL7® QRDA Category I Release 2 DSTU Release 3

6.3.1.Dx.4 Key Data Elements

Templates define the data elements available in the documents. While section level templates define higher level, complex data elements, they provide means to categorize and identify the data within the document, and thus act as data elements. While section level data elements may contain lower level entry data elements, these UV Realm templates generally represent the required data elements.

Table 6.3.1.Dx.4-1: Template List

Template Title	Template Type	templateId
EHDI NHS QRDA Category I Report UV	document	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.1.1:2015-04-17
EHDI NHS Measure Reference Section UV	section	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.1:2015-04-17
EHDI NHS Patient Data Section UV	section	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.3:2015-04-17
EHDI NHS Reporting Parameters Section UV	section	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.2:2015-04-17

Table 6.3.1.Dx.4-2: Template Containments

Template Title	Template Type	templateId
EHDI NHS QRDA Category I Report UV	document	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.1.1:2015-04-17
EHDI NHS Measure Reference Section UV	section	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.1:2015-04-17
EHDI NHS Patient Data Section UV	section	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.3:2015-04-17
EHDI NHS Reporting Parameters Section UV	section	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.2:2015-04-17

6.3.2 CDA® Header Content Modules

6.3.2.Hx Header Content Module

6.3.3 CDA® Section Content Modules

6.3.3.S1 EHDI NHS Measure Reference Section UV

```
[section: identifier
urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.1:2015-04-17 (open)]
```

Table 6.3.3.S1-1: EHDI NHS Measure Reference Section UV Contexts

Contained By:	Contains:
EHDI NHS QRDA Category I Report UV (required)	

This section contains measure reference information about the Newborn Hearing Screening eMeasure being reported. It contains a machine readable entry for the identifier of the eMeasures. The measure's definition indicates the QRDA data element

entry templates to be used when representing the data elements in the Patient Data Section. Each eMeasure for which QRDA data elements are being sent must reference the eMeasure's act/id. Other eMeasure identifiers that could be referenced are the eMeasure Identifier (Measure Authoring Tool), eMeasure Version Number, eMeasure Title and other identifying numbers.

Table 6.3.3.S1-2: EHDI NHS Measure Reference Section UV Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.1:2015-04-17)					
templateId	1..1	SHALL		1193-296	
@root	1..1	SHALL		1193-298	1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.1
@extension	1..1	SHALL		1193-32910	2015-03-31
entry	1..1	SHALL		1193-295	

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:1193-296) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.1" EHDI NHS Measure Reference Section UV (CONF:1193-298).
   b. **SHALL** contain exactly one [1..1] **@extension**="2015-03-31" (CONF:1193-32910).
2. **SHALL** contain exactly one [1..1] **entry** (CONF:1193-295).
   a. SHALL contain an organizer to encode information about the eMeasure Definition used to specify the Newborn Hearing Screening clinical quality measure (CONF:1193-33423).

Note: realm specific implementation guidance is required to define the specification for the organizer based on the Realm's choice of eCQM representation.

   b. The definition of the organizer **SHALL** be based on the format used to create the eMeasure Definition (CONF:1193-33446).

6.3.3.S2 EHDI NHS Reporting Parameters Section UV

```
[section: identifier
urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.3:2015-04-17 (open)]
```


Table 6.3.3.S2-1: EHDI NHS Patient Data Section UV Contexts

Contained By:	Contains:
EHDI NHS QRDA Category I Report UV (required)	

The EHDI NHS Patient Data Section contains entries specified by an EHDI Newborn Hearing Screening eCQM.

All entries support the measure computation defined by the HQMF CMS31v4 eCQM as a reference implementation for determining the proportion of newborns that receive hearing screening prior to discharge from the birth encounter. The UV Realm content is a generalization of the US Realm content, so support for supplemental data elements required by the US CMS CQM programs are removed. Supplementation data elements like race and ethnicity may not be appropriate for use in other realms. Only the basic measurement computations are included.

Table 6.3.3.S2-2: EHDI NHS Patient Data Section UV Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.3:2015-04-17)					
templateId	1..1	SHALL		1193-60	
@root	1..1	SHALL		1193-128	1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.3
@extension	1..1	SHALL		1193-32971	2015-03-31
entry	1..1	SHALL		1193-454	
@typeCode	1..1	SHALL		1193-455	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
entry	0..1	SHOULD		1193-457	
@typeCode	1..1	SHALL		1193-467	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
entry	0..1	SHOULD		1193-461	
@typeCode	1..1	SHALL		1193-469	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV
entry	0..1	SHOULD		1193-463	

@typeCode	1..1	SHALL		1193-470	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:1193-60) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.3" EHDI NHS Patient Data Section UV (CONF:1193-128).
   b. **SHALL** contain exactly one [1..1] **@extension**="2015-03-31" (CONF:1193-32971).
2. **SHALL** contain exactly one [1..1] **entry** (CONF:1193-454) such that it
   a. **SHALL** contain exactly one [1..1] **@typeCode**="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1193-455).
   b. SHALL contain an encounter act to represent the needed encounter information to support the measure (CONF:1193-33419).
3. **SHOULD** contain zero or one [0..1] **entry** (CONF:1193-457) such that it
   a. **SHALL** contain exactly one [1..1] **@typeCode**="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1193-467).
   b. SHALL contain an observation act that represents information to determine that a baby was born in this encounter (CONF:1193-33420).
4. **SHOULD** contain zero or one [0..1] **entry** (CONF:1193-461) such that it
   a. **SHALL** contain exactly one [1..1] **@typeCode**="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1193-469).
   b. SHALL contain an observation act to represent information about the hearing screening information for the right ear (CONF:1193-33421).
   c. SHALL use NegationInd to represent when the screening was not performed and an entryRelationship with typeCode=RSON to an observation act **SHOULD** be used to record any associated medical reason for not performing the screening (CONF:1193-33447).
5. **SHOULD** contain zero or one [0..1] **entry** (CONF:1193-463) such that it
   a. **SHALL** contain exactly one [1..1] **@typeCode**="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1193-470).
   b. SHALL contain an observation act to represent information about the hearing screening information for the left ear (CONF:1193-33422).
   c. SHALL use NegationInd to represent when the screening was not performed and an entryRelationship with typeCode=RSON to an observation act **SHOULD**

be used to record any associated medical reason for not performing the screening (CONF:1193-33448).

6.3.3.S3 EHDI NHS Reporting Parameters Section UV

```
[section: identifier
urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.2:2015-04-17 (open)]
```

Table 6.3.3.S3-1: EHDI NHS Reporting Parameters Section UV Contexts

Contained By:	Contains:
EHDI NHS QRDA Category I Report UV (required)	

The QRDA Reporting Parameters Section provides information about the reporting time interval, and may contain other information that provides context for the data being reported. This template includes an optional Service Encounter template which enables specific performers of the encounters included within the reporting parameters to be listed.

QRDA reports contain data covering a single time interval represented by a low and high time value in the reporting parameters act. It is not possible in the current QRDA reporting paradigm to include multiple reporting periods.

Table 6.3.3.S3-2: EHDI NHS Reporting Parameters Section UV Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
section (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.2:2015-04-17)					
templateId	1..1	SHALL		1193-32992	
@root	1..1	SHALL		1193-32995	1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.2
@extension	1..1	SHALL		1193-32998	2015-04-07
entry	1..1	SHALL		1193-32991	
@typeCode	1..1	SHALL		1193-32996	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = DRIV

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:1193-32992) such that it

a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.18.5.1.3.2" (CONF:1193-32995).
b. **SHALL** contain exactly one [1..1] **@extension**="2015-04-07" (CONF:1193-32998).

2. **SHALL** contain exactly one [1..1] **entry** (CONF:1193-32991) such that it
   a. **SHALL** contain exactly one [1..1] **@typeCode**="DRIV" Is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1193-32996).
   b. SHALL Represent the reporting parameter time interval for the report and may additionally represent the performer of the "measured item" being evaluated by the measure (CONF:1193-33418).

6.3.4 CDA® Entry Content Modules

6.3.4.Ex Entry Content Module

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Note: Entry level templates must be defined based on a specific eMeasure Definition which may further reference specific data models for representing specific types of information. For example, in the US, the Quality Data Model (QDM) forms the basis for representing specific types of information use in quality measures. HQMF is then used to specify the data structures (using QDM) and the needed value sets needed for a particular measure.

6.4 Section not applicable

This heading is not currently used when defining CDA® templates.

6.5 QME-EH Value Sets

Intentionally left blank

6.6 QME-EH Concept Domains

Intentionally left blank

6.7 QME-EH Derivation Rules

Intentionally left blank

Appendices

Volume 3 Namespace Additions

None

Volume 4 – National Extensions

Add appropriate Country section

R1 Quality Measure Execution for Early Hearing - US National Extension

This information contains the US extensions for the Quality Measure Execution for Early Hearing (QME-EH) Profile. The US Extension content definitions further constrain the definitions available in Volume 3. However to ease readability, all conformance constraints from the UV Realm definitions have been repeated in Volume 4. Many of the additional constraints include value set bindings which are specific to the US Realm. See Appendix B for illustrative coded concepts included in referenced value sets.

R1.1 Comment Submission

This national extension document was authored under the sponsorship and supervision of HIMSS and RSNA, who welcome comments on this document and the IHE USA initiative. Comments should be directed to:

IHE USA, Alexander Lippitt Jr.

Email: alippitt@himss.org

R1.2 Folders

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R1.3 Content Modules

R1.3.1 CDA® Content Modules

R1.3.1.1 Document Content Modules

R1.3.1.1.D1 EHDI CMS31v4 QRDA Category I Report

`[ClinicalDocument: identifier urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.1.1:2015-04-07 (open)]`

Table R1.3.1.1.D1-1: EHDI CMS31v4 QRDA Category I Report Contexts

Contained By:	Contains:
	EHDI CMS31 Measure Reference Section EHDI CMS31 Patient Data Section EHDI CMS31 Reporting Parameters Section

This template describes header constraints that apply to the CMS Quality Reporting Document

Architecture (QRDA) Category I document.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-33312) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.1.3" CMS QRDA Category I for EP and EH eCQM (CONF:1185-33366).
    b. **SHALL** contain exactly one [1..1] **@extension**="2015-07-01" (CONF:1185-33367).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-33404) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.1.1" EHDI CMS31v4 QRDA Category I Report (CONF:1185-33405).
    b. **SHALL** contain exactly one [1..1] **@extension**="2015-04-07" (CONF:1185-33406).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-33407) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.1.2" QDM-Based QRDA (CONF:1185-33408).
    b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1185-33409).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-33425) such that it
    a. **MAY** contain zero or one [0..1] **@root**="2.16.840.1.113883.10.20.22.1.1" US Realm Header (CONF:1185-33426).
    b. **MAY** contain zero or one [0..1] **@extension**="2014-06-09" V2 (CONF:1185-33427).
5. **SHALL** contain exactly one [1..1] **id** (CONF:1185-33365).
    a. This id **SHALL** be a globally unique identifier for the document (CONF:1185-33402).
6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1185-33403).
7. **SHALL** contain exactly one [1..1] **languageCode** (CONF:1185-33313).
    a. This languageCode **SHALL** contain exactly one [1..1] **@code**="en" (CONF:1185-33368).
8. **MAY** contain zero or one [0..1] **versionNumber** (CONF:1185-33364).
    a. If versionNumber is present setId **SHALL** be present (CONF:1185-33401).
9. **SHALL** contain at least one [1..*] **recordTarget** (CONF:1185-33317).
    a. Such recordTargets **SHALL** contain exactly one [1..1] **patientRole** (CONF:1185-33318).
        i. This patientRole **SHALL** contain exactly one [1..1] **id** (CONF:1185-33319) such that it
            1. 1. SHALL contain exactly one 1..1] Patient Identifier Number (CONF:1185-33371).

ii. This patientRole **SHALL** contain exactly one [1..1] **patient** (CONF:1185-33320).

1. This patient **SHALL** contain exactly one [1..1] **administrativeGenderCode** (CONF:1185-33321).

When the patient's administrative sex is unknown, nullFlavor="UNK" SHALL be submitted.

a. AdministrativeGenderCode **SHALL** be selected from either ValueSet ONC Administrative Sex 2.16.840.1.113762.1.4.1 or ValueSet Administrative Gender (HL7 V3) 2.16.840.1.113883.1.11.1 DYNAMIC (CONF:1185-33372).

2. This patient **SHALL** contain exactly one [1..1] **birthTime** (CONF:1185-33322).
   a. SHALL be precise to day (CONF:1185-33373).
3. This patient **SHALL** contain exactly one [1..1] **raceCode** (CONF:1185-33323).

When the patient declined to specify his/her race, nullFlavor="ASKU" SHALL be submitted.

When the patient's race is unknown, nullFlavor="UNK" SHALL be submitted.

a. RaceCode **SHALL** be selected from ValueSet Race 2.16.840.1.114222.4.11.836 (CONF:1185-33374).

4. This patient **MAY** contain zero or more [0..*] **sdtc:raceCode** (CONF:1185-33324).
   a. Sdtc:raceCode **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.836 (CONF:1185-33375).
5. This patient **SHALL** contain exactly one [1..1] **ethnicGroupCode** (CONF:1185-33325).

When the patient declined to specify his/her ethnicity, nullFlavor="ASKU" SHALL be submitted.

When the patient's ethnicity is unknown, nullFlavor="UNK" SHALL be submitted.

a. EthnicGroupCode **SHALL** be selected from ValueSet Ethnicity Value 2.16.840.1.114222.4.11.837 (CONF:1185-33376).

10. **SHALL** contain exactly one [1..1] **custodian** (CONF:1185-33326).
    a. This custodian **SHALL** contain exactly one [1..1] **assignedCustodian** (CONF:1185-33327).

This representedCustodianOrganization id/@root='2.16.840.1.113883.4.336' coupled with the id/@extension represents the organization's Facility CMS Certification Number (CCN).

CCN is required for HQR only.

i. This assignedCustodian **SHALL** contain exactly one [1..1] **representedCustodianOrganization** (CONF:1185-33328).

1. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **id** (CONF:1185-33329) such that it

a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.336" CMS Certification Number (CONF:1185-33377).

nullFlavor is not allowed for CCN.

CCN is six characters in length. A fixed CCN value 800890 shall be used for HQR test submission when no hospital is associated with a submitted QRDA document.

b. **SHALL** contain exactly one [1..1] **@extension** (CONF:1185-33378).

11. **SHOULD** contain zero or one [0..1] **informationRecipient** (CONF:1185-33338) such that it

a. **SHALL** contain exactly one [1..1] **intendedRecipient** (CONF:1185-33339).

i. This intendedRecipient **SHALL** contain exactly one [1..1] **id** (CONF:1185-33340).

1. This id **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.3.249.7" (CONF:1185-33385).

The value of @extension is CMS Program Name.

2. This id **SHALL** contain exactly one [1..1] **@extension** (ValueSet: **QRDA-I CMS Program Name** urn:oid:2.16.840.1.113883.3.249.14.103 **STATIC**) (CONF:1185-33384).

12. **MAY** contain zero or more [0..*] **participant** (CONF:1185-33314).

CMS EHR Certification Number is optional. If it is submitted, it SHALL conform to the constraints specified for the CMS EHR Certification Number.

a. The participant, if present, **SHALL** contain exactly one [1..1] **associatedEntity** (CONF:1185-33315).

i. This associatedEntity **SHALL** contain exactly one [1..1] **id** (CONF:1185-33316) such that it

1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.3.2074.1" CMS EHR Certification Number (formerly known as Office of the

National Coordinator Certification Number) (CONF:1185-33369).

The value of @extension is the Certification Number.

2. **SHALL** contain exactly one [1..1] **@extension** (CONF:1185-33370).

DocumentationOf for PQRS MU GROUP

13. **SHALL** contain exactly one [1..1] **documentationOf** (CONF:1185-33330) such that it
    a. **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:1185-33331).

For GPRO, when the CMS Program Name is "PQRS_MU_GROUP", multiple 'performer' elements are allowed but they must all have the same TIN.

i. This serviceEvent **SHALL** contain at least one [1..*] **performer** (CONF:1185-33332).
    1. Such performers **SHALL** contain exactly one [1..1] **@typeCode**="PRF" Performer (CONF:1185-33383).
    2. Such performers **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:1185-33333).

This assignedEntity id/@root='2.16.840.1.113883.4.6' coupled with the id/@extension represents the individual provider's National Provider Identification number (NPI).

Provider's NPI is not applicable to GPRO, therefore, for GPRO, when the CMS Program Name is "PQRS_MU_GROUP", id/@root='2.16.840.1.113883.4.6' coupled with @nullFlavor="NA" shall be submitted, and @extension SHALL be omitted.

a. This assignedEntity **SHALL** contain exactly one [1..1] **id** (CONF:1185-33334) such that it
    i. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.6" National Provider ID (CONF:1185-33379).
b. This assignedEntity **MAY** contain zero or one [0..1] **assignedPerson** (CONF:1185-33335).
    i. The assignedPerson, if present, **MAY** contain zero or one [0..1] **name** (CONF:1185-33380).
c. This assignedEntity **SHALL** contain exactly one [1..1] **representedOrganization** (CONF:1185-33336).

This representedOrganization id/@root='2.16.840.1.113883.4.2' coupled with the id/@extension represents the organization's Tax Identification Number (TIN). The provided TIN must be in valid format (9 decimal digits).

For GPRO, when the CMS Program Name is "PQRS_MU_GPRO", TIN is required.

i. This representedOrganization **SHALL** contain exactly one [1..1] **id** (CONF:1185-33337).

ii. This id **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.2" Tax ID Number (CONF:1185-33381).

iii. This representedOrganization **MAY** contain zero or one [0..1] **name** (CONF:1185-33382).

documentationOf for PQRS MU Individual

14. **SHALL** contain exactly one [1..1] **documentationOf** (CONF:1185-33341) such that it

a. **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:1185-33342).

For PQRS Individual, when the CMS Program Name is "PQRS_MU_INDIVIDUAL", there can be one and only one 'performer' element.

i. This serviceEvent **SHALL** contain exactly one [1..1] **performer** (CONF:1185-33343).

1. This performer **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:1185-33344).

This assignedEntity id/@root='2.16.840.1.113883.4.6' coupled with the id/@extension represents the individual provider's National Provider Identification number (NPI).

For PQRS Individual, when the CMS Program Name is "PQRS_MU_INDIVIDUAL", provider's NPI is required. The NPI must be in the correct format. A valid NPI is 10 numeric digits where the 10th digit is a check digit computed using the Luhn algorithm.

a. This assignedEntity **SHALL** contain exactly one [1..1] **id** (CONF:1185-33348).

i. This id **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.6" National Provider ID (CONF:1185-33389).

b. This assignedEntity **MAY** contain zero or one [0..1] **assignedPerson** (CONF:1185-33345).

i. The assignedPerson, if present, **MAY** contain zero or one [0..1] **name** (CONF:1185-33386).

c. This assignedEntity **SHALL** contain exactly one [1..1] **representedOrganization** (CONF:1185-33346).

This representedOrganization id/@root='2.16.840.1.113883.4.2' coupled with the id/@extension represents the organization's Tax Identification Number (TIN). The provided TIN must be in valid format (9 decimal digits).

For PQRS Individual, when the CMS Program Name is "PQRS_MU_INDIVIDUAL", TIN is required.

i. This representedOrganization **SHALL** contain exactly one [1..1] **id** (CONF:1185-33347).

ii. This id **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.2" Tax ID Number (CONF:1185-33387).
iii. This representedOrganization **MAY** contain zero or one [0..1] **name** (CONF:1185-33388).

documentationOf for HQR

15. **SHALL** contain exactly one [1..1] **documentationOf** (CONF:1185-33349) such that it
    a. **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:1185-33350).
        i. This serviceEvent **SHALL** contain exactly one [1..1] **@classCode**="PCPR" Care Provision (CONF:1185-33395).
        ii. This serviceEvent **SHALL** contain at least one [1..*] **performer** (CONF:1185-33351).
            1. Such performers **SHALL** contain exactly one [1..1] **@typeCode**="PRF" Performer (CONF:1185-33390).
            2. Such performers **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:1185-33352).

This assignedEntity id/@root='2.16.840.1.113883.4.6' coupled with the id/@extension represents the individual provider's National Provider Identification number (NPI).

For CEC, when the CMS Program Name is "CEC", NPI is required. A valid NPI is 10 numeric digits where the 10th digit is a check digit computed using the Luhn algorithm.

a. This assignedEntity **SHALL** contain exactly one [1..1] **id** (CONF:1185-33353).
    i. This id **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.6" National Provider ID (CONF:1185-33391).
b. This assignedEntity **MAY** contain zero or one [0..1] **assignedPerson** (CONF:1185-33354).
    i. The assignedPerson, if present, **MAY** contain zero or one [0..1] **name** (CONF:1185-33392).
c. This assignedEntity **SHALL** contain exactly one [1..1] **representedOrganization** (CONF:1185-33355).

This representedOrganization id/@root='2.16.840.1.113883.4.2' coupled with the id/@extension represents the organization's Tax Identification Number (TIN). The provided TIN must be in valid format (9 decimal digits).

For CEC, when the CMS Program Name is "CEC", TIN is optional. If no TIN is submitted for CEC, id/@root='2.16.840.1.113883.4.2' coupled with @nullFlavor="NA" shall be submitted, and @extension SHALL be omitted. If TIN is submitted, it shall conform to the constraints specified for TIN.

i. This representedOrganization **SHALL** contain exactly one [1..1] **id** (CONF:1185-33356).
ii. This id SHALL contain exactly one [1..1] @root="2.16.840.1.113883.4.2" Tax ID Number (CONF:1185-33393).
iii. This representedOrganization MAY contain zero or one [0..1] name (CONF:1185-33394).

documentationOf for HQR

16. **SHALL** contain exactly one [1..1] **documentationOf** (CONF:1185-33357) such that it
    a. **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:1185-33358).
        i. This serviceEvent **SHALL** contain at least one [1..*] **performer** (CONF:1185-33359).
            1. Such performers **SHALL** contain exactly one [1..1] **@typeCode**="PRF" Performer (CONF:1185-33400).
            2. Such performers **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:1185-33360).

This assignedEntity id/@root='2.16.840.1.113883.4.6' coupled with the id/@extension represents the individual provider's National Provider Identification number (NPI).

For the Hospital Quality Reporting (HQR), NPI is optional and MAY be submitted. If no NPI is submitted for HQR, id/@root='2.16.840.1.113883.4.6' coupled with @nullFlavor="NA" SHALL be submitted, and @extension SHALL be omitted. If NPI is submitted for HQR, then the NPI SHALL conform to the constraints specified for NPI.

a. This assignedEntity **SHALL** contain exactly one [1..1] **id** (CONF:1185-33399).
b. This assignedEntity **MAY** contain zero or one [0..1] **assignedPerson** (CONF:1185-33361).
    i. The assignedPerson, if present, **MAY** contain zero or one [0..1] **name** (CONF:1185-33396).
c. This assignedEntity **SHALL** contain exactly one [1..1] **representedOrganization** (CONF:1185-33362).

This representedOrganization id/@root='2.16.840.1.113883.4.2' coupled with the id/@extension represents the organization's Tax Identification Number (TIN). The provided TIN must be in valid format (9 decimal digits).

For the HQR, TIN is optional and SHOULD be submitted. If no TIN is submitted for HQR, id/@root='2.16.840.1.113883.4.2' coupled with @nullFlavor="NA" SHALL be submitted, and @extension SHALL be omitted. If TIN is submitted for HQR, then it SHALL conform to the constraints specified for TIN.

i. This representedOrganization **SHALL** contain exactly one [1..1] **id** (CONF:1185-33363).

ii. This id **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.2" Tax ID Number (CONF:1185-33397).
iii. This representedOrganization **MAY** contain zero or one [0..1] **name** (CONF:1185-33398).

17. **SHALL** contain exactly one [1..1] **component** (CONF:1185-33410).
    a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:1185-33411).
        i. This structuredBody **SHALL** contain at least one [1..*] **component** (CONF:1185-33412).
            1. Such components **SHALL** contain exactly one [1..1] **EHDI CMS31 Reporting Parameters Section** (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.3.2:2015-04-07) (CONF:1185-33413).
        ii. This structuredBody **SHALL** contain at least one [1..*] **component** (CONF:1185-33414).
            1. Such components **SHALL** contain exactly one [1..1] **EHDI CMS31 Measure Reference Section** (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.3.1:2015-03-31) (CONF:1185-33416).
        iii. This structuredBody **SHALL** contain at least one [1..*] **component** (CONF:1185-33415).
            1. Such components **SHALL** contain exactly one [1..1] **EHDI CMS31 Patient Data Section** (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.3.3:2015-03-31) (CONF:1185-33417).

R1.3.1.1.D2 EHDI CMS31v4 QRDA Category III Report

[ClinicalDocument: identifier urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.6.2.1.1:2015-04-07 (open)]

Table R1.3.1.1.D2-1: EHDI CMS31v4 QRDA Category III Report Contexts

Contained By:	Contains:
	EHDI CMS31 QRDA III Measure Reference and Results Section EHDI CMS31 Reporting Parameters Section

This template describes constraints that apply to the Quality Reporting Document Architecture (QRDA) Document Category III Report for CMS Eligible Professionals (EP) Programs including the Comprehensive Primary Care (CPC) initiative, EHR Incentive Program (Meaningful Use), and Physician Quality Reporting System (PQRS).

Document-level templates describe the rules for constructing a conforming CDA document. They include constraints on the CDA header and identify contained section-level templates. The document-level template contains the following information:

- Description and explanatory narrative
- Template metadata (e.g., templateId, etc.)
- Header constraints
- Required section-level templates

1. **SHALL** contain exactly one [1..1] **realmCode** (CONF:1185-33223).
    a. This realmCode **SHALL** contain exactly one [1..1] **@code**="US" (CONF:1185-33269).
2. **SHALL** contain exactly one [1..1] **typeId** (CONF:1185-33238).
    a. This typeId **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.1.3" (CONF:1185-33289).
    b. This typeId **SHALL** contain exactly one [1..1] **@extension**="POCD_HD000040" (CONF:1185-33290).

QRDA Category III Report

3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-33207) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.27.1.1" QRDA Category III Report (CONF:1185-33258).
    Note: QRDA Category III Report (QRDA III)
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-33256) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.27.1.2" QRDA Category III Report - CMS (CONF:1185-33308).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-33309) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.18.6.2.1.1" EHDI CMS31v4 QRDA Category III Report (CONF:1185-33310).
    b. **SHALL** contain exactly one [1..1] **@extension**="2015-04-07" (CONF:1185-33311).
6. **SHALL** contain exactly one [1..1] **id** (CONF:1185-33224).
    a. This id **SHALL** be a globally unique identifier for the document (CONF:1185-33270).
7. **SHALL** contain exactly one [1..1] **code** (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:1185-33208).
    a. This code **SHALL** contain exactly one [1..1] **@code**="55184-6" " Quality Reporting Document Architecture Calculated Summary Report (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:1185-33259).
8. **SHALL** contain exactly one [1..1] **title** (CONF:1185-33298).

9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1185-33225).
    a. The content **SHALL** be a conformant US Realm Date and Time (DTM.US.FIELDED) (2.16.840.1.113883.10.20.22.5.4) (CONF:1185-33271).
10. **SHALL** contain exactly one [1..1] **confidentialityCode** (CONF:1185-33247).
    a. This confidentialityCode **SHALL** contain exactly one [1..1] **@code**="N" Normal (CodeSystem: ConfidentialityCode urn:oid:2.16.840.1.113883.5.25 **STATIC**) (CONF:1185-33299).
11. **SHALL** contain exactly one [1..1] **languageCode** (CONF:1185-33226).
    a. This languageCode **SHALL** contain exactly one [1..1] **@code**="en" English (CodeSystem: Language urn:oid:2.16.840.1.113883.6.121) (CONF:1185-33272).
12. **SHALL** contain exactly one [1..1] **recordTarget** (CONF:1185-33209).
    a. This recordTarget **SHALL** contain exactly one [1..1] **patientRole** (CONF:1185-33210) such that it
        i. **SHALL** contain exactly one [1..1] **id** (CONF:1185-33211).
            1. This id **SHALL** contain exactly one [1..1] **@nullFlavor**="NA" (CONF:1185-33260).
13. **SHALL** contain at least one [1..*] **author** (CONF:1185-33227) such that it

    The author/time value represents the time when the document was last edited. When there are multiple authors, the first author time usually correlates with the effectiveTime of the document, which is when the document was generated.

    a. **SHALL** contain exactly one [1..1] **time** (CONF:1185-33277).
    b. **SHALL** contain exactly one [1..1] **assignedAuthor** (CONF:1185-33228).
        i. This assignedAuthor **SHALL** contain exactly one [1..1] **id** (CONF:1185-33276).
        ii. This assignedAuthor **MAY** contain zero or one [0..1] **assignedPerson** (CONF:1185-33275).
        iii. This assignedAuthor **MAY** contain zero or one [0..1] **assignedAuthoringDevice** (CONF:1185-33229).
            1. The assignedAuthoringDevice, if present, **SHALL** contain exactly one [1..1] **softwareName** (CONF:1185-33273).
        iv. This assignedAuthor **SHALL** contain exactly one [1..1] **representedOrganization** (CONF:1185-33230).
            1. This representedOrganization **SHALL** contain at least one [1..*] **name** (CONF:1185-33274).
    c. There **SHALL** be exactly one assignedAuthor/assignedPerson or exactly one assignedAuthor/assignedAuthoringDevice (CONF:1185-33278).
14. **SHALL** contain exactly one [1..1] **custodian** (CONF:1185-33212).
    a. This custodian **SHALL** contain exactly one [1..1] **assignedCustodian** (CONF:1185-33213).

i. This assignedCustodian **SHALL** contain exactly one [1..1] **representedCustodianOrganization** (CONF:1185-33214).
1. This representedCustodianOrganization **SHALL** contain at least one [1..*] **id** (CONF:1185-33261).
2. This representedCustodianOrganization **SHOULD** contain zero or one [0..1] **name** (CONF:1185-33262).

b. This assignedCustodian **SHALL** represent the organization that owns and reports the data (CONF:1185-33263).

15. **SHALL** contain exactly one [1..1] **informationRecipient** (CONF:1185-33252).
a. This informationRecipient **SHALL** contain exactly one [1..1] **intendedRecipient** (CONF:1185-33253).
i. This intendedRecipient **SHALL** contain exactly one [1..1] **id** (CONF:1185-33254).

The id/@root specifies that this identifier represents a CMS Program.

1. This id **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.3.249.7" CMS Program (CONF:1185-33306).

The id/@extension contains the CMS Program the report is being submitted to.

2. This id **SHALL** contain exactly one [1..1] **@extension**, which **SHALL** be selected from ValueSet **CMS Program Name** urn:oid:2.16.840.1.113883.3.249.14.101 **STATIC** (CONF:1185-33255).
a. If ClinicalDocument/informationRecipient/intendedRecipient/id/@extension="CPC", then ClinicalDocument/participant/@typeCode="LOC" **SHALL** be present (CONF:1185-33307).

16. **SHALL** contain exactly one [1..1] **legalAuthenticator** (CONF:1185-33219).
Note: If a Data Submission Vendor (DSV) is used, the DSV is the legalAuthenticator.
a. This legalAuthenticator **SHALL** contain exactly one [1..1] **time** (CONF:1185-33268).
Note: This value is when the document was signed.
b. This legalAuthenticator **SHALL** contain exactly one [1..1] **signatureCode** (CONF:1185-33220).
i. This signatureCode **SHALL** contain exactly one [1..1] **@code**="S" Signed (CONF:1185-33265).
c. This legalAuthenticator **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:1185-33221).
i. This assignedEntity **MAY** contain zero or one [0..1] **representedOrganization** (CONF:1185-33222).

When the legalAuthenticator is a DSV, the representedOrganization/id is the DSV TIN.

1. The representedOrganization, if present, **SHALL** contain at least one [1..*] **id** (CONF:1185-33266).
2. The representedOrganization, if present, **SHOULD** contain zero or one [0..1] **name** (CONF:1185-33267).

17. **MAY** contain zero or more [0..*] **participant** (CONF:1185-33239) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="DEV" device (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:1185-33294).
    b. **SHALL** contain exactly one [1..1] **associatedEntity** (CONF:1185-33240).
        i. This associatedEntity **SHALL** contain exactly one [1..1] **@classCode**="RGPR" Regulated Product (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110 **STATIC**) (CONF:1185-33293).
        ii. This associatedEntity **MAY** contain zero or one [0..1] **id** (CONF:1185-33241) such that it

The CMS EHR Certification ID was formerly known as the ONC Certification Number.

1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.3.2074.1" CMS EHR Certification ID (CONF:1185-33291).
   Note: This value specifies that the id is the CMS EHR Certification ID.

        iii. This associatedEntity **SHALL** contain exactly one [1..1] **code** (CONF:1185-33242).

1. This code **SHALL** contain exactly one [1..1] **@code**="129465004" medical record, device (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96 **STATIC**) (CONF:1185-33292).

If ClinicalDocument/informationRecipient/intendedRecipient/id/@extension="CPC", then this location participant must be present.

18. **MAY** contain zero or one [0..1] **participant** (CONF:1185-33248) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="LOC" Location (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90) (CONF:1185-33300).
    b. **SHALL** contain exactly one [1..1] **associatedEntity** (CONF:1185-33249).
        i. This associatedEntity **SHALL** contain exactly one [1..1] **@classCode**="SDLOC" Service Delivery Location (CodeSystem: RoleClass urn:oid:2.16.840.1.113883.5.110) (CONF:1185-33301).
        ii. This associatedEntity **SHALL** contain exactly one [1..1] **id** (CONF:1185-33250).

1. This id **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.3.249.5.1" CPC Practice Site (CONF:1185-33302).
   Note: This OID contained in the @root (2.16.840.1.113883.3.249.5.1) designates that the @extension must hold a CPC Practice Site ID.
2. This id **SHALL** contain exactly one [1..1] **@extension** (CONF:1185-33303).
   Note: This is the CPC Practice Site ID assigned to the CPC Practice Site.

iii. This associatedEntity **SHALL** contain exactly one [1..1] **code** (CONF:1185-33251).

1. This code **SHALL** contain exactly one [1..1] **@code**="394730007" Healthcare Related Organization (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:1185-33305).

iv. This associatedEntity **SHALL** contain exactly one [1..1] **addr** (CONF:1185-33304).

19. **SHALL** contain exactly one [1..1] **documentationOf** (CONF:1185-33231).
    a. This documentationOf **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:1185-33232).
       i. This serviceEvent **SHALL** contain exactly one [1..1] **@classCode**="PCPR" Care Provision (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1185-33288).
       ii. This serviceEvent **SHALL** contain at least one [1..*] **performer** (CONF:1185-33233).
           Note: All providers seeking credit for CMS program reporting are listed as performers. For CPC reporting, only CPC Practice Site providers are listed as performers.
           1. Such performers **SHALL** contain exactly one [1..1] **@typeCode**="PRF" Performer (CodeSystem: HL7ParticipationType urn:oid:2.16.840.1.113883.5.90 **STATIC**) (CONF:1185-33286).
           2. Such performers **MAY** contain zero or one [0..1] **time** (CONF:1185-33287).
           3. Such performers **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:1185-33234).

The assignedEntity id/@root coupled with the id/@extension represents the individual provider's National Provider Identification number (NPI).

NPI is required except for the Group Practice Reporting Option (GPRO). For GPRO, id/@root is coupled with @nullFlavor="NA", and @extension shall be omitted.

a. This assignedEntity **SHALL** contain exactly one [1..1] **id** (CONF:1185-33235) such that it
    i. **MAY** contain zero or one [0..1] **@nullFlavor**="NA" (CONF:1185-33281).
    Note: @nullFlavor is only present for PQRS GPRO reporting.
    ii. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.6" National Provider ID (CONF:1185-33279).
    Note: This value specifies that the id is the provider's National Provider Identifier (NPI).
    iii. **SHALL** contain exactly one [1..1] **@extension** (CONF:1185-33280).
    Note: This is the provider's NPI, it is only present when this is not PQRS GPRO reporting.
b. This assignedEntity **MAY** contain zero or more [0..*] **telecom** (CONF:1185-33285).
c. This assignedEntity **SHALL** contain exactly one [1..1] **representedOrganization** (CONF:1185-33236).
    i. This representedOrganization **SHALL** contain exactly one [1..1] **id** (CONF:1185-33237) such that it
    ii. SHALL contain exactly one [1..1] @root="2.16.840.1.113883.4.2" Tax ID Number (CONF:1185-33282).
    Note: This value specifies that this id is the organization's Tax Identification Number (TIN).
    iii. SHALL contain exactly one [1..1] @extension (CONF:1185-33283).
    Note: This is the organization's TIN.
    iv. This representedOrganization SHOULD contain zero or more [0..*] name (CONF:1185-33284).

20. **MAY** contain zero or one [0..1] **authorization** (CONF:1185-33243).
    a. The authorization, if present, **SHALL** contain exactly one [1..1] **consent** (CONF:1185-33244).
        i. This consent **SHALL** contain exactly one [1..1] **id** (CONF:1185-33297).
        Note: This is the identifier of the consent given by the EP.
        ii. This consent **SHALL** contain exactly one [1..1] **code** (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96 **STATIC**) (CONF:1185-33245).
            1. This code **SHALL** contain exactly one [1..1] **@code**="425691002" Consent given for electronic record

sharing (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:1185-33295).

iii. This consent **SHALL** contain exactly one [1..1] **statusCode** (CONF:1185-33246).

1. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1185-33296).

21. **SHALL** contain exactly one [1..1] **component** (CONF:1185-33215).

a. This component **SHALL** contain exactly one [1..1] **structuredBody** (CONF:1185-33216).

i. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1185-33217) such that it

1. **SHALL** contain exactly one [1..1] **EHDI CMS31 Reporting Parameters Section** (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.3.2:2015-04-07) (CONF:1185-33257).

ii. This structuredBody **SHALL** contain exactly one [1..1] **component** (CONF:1185-33218) such that it

1. **SHALL** contain exactly one [1..1] **EHDI CMS31 QRDA III Measure Reference and Results Section** (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.6.2.3.1:2015-04-07) (CONF:1185-33264).

R1.3.2 Header

R1.3.3 Section-level Templates

R1.3.3.S1 EHDI CMS31 Measure Reference Section - Draft

[section: identifier urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.3.1:2015-03-31 (open)]

Table R1.3.3.1-1: EHDI CMS31 Measure Reference Section Contexts

Contained By:	Contains:
EHDI CMS31v4 QRDA Category I Report (required)	EHDI CMS31 eMeasure Reference Organizer

This section contains measure reference information about the CMS31v4 eMeasure being reported. It contains a machine readable entry for the identifier of the eMeasures. The measure's definition indicates the QRDA QDM data element entry templates to be used when representing the data elements in the Patient Data Section. Each eMeasure for which QRDA QDM data elements are being sent must reference the eMeasure's act/id. Other eMeasure identifiers that could be referenced are the eMeasure Identifier

(Measure Authoring Tool), eMeasure Version Number, eMeasure Title and the NQF Number, eMeasure Title and the NQF Number.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-296) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.3.1" EHDI CMS31 Measure Reference (CONF:1185-298).
    b. **SHALL** contain exactly one [1..1] **@extension**="2015-03-31" (CONF:1185-32910).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-32909) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.97" eMeasure Reference QDM (CONF:1185-32911).
3. **SHALL** contain exactly one [1..1] **entry** (CONF:1185-295).
    a. This entry **SHALL** contain exactly one [1..1] **EHDI CMS31 eMeasure Reference Organizer** (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.1:2015-03-31) (CONF:1185-32949).

R1.3.3.S2 EHDI CMS31 Patient Data Section - Draft

[section: identifier urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.3.3:2015-03-31 (open)]

Table R1.3.3.S2-1: EHDI CMS31 Patient Data Section Contexts

Contained By:	Contains:
EHDI CMS31v4 QRDA Category I Report (required)	EHDI CMS31 Diagnosis-Active:Livebirth:SNOMED EHDI CMS31 Diagnosis-Active:Liveborn Newborn Born in Hospital:ICD EHDI CMS31 Diagnostic Study-Performed:NHS Left EHDI CMS31 Diagnostic Study-Performed:NHS Right EHDI CMS31 Encounter-Performed:Inpatient Encounter Patient Characteristic Payer

The EHDI CMS31 Patient Data Section contains entries specified by the EHDI CMS32 eCQM.

All entries conform to the QDM approach to QRDA, in contrast to a QRDA Framework Patient Data Section that requires but does not specify the structured entries.)

The entry templates have specific requirements to align the quality measure data element type with its corresponding NQF QDM HQMF pattern, its referenced value set and potential QDM attributes.

Entries reference the corresponding eMeasure value set via the sdtc:valueSet attribute. All entries must also have time element. See Quality Data Model-Based QRDA IG.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-60) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.3.3" (CONF:1185-128).
    b. **SHALL** contain exactly one [1..1] **@extension**="2015-03-31" (CONF:1185-32971).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-32972) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.2.1" (CONF:1185-32973).

Patient Data Section QDM (V2)

    b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1185-32974).

Patient Data Section

3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-32975) such that it

Patient Data Section

    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.17.2.4" (CONF:1185-32976).
4. **SHALL** contain exactly one [1..1] **entry** (CONF:1185-454) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1185-455).
    b. **SHALL** contain exactly one [1..1] **EHDI CMS31 Encounter-Performed:Inpatient Encounter** (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.3:2015-03-31) (CONF:1185-456).
5. **SHOULD** contain zero or one [0..1] **entry** (CONF:1185-457) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1185-467).
    b. **SHALL** contain exactly one [1..1] **EHDI CMS31 Diagnosis-Active:Liveborn Newborn Born in Hospital:ICD** (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.4:2015-03-31) (CONF:1185-458).
6. **SHOULD** contain zero or one [0..1] **entry** (CONF:1185-459) such that it
    a. **SHALL** contain zero or one [0..1] **@typeCode**="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1185-468).
    b. **SHALL** contain exactly one [1..1] **EHDI CMS31 Diagnosis-Active:Livebirth:SNOMED** (identifier:

urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.5:2015-03-31) (CONF:1185-460).

7. **SHOULD** contain zero or one [0..1] **entry** (CONF:1185-461) such that it
   a. **SHALL** contain exactly one [1..1] **@typeCode**="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1185-469).
   b. **SHALL** contain exactly one [1..1] **EHDI CMS31 Diagnostic Study-Performed:NHS Left** (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.6:2015-03-31) (CONF:1185-462).
8. **SHOULD** contain zero or one [0..1] **entry** (CONF:1185-463) such that it
   a. **SHALL** contain exactly one [1..1] **@typeCode**="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1185-470).
   b. **SHALL** contain exactly one [1..1] **EHDI CMS31 Diagnostic Study-Performed:NHS Right** (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.7:2015-03-31) (CONF:1185-464).
9. **SHALL** contain exactly one [1..1] **entry** (CONF:1185-465) such that it
   a. **SHALL** contain exactly one [1..1] **@typeCode**="DRIV" is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1185-471).
   b. **SHALL** contain exactly one [1..1] **Patient Characteristic Payer** (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.55) (CONF:1185-466).

R1.3.3.S3 EHDI CMS31 QRDA III Measure Reference and Results Section - Draft

[section: identifier urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.6.2.3.1:2015-04-07 (open)]

Table R1.3.3.S3-1: EHDI CMS31 QRDA III Measure Reference and Results Section Contexts

Contained By:	Contains:
EHDI CMS31v4 QRDA Category III Report (required)	Measure Reference and Results

This section references the measure(s) being reported. For each reported measure, this section includes entries for reporting various aggregate counts (e.g., number of patients in the measure's denominator). For continuous variable measures, this section includes entries for reporting the continuous variables. This section can also include entries not only for aggregate counts, but stratified aggregate counts (e.g., not just total number of patients in the denominator, but also the number of males in the denominator).

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-33421) such that it

a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.2.2" Measure Section (CONF:1185-33422).

2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-33423) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.27.2.1" QRDA Category III Measure (CONF:1185-33424).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-33418) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.18.6.2.3.1" EHDI CMS31 QRDA III Measure Reference and Results (CONF:1185-33419).
   b. **SHALL** contain exactly one [1..1] **@extension**="2015-04-07" (CONF:1185-33420).
4. **SHALL** contain at least one [1..*] **entry** (CONF:1185-33200) such that it
   a. **SHALL** contain exactly one [1..1] **Measure Reference and Results** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.1) (CONF:1185-33202).

R1.3.3.S4 EHDI CMS31 Reporting Parameters Section - Draft

[section: identifier urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.3.2:2015-04-07 (open)]

Table R1.3.3.S4-1: EHDI CMS31 Reporting Parameters Section Contexts

Contained By:	Contains:
EHDI CMS31v4 QRDA Category III Report (required) EHDI CMS31v4 QRDA Category I Report (required)	EHDI CMS31 Reporting Parameters Act

The QRDA Category III Reporting Parameters Section provides information about the reporting time interval, and may contain other information that provides context for the data being reported. This template adds an optional Service Encounter template.

The QRDA Category III report contains data covering a single time period represented by the reporting parameters act. It is not possible in the current QRDA Category III to include multiple reporting periods.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-32992) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.3.2" (CONF:1185-32995).
   b. **SHALL** contain exactly one [1..1] **@extension**="2015-04-07" (CONF:1185-32998).
2. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-32999) such that it

a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.27.2.2" QRDA Category III Reporting Parameters Section (CONF:1185-33000).

3. **SHALL** contain exactly one [1..1] **entry** (CONF:1185-32991) such that it
   a. **SHALL** contain exactly one [1..1] **@typeCode**="DRIV" Is derived from (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1185-32996).
   b. **SHALL** contain exactly one [1..1] **EHDI CMS31 Reporting Parameters Act** (identifier: urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.2:2015-04-07) (CONF:1185-32994).

R1.3.4 Entry-level Templates

R1.3.4.E1 Aggregate Count - Published

[observation: identifier urn:oid:2.16.840.1.113883.10.20.27.3.3 (open)]

Table R1.3.4.E1-1: Aggregate Count Contexts

Contained By:	Contains:
Reporting Stratum (required) Measure Data (required) Postal Code Supplemental Data Element (required) Payer Supplemental Data Element (required) Race Supplemental Data Element (required) Ethnicity Supplemental Data Element (required) Sex Supplemental Data Element (required)	

The Aggregate Count captures the number of items aggregated. This template is contained in a parent template that describes the item. If the parent template is a supplemental data element, the count is sent only when the number is not zero. Otherwise, the count is sent even if the number is zero. The predicted count (based on the measure's risk-adjustment model) can be captured in the reference range.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:77-17563).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:77-17564).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:77-17565) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.27.3.3" (CONF:77-18095).
4. **SHALL** contain exactly one [1..1] **code** (CONF:77-17566).

a. This code **SHALL** contain exactly one [1..1] **@code**="MSRAGG" rate aggregation (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:77-19508).

5. **SHALL** contain exactly one [1..1] **value** with @xsi:type="INT" (CONF:77-17567).
    a. This value **SHALL** contain exactly one [1..1] **@value** (CONF:77-17568).
6. **SHALL** contain exactly one [1..1] **methodCode** (CONF:77-19509).
    a. This methodCode **SHALL** contain exactly one [1..1] **@code**="COUNT" Count (CodeSystem: ObservationMethod urn:oid:2.16.840.1.113883.5.84) (CONF:77-19510).

The reference range is optionally used to represent the predicted count based on the measure's risk-adjustment model.

7. **MAY** contain zero or one [0..1] **referenceRange** (CONF:77-18392).
    a. The referenceRange, if present, **SHALL** contain exactly one [1..1] **observationRange** (CONF:77-18393).
        i. This observationRange **SHALL** contain exactly one [1..1] **value** with @xsi:type="INT" (CONF:77-18394).

```
<observation classCode="OBS" moodCode="EVN">
    <templateId root="2.16.840.1.113883.10.20.27.3.3" />
    <code code="MSRAGG" displayName="rate aggregation"
codeSystem="2.16.840.1.113883.5.4" codeSystemName="ActCode"/>
    <statusCode code="completed"/>
    <value xsi:type="INT" value="1000"/>
    <methodCode code="COUNT" displayName="Count"
codeSystem="2.16.840.1.113883.5.84"
codeSystemName="ObservationMethod"/>
</observation>
```

Figure R1.3.4.E1-1: Aggregate Count Example

R1.3.4.E2 Continuous Variable Measure Value - Published

[observation: identifier urn:oid:2.16.840.1.113883.10.20.27.3.2 (open)]

Table R1.3.4.E2-1: Continuous Variable Measure Value Contexts

Contained By:	Contains:
Reporting Stratum (optional) Measure Data (optional)	

This observation represents the continuous variables found in quality measures that measure performance criteria by time spans, magnitude changes, etc. A continuous variable for a given patient might be the time spent waiting for a procedure. A continuous variable for a population might be the mean wait time. The type of aggregation (e.g., mean, median) is represented in the observation/methodCode. The

predicted value (based on the measure's risk-adjustment model) can be captured in the reference range.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:77-17569).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:77-17570).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:77-18096) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.27.3.2" (CONF:77-18097).
4. **SHALL** contain exactly one [1..1] **code** (CONF:77-17571).
    a. If this continuous variable measure references an eMeasure, this code element **SHALL** equal the code element in that eMeasure's measure observation definition (CONF:77-18256).
5. **SHALL** contain exactly one [1..1] **value** (CONF:77-17572).
6. **SHALL** contain exactly one [1..1] **methodCode**, which **SHALL** be selected from ValueSet **ObservationMethodAggregate** urn:oid:2.16.840.1.113883.1.11.20450 **STATIC** (CONF:77-18242).
7. **SHALL** contain exactly one [1..1] **reference** (CONF:77-18243).
    a. This reference **SHALL** contain exactly one [1..1] **externalObservation** (CONF:77-18244).
        i. This externalObservation **SHALL** contain exactly one [1..1] **id** (CONF:77-18245).
            1. If this reference is to an eMeasure, this id **SHALL** equal the id in that eMeasure's measure observation definition (CONF:77-18255).

The reference range is optionally used to represent the predicted continuous variable value based on the measure's risk-adjustment model.

8. **MAY** contain zero or one [0..1] **referenceRange** (CONF:77-18389).
    a. The referenceRange, if present, **SHALL** contain exactly one [1..1] **observationRange** (CONF:77-18390).
        i. This observationRange **SHALL** contain exactly one [1..1] **value** (CONF:77-18391).

R1.3.4.E3 EHDI CMS31 Diagnosis-Active:Livebirth:SNOMED - Draft

```
[observation: identifier
urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.5:2015-03-31 (open)]
```


Table R1.3.4.E3-1: EHDI CMS31 Diagnosis-Active:Livebirth:SNOMED Contexts

Contained By:	Contains:
EHDI CMS31 Patient Data Section (optional)	Author Participation Problem Status (DEPRECATED)

This template represents the QDM datatype: Diagnosis, Active.

This template conforms to the pattern of a C-CDA Problem Observation. An "Active Diagnosis" is a problem, diagnosis or condition that is currently monitored or tracked or is a factor that must be considered as part of the treatment plan in progress. In this template, the observation/code is constrained to "Diagnosis" and it contains the Problem Status Active template to record that the problem, diagnosis, or condition is considered "Active".

This template records if the newborn was a live birth in a hospital.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

QDM Attribute: Start Datetime is represented by author/time/low and is the time the active diagnosis is entered into the system. QDM Attribute: Stop Datetime is represented by author/time/high and is the time the diagnosis is made inactive in the system. Observation/effectiveTime represents the period of time from onset date (low) until resolution date (high).

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1185-383).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1185-387).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-357) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.5" (CONF:1185-368).
    b. **SHALL** contain exactly one [1..1] **@extension**="2015-03-31" (CONF:1185-369).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-32950) such that it

Diagnosis active template

    a. **MAY** contain zero or one [0..1] **@root**="2.16.840.1.113883.10.20.24.3.11" (CONF:1185-32951).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-32952) such that it

Problem observation template

    a. **MAY** contain zero or one [0..1] **@root**="2.16.840.1.113883.10.20.22.4.4" (CONF:1185-32953).
6. **SHALL** contain exactly one [1..1] **code** (CONF:1185-358).

a. This code **SHALL** contain exactly one [1..1] **@code**="29308-4" diagnosis (CONF:1185-370).
b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:1185-371).

This effectiveTime represents the period of time from onset date (low) until resolution date (high).

7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1185-359).
   a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1185-372). Note: Onset date
8. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:1185-363).
   a. This value **SHALL** contain exactly one [1..1] **@sdtc:valueSet**, which **SHALL** be selected from ValueSet **Livebirth** urn:oid:2.16.840.1.114222.4.1.214079.1.1.1 **STATIC** 2015-04-30 (CONF:1185-382).

author/time/low represents the time the active diagnosis is entered into the system. author/time/high represents the time the diagnosis is made inactive in the system.

9. **SHALL** contain zero or more [0..*] **Author Participation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1185-388).
10. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:1185-365) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1185-385).
    b. **SHALL** contain exactly one [1..1] **Problem Status (DEPRECATED)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.6:2014-06-09) (CONF:1185-32984).

R1.3.4.E4 EHDI CMS31 Diagnosis-Active:Liveborn Newborn Born in Hospital:ICD - Draft

[observation: identifier urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.4:2015-03-31 (open)]

Table R1.3.4.E4-1: EHDI CMS31 Diagnosis-Active:Liveborn Newborn Born in Hospital:ICD Contexts

Contained By:	Contains:
EHDI CMS31 Patient Data Section (optional)	Author Participation Problem Status (DEPRECATED)

This template represents the QDM datatype: Diagnosis, Active.

This template conforms to the pattern of a C-CDA Problem Observation. An "Active Diagnosis" is a problem, diagnosis or condition that is currently monitored or tracked or is a factor that must be considered as part of the treatment plan in progress. In this template, the observation/code is constrained to "Diagnosis" and it contains the Problem Status Active template to record that the problem, diagnosis, or condition is considered "Active".

This template records if the newborn was liveborn and born in a hospital.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

QDM Attribute: Start Datetime is represented by author/time/low and is the time the active diagnosis is entered into the system. QDM Attribute: Stop Datetime is represented by author/time/high and is the time the diagnosis is made inactive in the system. Observation/effectiveTime represents the period of time from onset date (low) until resolution date (high).

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1185-348).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1185-352).

If the hearing screening for the left ear was not performed, set the value of @negationInd to true, otherwise this attribute defaults to a value of false. NegationInd functions as an ActNegationInd in this template.

3. **SHOULD** contain zero or one [0..1] **@negationInd** (CONF:1185-32990).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-322) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.4" (CONF:1185-333).
    b. **SHALL** contain exactly one [1..1] **@extension**="2015-03-31" (CONF:1185-334).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-32961) such that it

Diagnosis active template

    a. **MAY** contain zero or one [0..1] **@root**="2.16.840.1.113883.10.20.24.3.11" (CONF:1185-32962).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-32963) such that it

Problem observation template

    a. **MAY** contain zero or one [0..1] **@root**="2.16.840.1.113883.10.20.22.4.4" (CONF:1185-32964).
7. **SHALL** contain exactly one [1..1] **code** (CONF:1185-323).
    a. This code **SHALL** contain exactly one [1..1] **@code**="29308-4" diagnosis (CONF:1185-335).

b. This code **SHALL** contain exactly one [1..1] `@codeSystem="2.16.840.1.113883.6.1"` (CodeSystem: `LOINC urn:oid:2.16.840.1.113883.6.1`) (CONF:1185-336).

This effectiveTime represents the period of time from onset date (low) until resolution date (high).

8. **SHALL** contain exactly one [1..1] **`effectiveTime`** (CONF:1185-324).
   a. This effectiveTime **SHALL** contain exactly one [1..1] **`low`** (CONF:1185-337). Note: Onset date
9. **SHALL** contain exactly one [1..1] **`value`** with @xsi:type="CD" (CONF:1185-328).
   a. This value **SHALL** contain exactly one [1..1] **`@sdtc:valueSet`**, which **SHALL** be selected from ValueSet **`Liveborn Newborn Born in Hospital`** `urn:oid:2.16.840.1.113762.1.4.1046.6` **STATIC** 2015-04-30 (CONF:1185-347).
   b. This value **MAY** contain zero or more [0..*] **`qualifier`** (CONF:1185-329).
      i. The qualifier, if present, **SHALL** contain exactly one [1..1] **`name`** (CONF:1185-345).
      ii. The qualifier, if present, **SHALL** contain exactly one [1..1] **`value`** (CONF:1185-346).

author/time/low represents the time the active diagnosis is entered into the system. author/time/high represents the time the diagnosis is made inactive in the system.

10. **SHALL** contain zero or more [0..*] **`Author Participation`** (`identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119`) (CONF:1185-353).
11. **SHALL** contain exactly one [1..1] **`entryRelationship`** (CONF:1185-330) such that it
    a. **SHALL** contain exactly one [1..1] **`@typeCode`**="REFR" Refers to (CodeSystem: `HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002`) (CONF:1185-350).
    b. **SHALL** contain exactly one [1..1] **`Problem Status (DEPRECATED)`** (`identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.6:2014-06-09`) (CONF:1185-32983).

R1.3.4.E5 EHDI CMS31 Diagnostic Study-Performed:NHS Left - Draft

`[observation: identifier urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.6:2015-03-31 (open)]`

Table R1.3.4.E5-1: EHDI CMS31 Diagnostic Study-Performed:NHS Left Contexts

Contained By:	Contains:
EHDI CMS31 Patient Data Section (optional)	Patient Preference (V2) Provider Preference (V2) Reason (V2)

This template represents the QDM datatype: Diagnostic Study, Performed.

This template indicates that a diagnostic study has been completed. Diagnostic studies are those that are not performed in the clinical laboratory. Such studies include but are not limited to imaging studies, cardiology studies (electrocardiogram, treadmill stress testing), pulmonary function testing, vascular laboratory testing, and others. A time/date stamp is required, moodCode is constrained to “EVN” and statusCode is constrained to “completed”.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

This template records information about the hearing screen for the newborn's left ear. The negationInd element is used to indicate if the screening was not performed, and the reason template is used to indicate why the screening was not performed. If the screening was performed, the result is recorded in the value element. The effectiveTime/low and effectiveTime/high elements are used to indicate the date and time when the performed screening began and ended.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1185-418).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1185-414).

If the hearing screening for the right ear was not performed, set the value of @negationInd to true, otherwise this attribute defaults to a value of false. NegationInd functions as an ActNegationInd in this template.

3. **SHOULD** contain zero or one [0..1] **@negationInd** (CONF:1185-33015).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-392) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.6" (CONF:1185-403).
    b. **SHALL** contain exactly one [1..1] **@extension**="2015-03-31" (CONF:1185-404).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-32966) such that it

Diagnostic Study, Performed template

    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.18" (CONF:1185-32967).
6. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-32968) such that it

Procedure Activity Observation (V2)

    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.13" (CONF:1185-32969).
    b. **MAY** contain zero or one [0..1] **@extension**="2014-06-09" (CONF:1185-32977).
7. **SHALL** contain exactly one [1..1] **code** (CONF:1185-399).

a. This code **SHALL** contain exactly one [1..1] **@sdtc:valueSet**, which **SHALL** be selected from ValueSet **Newborn Hearing Screen Left** urn:oid:2.16.840.1.114222.4.1.214079.1.1.3 **STATIC** 2015-04-30 (CONF:1185-419).

8. **SHALL** contain exactly one [1..1] **statusCode** (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1185-393).
    a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1185-405).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1185-394).
    a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1185-406).
    b. This effectiveTime **SHALL** contain exactly one [1..1] **high** (CONF:1185-407).
10. **SHOULD** contain zero or one [0..1] **value**, which **SHALL** be selected from ValueSet **Pass Or Refer** urn:oid:2.16.840.1.114222.4.1.214079.1.1.6 **STATIC** 2015-04-30 (CONF:1185-32970).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1185-391) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="RSON" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1185-402).
    b. **SHALL** contain exactly one [1..1] **Reason (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:1185-401).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1185-395) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="RSON" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1185-408).
    b. **SHALL** contain exactly one [1..1] **Patient Preference (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.83:2014-12-01) (CONF:1185-409).
13. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1185-396) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="RSON" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1185-410).
    b. **SHALL** contain exactly one [1..1] **Provider Preference (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.84:2014-12-01) (CONF:1185-411).

R1.3.4.E6 EHDI CMS31 Diagnostic Study-Performed:NHS Right - Draft

[observation: identifier urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.7:2015-03-31 (open)]

Table R1.3.4.E6-1: EHDI CMS31 Diagnostic Study-Performed:NHS Right Contexts

Contained By:	Contains:
EHDI CMS31 Patient Data Section (optional)	Patient Preference (V2) Provider Preference (V2) Reason (V2)

This template represents the QDM datatype: Diagnostic Study, Performed.

This template indicates that a diagnostic study has been completed. Diagnostic studies are those that are not performed in the clinical laboratory. Such studies include but are not limited to imaging studies, cardiology studies (electrocardiogram, treadmill stress testing), pulmonary function testing, vascular laboratory testing, and others. A time/date stamp is required, moodCode is constrained to “EVN” and statusCode is constrained to “completed”.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

This template records information about the hearing screen for the newborn's right ear. The negationInd element is used to indicate if the screening was not performed, and the reason template is used to indicate why the screening was not performed. If the screening was performed, the result is recorded in the value element. The effectiveTime/low and effectiveTime/high elements are used to indicate the date and time when the performed screening began and ended.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1185-449).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1185-445).

If the hearing screening for the right ear was not performed, set the value of @negationInd to true, otherwise this attribute defaults to a value of false. NegationInd functions as an ActNegationInd in this template.

3. **SHOULD** contain zero or one [0..1] **@negationInd** (CONF:1185-452).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-423) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.7" EHDI CMS31 Diagnostic Study-Performed:NHS Right (CONF:1185-434).
    b. **SHALL** contain exactly one [1..1] **@extension**="2015-03-31" (CONF:1185-435).
5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-32978) such that it

Diagnostic Study, Performed template

a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.18" Diagnostic Study Performed (CONF:1185-32980).

6. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-32979) such that it

Procedure Activity Observation (V2)

a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.13" Procedure Activity Observation (CONF:1185-32981).
b. **SHALL** contain exactly one [1..1] **@extension**="2014-06-09" (CONF:1185-32982).

7. **SHALL** contain exactly one [1..1] **code** (CONF:1185-430).
   a. This code **SHALL** contain exactly one [1..1] **@sdtc:valueSet**, which **SHALL** be selected from ValueSet **Newborn Hearing Screen Right** urn:oid:2.16.840.1.114222.4.1.214079.1.1.4 (CONF:1185-450).
8. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1185-424).
   a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1185-436).
9. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1185-425).
   a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1185-437).
   b. This effectiveTime **SHALL** contain exactly one [1..1] **high** (CONF:1185-438).
10. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1185-422) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="RSON" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1185-433).
    b. **SHALL** contain exactly one [1..1] **Reason (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01) (CONF:1185-432).
11. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1185-426) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="RSON" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1185-439).
    b. **SHALL** contain exactly one [1..1] **Patient Preference (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.83:2014-12-01) (CONF:1185-440).
12. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:1185-427) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="RSON" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1185-441).
    b. **SHALL** contain exactly one [1..1] **Provider Preference (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.24.3.84:2014-12-01) (CONF:1185-442).

R1.3.4.E7 EHDI CMS31 eMeasure Reference Organizer - Draft

```
[organizer: identifier
urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.1:2015-03-31 (open)]
```

Table R1.3.4.E7-1: EHDI CMS31 eMeasure Reference Organizer Contexts

Contained By:	Contains:
EHDI CMS31 Measure Reference Section (required)	

This template defines the way that a QDM eMeasure should be referenced in a QDM-Based QRDA. An eMeasure is referenced through externalAct reference to an externalDocument. The externalDocument/ids and version numbers are used to reference the measure. The eMeasure Reference QDM template must contain a reference to the version specific identifier for each eMeasure: the QualityMeasureDocument/id.

In addition to referencing an eMeasure, this template allows one to assert whether or not the included patient data is believed by the sender to satisfy the various population criteria of the referenced eMeasure. For each population defined in a referenced eMeasure, the sender can assert “true” or “false”, that the criteria are met by the included data. For outcome measures, the sender can also assert the predicted probability that the patient would meet particular population criteria. For instance, based on an outcome measure’s risk model, one might calculate that the patient has a 27% probability of meeting the numerator criteria.

1. **SHALL** contain exactly one [1..1] **@classCode**="CLUSTER" cluster (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1185-275).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1185-276).
3. **MAY** contain zero or more [0..*] **templateId** (CONF:1185-32985).
    a. The templateId, if present, **MAY** contain zero or one [0..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.1" (CONF:1185-32986).
    b. The templateId, if present, **MAY** contain zero or one [0..1] **@extension**="2015-03-31" (CONF:1185-32987).
4. **MAY** contain zero or more [0..*] **templateId** (CONF:1185-32988).

Measure Reference

    a. The templateId, if present, **MAY** contain zero or one [0..1] **@root**="2.16.840.1.113883.10.20.24.3.98" (CONF:1185-32989).

5. **SHALL** contain exactly one [1..1] **statusCode**="completed" completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1185-277).
6. **SHALL** contain exactly one [1..1] **reference** (CONF:1185-261) such that it

a. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1185-278).
b. **SHALL** contain exactly one [1..1] **externalDocument**="DOC" Document (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1185-262).
    i. This externalDocument **SHALL** contain exactly one [1..1] **id** (CONF:1185-263) such that it
        1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.738" (CONF:1185-279).
        Note: This OID indicates that the @extension contains the version specific identifier for the eMeasure.
        2. **SHALL** contain exactly one [1..1] **@extension** (CONF:1185-280).
        Note: This @extension SHALL equal the version specific identifier for eMeasure (i.e., QualityMeasureDocument/id)
    ii. This externalDocument **SHOULD** contain zero or one [0..1] **code**="57024-2" Health Quality Measure Document (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:1185-281).
    iii. This externalDocument **SHOULD** contain zero or one [0..1] **text** (CONF:1185-264).
        1. This text **SHALL** equal the title of the eMeasure (CONF:1185-282).
    iv. This externalDocument **SHOULD** contain zero or one [0..1] **setId** (CONF:1185-265).
        1. This setId **SHALL** equal the QualityMeasureDocument/setId which is the eMeasure version neutral id (CONF:1185-283).
    v. This externalDocument **SHOULD** contain zero or one [0..1] **versionNumber** (CONF:1185-266).
        1. The version number **SHALL** equal the sequential eMeasure Version number (CONF:1185-284).

7. **MAY** contain zero or more [0..*] **component** (CONF:1185-267).
    a. The component, if present, **SHALL** contain exactly one [1..1] **observation** (CONF:1185-268).
        i. This observation **SHALL** contain exactly one [1..1] **@negationInd** (CONF:1185-285).
        ii. This observation **SHALL** contain exactly one [1..1] **code** (CONF:1185-269).
            1. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CONF:1185-286).

2. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.5.4" (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:1185-287).

iii. This observation **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:1185-288).

iv. This observation **SHALL** contain exactly one [1..1] **reference** (CONF:1185-270).

1. This reference **SHALL** contain exactly one [1..1] **@typeCode**="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:1185-289).
2. This reference **SHALL** contain exactly one [1..1] **externalObservation** (CONF:1185-271).
    a. This externalObservation **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1185-291).
    b. This externalObservation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1185-292).
    c. This externalObservation **SHALL** contain exactly one [1..1] **id** (CONF:1185-272).
        i. This identifier **SHALL** be equal to a population criterion identifier in the referenced eMeasure. (This is necessary because a referenced eMeasure can have multiple numerator populations) (CONF:1185-290).

v. This observation **MAY** contain zero or one [0..1] **referenceRange** (CONF:1185-273).

1. The referenceRange, if present, **SHALL** contain exactly one [1..1] **observationRange** (CONF:1185-274).
    a. This observationRange **SHALL** contain exactly one [1..1] **value** with @xsi:type="REAL" (CONF:1185-293).
2. The referenceRange is used to indicate the probability that the patient would meet the corresponding population criteria. It is relevant for outcome measures, where predictive models allow for calculating the probability that a patient would meet the criteria of a given population (CONF:1185-294).

R1.3.4.E8 EHDI CMS31 Encounter-Performed:Inpatient Encounter - Draft

`[encounter: identifier urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.3:2015-03-31 (open)]`

Table R1.3.4.E8-1: EHDI CMS31 Encounter-Performed:Inpatient Encounter Contexts

Contained By:	Contains:
EHDI CMS31 Patient Data Section (required)	

Template Relationships:

This template represents the QDM datatype: Encounter, Performed. It also implies (conforms to) the pattern of a C-CDA Encounter Activity template.

Content Purpose:

The Encounter, Performed describes the interactions between the patient and clinicians that have been completed. Interactions include in-person encounters, telephone conversations, and email exchanges. The actStatus is constrained to “completed” and both a low and high effectiveTime are required.

In the EHDI CMS31 measure, this encounter records the birth encounter. The effectiveTime/low records the encounter admissionDateTime and effectiveTime/high records the encounter dischargeDateTime. The sdtc:dischargeDispositionCode records the concept for "patient expired" if the newborn died during the birth encounter.

1. **SHALL** contain exactly one [1..1] **@classCode**="ENC" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1185-318).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1185-319).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-300) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.3" (CONF:1185-308).
    b. **SHALL** contain exactly one [1..1] **@extension**="2015-03-31" (CONF:1185-309).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-32956) such that it

Encounter performed template

    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.23" (CONF:1185-32957).

Encounter activities template

5. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-32958) such that it

Encounter activities template

a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.49" (CONF:1185-32959).

6. **SHALL** contain exactly one [1..1] **code** (CONF:1185-305).
   a. This code **SHALL** contain exactly one [1..1] **@code**, which **SHALL** be selected from ValueSet **Encounter Inpatient** urn:oid:2.16.840.1.113883.3.666.5.307 **STATIC** 2015-04-01 (CONF:1185-33428).
   b. This code **SHALL** contain exactly one [1..1] **@codeSystem** (CONF:1185-33429).
   c. This code **SHALL** contain exactly one [1..1] **@sdtc:valueSet**="2.16.840.1.113883.3.666.5.307" Encounter Inpatient (CONF:1185-320).
7. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1185-303).
   a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1185-314).
8. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1185-304).
   a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1185-315).
   b. This effectiveTime **SHALL** contain exactly one [1..1] **high** (CONF:1185-316).

Used to represent Attribute:Discharge Status:Patient Expired when the newborn expired during the birth encounter.

9. **SHOULD** contain zero or one [0..1] **sdtc:dischargeDispositionCode** (CONF:1185-32960).
   a. The sdtc:dischargeDispositionCode, if present, **MAY** contain zero or one [0..1] **@sdtc:valueSet**, which **SHALL** be selected from ValueSet **Patient Expired** urn:oid:2.16.840.1.113883.3.117.1.7.1.309 **STATIC** 2015-04-30 (CONF:1185-32965).

R1.3.4.E9 EHDI CMS31 Reporting Parameters Act - Draft

[act: identifier urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.2:2015-04-07 (open)]

Table R1.3.4.E9-1: EHDI CMS31 Reporting Parameters Act Contexts

Contained By:	Contains:
EHDI CMS31 Reporting Parameters Section (required)	

This template provides information about the reporting time interval and context for the patient data being reported to the receiving organization. The receiving organization may tell the reporting hospitals what information to include, such as dates representing the quarters of the year for which data are desired. The reporting parameter time

interval refers to the data being sent in the document and may differ from the quality measure's measurement period or valid dates for the data set.

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1185-33004).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1185-33005).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-33003) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.2" (CONF:1185-33010).
    b. **SHALL** contain exactly one [1..1] **@extension**="2015-04-07" (CONF:1185-33013).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1185-33012) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.17.3.8" (CONF:1185-33014).
5. **SHALL** contain at least one [1..*] **id** (CONF:1185-33011).
6. **SHALL** contain exactly one [1..1] **code** (CONF:1185-33001).
    a. This code **SHALL** contain exactly one [1..1] **@code**="252116004" Observation Parameters (CONF:1185-33006).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:1185-33007).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1185-33002).
    a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1185-33008).
    b. This effectiveTime **SHALL** contain exactly one [1..1] **high** (CONF:1185-33009).

R1.3.4.E10 Ethnicity Supplemental Data Element - Published

[observation: identifier urn:oid:2.16.840.1.113883.10.20.27.3.7 (open)]

Table R1.3.4.E10-1: Ethnicity Supplemental Data Element Contexts

Contained By:	Contains:
Measure Data (optional)	Aggregate Count

This observation represents whether the patient is Hispanic or not and provides the number of patients in the population that report that ethnicity.

This template was designed for use with HQMF Release 1, and is not currently recommended for use with HQMF Release 2. Use the Reporting Stratum template instead with HQMF Release 2.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:77-18216).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:77-18217).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:77-18218) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.27.3.7" (CONF:77-18219).
4. **SHALL** contain exactly one [1..1] **code** (CONF:77-18220).
    a. This code **SHALL** contain exactly one [1..1] **@code**="364699009" Ethnic Group (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:77-18221).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:77-18118).
    a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:77-18119).
6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the code **SHALL** be selected from ValueSet **Ethnicity** urn:oid:2.16.840.1.114222.4.11.837 **DYNAMIC** (CONF:77-18222).
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:77-18120) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:77-18121).
    b. **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:77-18122).
    c. **SHALL** contain exactly one [1..1] **Aggregate Count** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.3) (CONF:77-18123).

R1.3.4.E11 Measure Data - Published

[observation: identifier urn:oid:2.16.840.1.113883.10.20.27.3.5 (open)]

Table R1.3.4.E11-1: Measure Data Contexts

Contained By:	Contains:
Measure Reference and Results (required)	Aggregate Count Continuous Variable Measure Value Ethnicity Supplemental Data Element Payer Supplemental Data Element Postal Code Supplemental Data Element Race Supplemental Data Element Reporting Stratum Sex Supplemental Data Element

This observation asserts a population into which a subject falls and provides the number of patients in the population. It may also contain reporting stratum,

supplemental data element counts, and continuous variables that are relevant to the population.

Additional supplemental data elements can be added if defined in the query or measure or requested by the recipient. The reporting stratum and various supplemental data templates provide examples that can be followed.

Populations that are used in eMeasures can be complicated. The simple case has one each of initial patient population (IPP), numerator, and denominator, along with denominator exclusions and denominator exceptions. It is also possible to have eMeasures with multiple population groups (a population group is a set of IPP, numerator, denominator, etc.), and eMeasures with multiple denominators and numerators (for example, an eMeasure with 3 denominators and 2 numerators will require a QRDA Category III report with 6 sets of data). QRDA Category III reports were designed to allow the representation of data sets that map to all of these types of multiple populations.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:77-17615).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:77-17616).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:77-17912) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.27.3.5" (CONF:77-17913).
4. **SHALL** contain exactly one [1..1] **code** (CONF:77-17617).
    a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4 **STATIC**) (CONF:77-18198).
5. **SHALL** contain exactly one [1..1] **statusCode** (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:77-18199).
    a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:77-19555).
6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the code **SHOULD** be selected from ValueSet **ObservationPopulationInclusion** urn:oid:2.16.840.1.113883.1.11.20369 **DYNAMIC** (CONF:77-17618).
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:77-17619) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" (CONF:77-17910).
    b. **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:77-17911).
    c. **SHALL** contain exactly one [1..1] **Aggregate Count** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.3) (CONF:77-17620).
8. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:77-17918) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:77-17919).
    b. **SHALL** contain exactly one [1..1] **Reporting Stratum** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.4) (CONF:77-17920).

9. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:77-18136) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:77-18137).
    b. **SHALL** contain exactly one [1..1] **Sex Supplemental Data Element** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.6) (CONF:77-18138).
10. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:77-18139) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:77-18144).
    b. **SHALL** contain exactly one [1..1] **Ethnicity Supplemental Data Element** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.7) (CONF:77-18149).
11. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:77-18140) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:77-18145).
    b. **SHALL** contain exactly one [1..1] **Race Supplemental Data Element** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.8) (CONF:77-18150).
12. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:77-18141) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:77-18146).
    b. **SHALL** contain exactly one [1..1] **Payer Supplemental Data Element** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.9) (CONF:77-18151).
13. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:77-18142) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:77-18147).
    b. **SHALL** contain exactly one [1..1] **Postal Code Supplemental Data Element** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.10) (CONF:77-18152).

If observation/value/@code="MSRPOPL" then the following entryRelationship SHALL be present.

14. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:77-18143) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:77-18148).

b. **SHALL** contain exactly one [1..1] **Continuous Variable Measure Value** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.2) (CONF:77-18153).

15. **SHALL** contain exactly one [1..1] **reference** (CONF:77-18239) such that it
    a. **SHALL** contain exactly one [1..1] **externalObservation** (CONF:77-18240).
        i. This externalObservation **SHALL** contain exactly one [1..1] **id** (CONF:77-18241).
            1. If this reference is to an eMeasure, this id **SHALL** equal the id defined in the corresponding eMeasure population criteria section (CONF:77-18258).

R1.3.4.E12 Measure Reference - Published

[organizer: identifier urn:oid:2.16.840.1.113883.10.20.24.3.98 (open)]

This template defines the way that a Measure should be referenced. Measures are referenced through externalAct reference to an externalDocument. The externalDocument/ids and version numbers are used to reference the measure.

1. **SHALL** contain exactly one [1..1] **@classCode**="CLUSTER" cluster (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:67-12979).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:67-12980).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:67-19532) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.98" (CONF:67-19533).
4. **SHALL** contain at least one [1..*] **id** (CONF:67-26992).
5. **SHALL** contain exactly one [1..1] **statusCode**="completed" completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:67-12981).
6. **SHALL** contain exactly one [1..1] **reference** (CONF:67-12982) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:67-12983).
    b. **SHALL** contain exactly one [1..1] **externalDocument** (CONF:67-12984).
        i. This externalDocument **SHALL** contain exactly one [1..1] **@classCode**="DOC" Document (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:67-19534).
        ii. This externalDocument **SHALL** contain at least one [1..*] **id** (CONF:67-12985) such that it
            1. **SHALL** contain exactly one [1..1] **@root** (CONF:67-12986).
            2. **MAY** contain zero or one [0..1] **@extension** (CONF:67-27007).
            3. This ID references an ID of the Quality Measure (CONF:67-27008).

iii. This externalDocument **SHOULD** contain zero or one [0..1] **text** (CONF:67-12997).

1. This text is the title of the eMeasure (CONF:67-12998).

R1.3.4.E13 Measure Reference and Results - Published

`[organizer: identifier urn:oid:2.16.840.1.113883.10.20.27.3.1 (open)]`

Table R1.3.4.E13-1: Measure Reference and Results Contexts

Contained By:	Contains:
EHDI CMS31 QRDA III Measure Reference and Results Section (required)	Measure Data Performance Rate for Proportion Measure Reporting Rate for Proportion Measure

This template defines the way that a measure should be referenced. Measures are referenced through externalAct reference to an externalDocument. The externalDocument/ids and version numbers are used to reference the measure. Component entries can be used to report various rates, aggregate counts (e.g., number of patients in the measure's denominator); stratified aggregate counts (e.g., number of male patients in the measure's denominator); or continuous variables from continuous variable measures.

1. Conforms to **Measure Reference** template (`identifier: urn:oid:2.16.840.1.113883.10.20.24.3.98`).
2. **SHALL** contain exactly one [1..1] **@classCode**="CLUSTER" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:77-17887).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:77-17888).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:77-17908) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.27.3.1" (CONF:77-17909).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:77-17889).
    a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:77-19552).
6. **SHALL** contain exactly one [1..1] **reference** (CONF:77-17890) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" (CONF:77-17891).
    b. **SHALL** contain exactly one [1..1] **externalDocument** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:77-17892).
        i. This externalDocument **SHALL** contain exactly one [1..1] **@classCode**="DOC" Document (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:77-19548).

ii. This externalDocument **SHALL** contain exactly one [1..1] **id** (CONF:77-18192) such that it
    1. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.4.738" (CONF:77-18193). Note: This OID indicates that the @extension contains the version specific identifier for the eMeasure
    2. **SHALL** contain exactly one [1..1] **@extension** (CONF:77-21159). Note: This @extension SHALL equal the version specific identifier for eMeasure (i.e., QualityMeasureDocument/id)
iii. This externalDocument **SHOULD** contain zero or one [0..1] **code** (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:77-17896).
    1. The code, if present, **SHALL** contain exactly one [1..1] **@code**="57024-2" Health Quality Measure Document (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:77-19553).

This text is the title and optionally a brief description of the Quality Measure.

iv. This externalDocument **SHOULD** contain zero or one [0..1] **text** (CONF:77-17897).
v. This externalDocument **MAY** contain zero or one [0..1] **setId** (CONF:77-17899).
    1. If this reference is to an eMeasure, this setId **SHALL** equal the QualityMeasureDocument/setId which is the eMeasure version neutral id (CONF:77-17900).
vi. This externalDocument **MAY** contain zero or one [0..1] **versionNumber** (CONF:77-17901).
    1. If this reference is to an eMeasure this version number **SHALL** equal the sequential eMeasure Version number (CONF:77-17902).

In the case that an eMeasure is part of a measure set or group, the following reference is used to identify that set or group. If the eMeasure is not part of a measure set, the following reference element should not be defined.

7. **SHOULD** contain exactly one [1..1] **reference** (CONF:77-18353) such that it
    a. **SHALL** contain exactly one [1..1] **externalObservation** (CONF:77-18354).
        i. This externalObservation **SHALL** contain at least one [1..*] **id** (CONF:77-18355).
            1. This id **SHALL** equal the id of the corresponding measure set definition within the eMeasure (CONF:77-18356).

ii. This externalObservation **SHALL** contain exactly one [1..1] **code** (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:77-18357).

1. This code **SHALL** contain exactly one [1..1] **@code**="55185-3" measure set (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:77-19554).

iii. This externalObservation **SHALL** contain exactly one [1..1] **text** (CONF:77-18358).

1. This text **SHOULD** be the title of the corresponding measure set (CONF:77-18359).

8. **MAY** contain zero or more [0..*] **component** (CONF:77-17903) such that it
   a. **SHALL** contain exactly one [1..1] **Performance Rate for Proportion Measure** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.14) (CONF:77-17904).
9. **MAY** contain zero or more [0..*] **component** (CONF:77-18423) such that it
   a. **SHALL** contain exactly one [1..1] **Reporting Rate for Proportion Measure** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.15) (CONF:77-18424).
10. **SHALL** contain at least one [1..*] **component** (CONF:77-18425) such that it
    a. **SHALL** contain exactly one [1..1] **Measure Data** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.5) (CONF:77-18426).


```
<organizer classCode="CLUSTER" moodCode="EVN">
  <!-- Measure Reference template -->
  <templateId root="2.16.840.1.113883.10.20.24.3.98"/>
  <!-- Measure Reference and Results template -->
  <templateId root="2.16.840.1.113883.10.20.27.3.1"/>
  <statusCode code="completed"/>
  <reference typeCode="REFR">
    <externalDocument classCode="DOC" moodCode="EVN">
      <!-- The example eMeasure is 0496 -->
      <!--  This is the version specific identifier for eMeasure:
          QualityMeasureDocument/id - the OID in the @root indicates that
          the @extension (which is a GUID) contains the version specific identifier
for eMeasure-->
      <id root="2.16.840.1.113883.4.738"
          extension="8a4d92b2-37d1-f95b-0137-dd4b0eb62de6"/>
      <!--  This is the NQF Number, root is an
           NQF OID and for eMeasure Number and extension
           is the eMeasure's NQF number -->
      <id root="2.16.840.1.113883.3.560.1" extension="0496"/>
      <!--  eMeasure Measure Authoring Tool Identifier -->
      <id root="2.16.840.1.113883.3.560.101.2" extension="32"/>
      <code code="57024-2"
            displayName="Health Quality Measure Document"
            codeSystemName="LOINC"
            codeSystem="2.16.840.1.113883.6.1" />
      <!--  This is the title of the eMeasure -->
      <text>Median Admit Decision Time to ED Departure Time
            for Admitted Patients</text>
      <!--  setId is the eMeasure version neutral id  -->
      <setId root="3fd13096-2c8f-40b5-9297-b714e8de9133"/>
      <!-- This is the sequential eMeasure Version number -->
      <versionNumber value="1"/>
    </externalDocument>
  </reference>
  <!-- SHOULD Reference the measure set it is a member of-->
  <reference typeCode="REFR">
    <externalObservation>
      <!-- SHALL contain at least one id -->
      <id root="b6ac13e2-beb8-4e4f-94ed-fcc397406cd8"/>
      <!-- SHALL single value binding -->
      <code code="55185-3" displayName="measure set"
        codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
      <!-- SHALL text which should be the title of the measures set -->
      <text>Clinical Quality Measure Set 2011-2012</text>
    </externalObservation>
  </reference>
  <component>
    <!-- Optional Performance Rate for Proportion Measure template -->
    <observation classCode="OBS" moodCode="EVN">
      ...
    </observation>
  </component>
  <component>
    <!-- Optional Reporting Rate for Proportion Measure template -->
```



```
    <observation classCode="OBS" moodCode="EVN">
      ...
    </observation>
  </component>
  <component>
    <!-- Measure Data -->
    <observation classCode="OBS" moodCode="EVN">
      ...
    </observation>
  </component>
  <component>
    <!-- Measure Data -->
    <observation classCode="OBS" moodCode="EVN">
      ...
    </observation>
  </component>
</organizer>
```

Figure R1.3.4.E13-1: Measure Reference and Results Example

R1.3.4.E14 Patient Characteristic Payer - Published

`[observation: identifier urn:oid:2.16.840.1.113883.10.20.24.3.55 (open)]`

Table R1.3.4.E14-1: Patient Characteristic Payer Contexts

Contained By:	Contains:
EHDI CMS31 Patient Data Section (required)	

This template represents the QDM Datatype: Patient Characteristic, Payer. This datatype represents the policy or program providing the coverage for the patient.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:67-14213).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:67-14214).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:67-12561) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.55" (CONF:67-12562).
4. **SHALL** contain at least one [1..*] **id** (CONF:67-12564).
5. **SHALL** contain exactly one [1..1] **code** (CONF:67-12565).
    a. This code **SHALL** contain exactly one [1..1] **@code**="48768-6" Payment source (CONF:67-14029).

b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:67-27009).

6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:67-26933).
   a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:67-26934).
   b. This effectiveTime **SHOULD** contain zero or one [0..1] **high** (CONF:67-26935).
7. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the code **SHALL** be selected from ValueSet **Payer** urn:oid:2.16.840.1.114222.4.11.3591 **DYNAMIC** (CONF:67-16710).

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Patient Characteristic Payer -->
  <templateId root="2.16.840.1.113883.10.20.24.3.55" />
  <id root="4ddf1cc3-e325-472e-ad76-b2c66a5ee164" />
  <code code="48768-6" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
    displayName="Payment source" />
  <statusCode code="completed" />
  <effectiveTime>
    <!-- QDM Attribute: Start Datetime -->
    <low value="20110303" />
    <!-- QDM Attribute: Stop Datetime -->
    <high value="20160303" />
  </effectiveTime>
  <!-- Payer -->
  <value xsi:type="CD" code="1" codeSystem="2.16.840.1.113883.3.221.5"
    codeSystemName="Source of Payment Typology" displayName="Medicare"
    sdtc:valueSet="{$QDMElementValueSetOID}" />
</observation>
```

Figure R1.3.4.E14-1: Patient Characteristic Payer Example

R1.3.4.E15 Payer Supplemental Data Element - Published

[observation: identifier urn:oid:2.16.840.1.113883.10.20.27.3.9 (open)]

Table R1.3.4.E15-1: Payer Supplemental Data Element Contexts

Contained By:	Contains:
Measure Data (optional)	Aggregate Count

This observation represents the policy or program providing the coverage for the patients being reported on and provides the number of patients in the population that are covered by that policy or program.

This template was designed for use with HQMF Release 1, and is not currently recommended for use with HQMF Release 2. Use the Reporting Stratum template instead with HQMF Release 2.

1. Conforms to **Patient Characteristic Payer** template (identifier: urn:oid:2.16.840.1.113883.10.20.24.3.55).
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:77-21155).
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:77-21156).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:77-18237) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.27.3.9" (CONF:77-18238).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:77-18106).
   a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:77-18107).
6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the code **SHALL** be selected from ValueSet **Payer** urn:oid:2.16.840.1.114222.4.11.3591 **DYNAMIC** (CONF:77-18250).
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:77-18108) such that it
   a. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:77-18109).
   b. **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:77-18110).
   c. **SHALL** contain exactly one [1..1] **Aggregate Count** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.3) (CONF:77-18111).

R1.3.4.E16 Patient Preference (V2) - Draft

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.83:2014-12-01 (open)]

Table R1.3.4.E16-1: Patient Preference (V2) Contexts

Contained By:	Contains:
EHDI CMS31 Diagnostic Study-Performed:NHS Left (optional) EHDI CMS31 Diagnostic Study-Performed:NHS Right (optional)	

This template represents the QDM attribute: Patient Preference.

Preferences are choices made by patients relative to options for care or treatment (including scheduling, care experience, and meeting of personal health goals) and the sharing and disclosure of their health information.

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS", which **SHALL** be selected from CodeSystem HL7ActClass (urn:oid:2.16.840.1.113883.5.6) (CONF:1140-11118).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1140-11119).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:1140-28091).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1140-11120) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.83" (CONF:1140-11121).
    b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1140-27164).
5. **SHALL** contain exactly one [1..1] **id** (CONF:1140-11355).
6. **SHALL** contain exactly one [1..1] **code** (CONF:1140-11123).
    a. This code **SHALL** contain exactly one [1..1] **@code**="77302-8" Patient preference for care action (CONF:1140-11124).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:1140-27006).
7. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:1140-11125).
    a. This value **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:1140-27649).

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Patient Preference (V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.83"
    extension="2014-12-01"/>
  <id root="e3a5f9ac-f97d-4887-95a3-7ee7d9aca16a"/>
  <code code="77302-8"
    codeSystem="2.16.840.1.113883.6.1"
    displayName="Patient preference for care action"
    codeSystemName="LOINC" />/>
  <value xsi:type="CD"
    code="105480006"
    codeSystem="2.16.840.1.113883.6.96"
    displayName="refusal of treatment by patient"
    codeSystemName="SNOMED CT"
    sdtc:valueSet="{$QDMElementValueSetOID}"/>
</observation>
```

Figure R1.3.4.E16-1: Patient Preference (V2) Example

R1.3.4.E17 Performance Rate for Proportion Measure - Published

`[observation: identifier urn:oid:2.16.840.1.113883.10.20.27.3.14 (open)]`

Table R1.3.4.E17-1: Performance Rate for Proportion Measure Contexts

Contained By:	Contains:
Measure Reference and Results (optional)	

This template is only used with proportion measures. The performance rate is a ratio of patients that meet the numerator criteria divided by patients in the denominator (after accounting for exclusions and exceptions). Performance Rate is calculated using this formula: Performance Rate = (NUMER) / (DENOM – DENOM EXCL – DENOM EXCEP). The predicted rate (based on the measure's risk-adjustment model) can be captured in the reference range.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:77-18395).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:77-18396).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:77-19649) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.27.3.14" (CONF:77-19650).
4. **SHALL** contain exactly one [1..1] **code** (CONF:77-18397).
    a. This code **SHALL** contain exactly one [1..1] **@code**="72510-1" Performance Rate (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:77-18398).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:77-18421).
    a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:77-18422).
6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="REAL" (CONF:77-18399).

This is the optional reference to the specific Numerator included in the calculation.

7. **MAY** contain zero or one [0..1] **reference** (CONF:77-19651).
    a. The reference, if present, **SHALL** contain exactly one [1..1] **@typeCode**="REFR" refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:77-19652).
    b. The reference, if present, **SHALL** contain exactly one [1..1] **externalObservation** (CONF:77-19653).
        i. This externalObservation **SHALL** contain exactly one [1..1] **@classCode** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:77-19654).

The externalObservationID contains the ID of the numerator in the referenced eMeasure.

ii. This externalObservation **SHALL** contain exactly one [1..1] **id** (CONF:77-19655).
    1. This id **SHALL** contain exactly one [1..1] **@root** (CONF:77-19656).

iii. This externalObservation **SHALL** contain exactly one [1..1] **code** (CONF:77-19657).
    1. This code **SHALL** contain exactly one [1..1] **@code**="NUMER" Numerator (CodeSystem: ObservationValue urn:oid:2.16.840.1.113883.5.1063) (CONF:77-19658).

The reference range is optionally used to represent the predicted rate based on the measure's risk-adjustment model.

8. **MAY** contain zero or one [0..1] **referenceRange** (CONF:77-18400).
    a. The referenceRange, if present, **SHALL** contain exactly one [1..1] **observationRange** (CONF:77-18401).
        i. This observationRange **SHALL** contain exactly one [1..1] **value** with @xsi:type="REAL" (CONF:77-18402).

R1.3.4.E18 Postal Code Supplemental Data Element - Published

[observation: identifier urn:oid:2.16.840.1.113883.10.20.27.3.10 (open)]

Table R1.3.4.E18-1: Postal Code Supplemental Data Element Contexts

Contained By:	Contains:
Measure Data (optional)	Aggregate Count

This observation represents a postal code and provides the number of patients in the population that live in that postal code.

This template was designed for use with HQMF Release 1, and is not currently recommended for use with HQMF Release 2. Use the Reporting Stratum template instead with HQMF Release 2.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:77-18209).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:77-18210).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:77-18211) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.27.3.10" (CONF:77-18212).
4. **SHALL** contain exactly one [1..1] **code** (CONF:77-18213).

3315 a. This code **SHALL** contain exactly one [1..1] **@code**="184102003" Patient postal code (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96 **STATIC**) (CONF:77-18214).

5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:77-18100).
    a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" 3320 Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:77-18101).
6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="ST" (CONF:77-18215).
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:77-18102) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has Subject 3325 (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:77-18103).
    b. **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:77-18104).
    c. **SHALL** contain exactly one [1..1] **Aggregate Count** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.3) (CONF:77-18105).

3330 R1.3.4.E19 Problem Status (DEPRECATED) - Deprecated

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.6:2014-06-09 (open)]

Table R1.3.4.E19-1: Problem Status (DEPRECATED) Contexts

Contained By:	Contains:
EHDI CMS31 Diagnosis-Active:Liveborn Newborn Born in Hospital:ICD (required) EHDI CMS31 Diagnosis-Active:Livebirth:SNOMED (required)	

3335

The Problem Status records whether the indicated problem is active, inactive, or resolved.

THIS TEMPLATE HAS BEEN DEPRECATED IN C-CDA R2 AND MAY BE DELETED FROM A FUTURE RELEASE OF THIS IMPLEMENTATION GUIDE. USE OF THIS 3340 TEMPLATE IS NOT RECOMMENDED.

Reason for deprecation: Per the explanation in Volume 1, Section 3.2 "Determining a Clinical Statement's Status", the status of a problem is determined based on attributes of the Problem Observation.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: 3345 HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-7357).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1098-7358).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-7359) such that it

a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.6" (CONF:1098-10518).
b. **SHALL** contain exactly one [1..1] **@extension**="2014-06-09" (CONF:1098-32581).

4. **SHALL** contain exactly one [1..1] **code** (CONF:1098-19162).
   a. This code **SHALL** contain exactly one [1..1] **@code**="33999-4" Status (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:1098-19163).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-7364).
   a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:1098-19113).
6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the code **SHALL** be selected from ValueSet **Problem Status** urn:oid:2.16.840.1.113883.3.88.12.80.68 **DYNAMIC** (CONF:1098-7365).

R1.3.4.E20 Provider Preference (V2) - Draft

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.24.3.84:2014-12-01 (open)]

Table R1.3.4.E20-1: Provider Preference (V2) Contexts

Contained By:	Contains:
EHDI CMS31 Diagnostic Study-Performed:NHS Left (optional) EHDI CMS31 Diagnostic Study-Performed:NHS Right (optional)	

This template represents the QDM datatype: Provider Preference.

Provider preferences are choices made by care providers relative to options for care or treatment (including scheduling, care experience, and meeting of personal health goals).

QDM attribute: Negation Rationale is represented by setting negationInd="true" and stating the reason (rationale) in a contained Reason (V2) template. Although Reason (V2) is not explicitly contained in every template, it is available for use in any template.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1140-11126).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1140-11127).
3. **MAY** contain zero or one [0..1] **@negationInd** (CONF:1140-28102).
4. **SHALL** contain exactly one [1..1] **templateId** (CONF:1140-11128) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.84" (CONF:1140-11129).

b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1140-27294).

5. **SHALL** contain exactly one [1..1] **id** (CONF:1140-11356).
6. **SHALL** contain exactly one [1..1] **code** (CONF:1140-11131).
    a. This code **SHALL** contain exactly one [1..1] **@code**="77303-6" Provider preference for care action (CONF:1140-11132).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:1140-27165).
7. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:1140-11323).
    a. This value **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:1140-27656).

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Provider Preference (V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.84"
    extension="2014-12-01"/>
  <id root="033afa24-82a2-4298-9dda-dea9e60bf44a"/>
  <code code="77303-6"
    codeSystem="2.16.840.1.113883.6.1"
    displayName="Provider preference for care action"
    codeSystemName="LOINC" />
  <value xsi:type="CD"
    code="11816003"
    codeSystem="2.16.840.1.113883.6.96"
    displayName="diet education"
    codeSystemName="SNOMED CT"
    sdtc:valueSet="{$QDMElementValueSetOID}"/>
</observation>
```

Figure R1.3.4.E20-1: Provider Preference (V2) Example

R1.3.4.E21 Race Supplemental Data Element - Published

[observation: identifier urn:oid:2.16.840.1.113883.10.20.27.3.8 (open)]

Table R1.3.4.E21-1: Race Supplemental Data Element Contexts

Contained By:	Contains:
Measure Data (optional)	Aggregate Count

This observation represents the race category reported by patients and provides the number of patients in the population that report that race category.

This template was designed for use with HQMF Release 1, and is not currently recommended for use with HQMF Release 2. Use the Reporting Stratum template instead with HQMF Release 2.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:77-18223).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:77-18224).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:77-18225) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.27.3.8" (CONF:77-18226).
4. **SHALL** contain exactly one [1..1] **code** (CONF:77-18227).
    a. This code **SHALL** contain exactly one [1..1] **@code**="103579009" Race (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96) (CONF:77-18228).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:77-18112).
    a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:77-18113).
6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the code **SHALL** be selected from ValueSet **Race** urn:oid:2.16.840.1.114222.4.11.836 **DYNAMIC** (CONF:77-18229).
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:77-18114) such that it
    a. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:77-18115).
    b. **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:77-18116).
    c. **SHALL** contain exactly one [1..1] **Aggregate Count** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.3) (CONF:77-18117).

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Race Supplemental Data Element template ID -->
  <templateId root="2.16.840.1.113883.10.20.27.3.8"/>
  <code code="103579009"
        displayName="Race"
        codeSystem="2.16.840.1.113883.6.96"
        codeSystemName="SNOMED-CT"/>
  <statusCode code="completed"/>
  <value xsi:type="CD"
         code="2054-5"
         displayName="Black or African American"
         codeSystem="2.16.840.1.113883.6.238"
         codeSystemName="Race &amp;amp; Ethnicity - CDC"/>
  <entryRelationship typeCode="SUBJ" inversionInd="true">
    <!-- Aggregate Count template -->
    <observation classCode="OBS" moodCode="EVN">
      ...
    </observation>
  </entryRelationship>
</observation>
```

Figure R1.3.4.E21-1: Race Supplemental Data Element Example

R1.3.4.E22 Reason (V2) - Draft

```
[observation: identifier
urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01 (open)]
```

Table R1.3.4.E22-1: Reason (V2) Contexts

Contained By:	Contains:
EHDI CMS31 Diagnostic Study-Performed:NHS Left (optional) EHDI CMS31 Diagnostic Study-Performed:NHS Right (optional)	

This template represents the QDM attribute: Reason.

This template describes the thought process or justification for an action or for not performing an action. Examples include patient, system, or medical-related reasons for declining to perform specific actions. Note that the parent template that calls this template can be asserted to have occurred or to not have occurred. Therefore, this template simply adds a reason to some other (possibly negated) act. As such, there is nothing in this template that says whether the parent act did or did not occur.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1140-11357).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1140-11358).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1140-11359) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.24.3.88" (CONF:1140-11360).
    b. **SHALL** contain exactly one [1..1] **@extension**="2014-12-01" (CONF:1140-27027).
4. **SHALL** contain at least one [1..*] **id** (CONF:1140-26998).
5. **SHALL** contain exactly one [1..1] **code** (CONF:1140-11361).
    a. This code **SHALL** contain exactly one [1..1] **@code**="77301-0" Reason care action performed or not (CONF:1140-11362).
    b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:1140-27028).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1140-11364).
    a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1140-11365).
7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1140-11366).
    a. This effectiveTime **SHALL** contain exactly one [1..1] **low** (CONF:1140-27551).
    b. This effectiveTime **MAY** contain zero or one [0..1] **high** (CONF:1140-27552).

8. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:1140-11367).
    a. This value **SHALL** contain exactly one [1..1] **@sdtc:valueSet** (CONF:1140-27657).

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Reason (V2) -->
  <templateId root="2.16.840.1.113883.10.20.24.3.88" extension="2014-12-01" />
  <id root="5750a5bb-6a01-4b99-9b1c-cda56b1dce0c" />
  <code code="77301-0"
    codeSystem="2.16.840.1.113883.6.1"
    displayName="Reason care action performed or not"
    codeSystemName="LOINC" />
  <statusCode code="completed" />
  <effectiveTime>
    <low value="20120105"/>
  </effectiveTime>
  <value xsi:type="CD"
    code="57054005"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED CT"
    displayName="Acute myocardial infarction"
    sdtc:valueSet="{$QDMElementValueSetOID}" />
</observation>
```

Figure R1.3.4.E22-1: Reason (V2) Example

R1.3.4.E23 Reporting Rate for Proportion Measure - Published

`[observation: identifier urn:oid:2.16.840.1.113883.10.20.27.3.15 (open)]`

Table R1.3.4.E23-1: Reporting Rate for Proportion Measure Contexts

Contained By:	Contains:
Measure Reference and Results (optional)	

This template is only used with proportion measures. This reporting rate represents the percentage of patients in the denominator who fall into one of the other sub-populations. The Reporting Rate is calculated using this formula: Reporting Rate = (NUMER + DENOM EXCL + DENOM EXCEP)/(DENOM). The predicted rate (based on the measure's risk-adjustment model) can be captured in the reference range.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" Observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:77-18411).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:77-18412).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:77-21157) such that it

a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.27.3.15" (CONF:77-21158).

4. **SHALL** contain exactly one [1..1] **code** (CONF:77-18413).
   a. This code **SHALL** contain exactly one [1..1] **@code**="72509-3" Reporting Rate (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1 **STATIC**) (CONF:77-18414).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:77-18419).
   a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:77-18420).
6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="REAL" (CONF:77-18415).

The reference range is optionally used to represent the predicted rate based on the measure's risk-adjustment model.

7. **MAY** contain zero or one [0..1] **referenceRange** (CONF:77-18416).
   a. The referenceRange, if present, **SHALL** contain exactly one [1..1] **observationRange** (CONF:77-18417).
      i. This observationRange **SHALL** contain exactly one [1..1] **value** with @xsi:type="REAL" (CONF:77-18418).

R1.3.4.E24 Reporting Stratum - Published

[observation: identifier urn:oid:2.16.840.1.113883.10.20.27.3.4 (open)]

Table R1.3.4.E24-1: Reporting Stratum Contexts

Contained By:	Contains:
Measure Data (optional)	Aggregate Count Continuous Variable Measure Value

This observation uses the reference/externalObservation element to reference the stratification used in the quality measure. The definition of the stratification is in the corresponding eMeasure. The Reporting Stratum also provides the number of patients in the referenced stratification. Stratifications are used to classify populations into one or more characteristics, variables, or other categories. As subsets of the overall population, they are used in risk adjustment, analysis and interpretation. Examples of stratification include age, discharge status for an inpatient stay, facility location within a hospital (e.g., ICU, Emergency Department), surgical procedures, and specific conditions.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:77-17575).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:77-17576).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:77-18093) such that it

a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.27.3.4" (CONF:77-18094).

4. **SHALL** contain exactly one [1..1] **code** (CONF:77-17577).
   a. This code **SHALL** contain exactly one [1..1] **@code**="ASSERTION" Assertion (CodeSystem: ActCode urn:oid:2.16.840.1.113883.5.4 **STATIC**) (CONF:77-17578).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:77-17579).
   a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:77-18201).
6. **SHOULD** contain zero or one [0..1] **value** (CONF:77-17580).
   a. If this Reporting Stratum references an eMeasure, and the value of externalObservation/id equals the reference stratification id defined in the eMeasure, then this value **SHALL** be the same as the contents of the observation/code element in the eMeasure that is defined along with the observation/id element (CONF:77-18259).
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:77-17581) such that it
   a. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" (CONF:77-17582).
   b. **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:77-17583).
   c. **SHALL** contain exactly one [1..1] **Aggregate Count** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.3) (CONF:77-17584).

The Continuous Variable template may also be nested inside the Reporting Stratum Template to represent continuous variables found in quality measures for the various strata.

8. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:77-19511) such that it
   a. **SHALL** contain exactly one [1..1] **Continuous Variable Measure Value** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.2) (CONF:77-19513).
9. **SHALL** contain exactly one [1..1] **reference** (CONF:77-18204).
   a. This reference **SHALL** contain exactly one [1..1] **@typeCode**="REFR" (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:77-18205).
   b. This reference **SHALL** contain exactly one [1..1] **externalObservation** (CONF:77-18206).

If this reference is to an eMeasure, this id equals the referenced stratification id defined in the eMeasure.

i. This externalObservation **SHALL** contain exactly one [1..1] **id** (CONF:77-18207).

R1.3.4.E25 Sex Supplemental Data Element - Published

`[observation: identifier urn:oid:2.16.840.1.113883.10.20.27.3.6 (open)]`

Table R1.3.4.E25-1: Sex Supplemental Data Element Contexts

Contained By:	Contains:
Measure Data (optional)	Aggregate Count

This observation represents the sex of a person as used for administrative purposes (as opposed to clinical gender) and provides the number of patients in the population that are of that sex.

This template was designed for use with HQMF Release 1, and is not currently recommended for use with HQMF Release 2. Use the Reporting Stratum template instead with HQMF Release 2.

1. **SHALL** contain exactly one [1..1] **@classCode**="OBS" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:77-18230).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" (CodeSystem: ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:77-18231).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:77-18232) such that it
   a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.27.3.6" (CONF:77-18233).
4. **SHALL** contain exactly one [1..1] **code** (CONF:77-18234).
   a. This code **SHALL** contain exactly one [1..1] **@code**="184100006" Patient sex (CodeSystem: SNOMED CT urn:oid:2.16.840.1.113883.6.96 **STATIC**) (CONF:77-18235).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:77-18124).
   a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed (CodeSystem: ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**) (CONF:77-18125).
6. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", where the code **SHALL** be selected from ValueSet **Administrative Gender (HL7 V3)** urn:oid:2.16.840.1.113883.1.11.1 **DYNAMIC** (CONF:77-18236).
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:77-18126) such that it
   a. **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002 **STATIC**) (CONF:77-18127).
   b. **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:77-18128).
   c. **SHALL** contain exactly one [1..1] **Aggregate Count** (identifier: urn:oid:2.16.840.1.113883.10.20.27.3.3) (CONF:77-18129).

R1.3.4.E26 Author Participation - Published

`[author: identifier urn:oid:2.16.840.1.113883.10.20.22.4.119 (open)]`

Table R1.3.4.E26-1: Author Participation Contexts

Contained By:	Contains:
EHDI CMS31 Diagnosis-Active:Liveborn Newborn Born in Hospital:ICD (required) EHDI CMS31 Diagnosis-Active:Livebirth:SNOMED (required)	

This template represents the Author Participation (including the author timestamp). CDA R2 requires that Author and Author timestamp be asserted in the document header. From there, authorship propagates to contained sections and contained entries, unless explicitly overridden.

The Author Participation template was added to those templates in scope for analysis in R2. Although it is not explicitly stated in all templates the Author Participation template can be used in any template.

1. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-32017) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.119" (CONF:1098-32018).
2. **SHALL** contain exactly one [1..1] **time** (CONF:1098-31471).
3. **SHALL** contain exactly one [1..1] **assignedAuthor** (CONF:1098-31472).
    a. This assignedAuthor **SHALL** contain at least one [1..*] **id** (CONF:1098-31473). Note: This id may be set equal to (a pointer to) an id on a participant elsewhere in the document (header or entries) or a new author participant can be described here. If the id is pointing to a participant already described elsewhere in the document, assignedAuthor/id is sufficient to identify this participant and none of the remaining details of assignedAuthor are required to be set. Application Software must be responsible for resolving the identifier back to its original object and then rendering the information in the correct place in the containing section's narrative text. This id must be a pointer to another author participant.
        i. If the ID isn't referencing an author described elsewhere in the document, then the author components required in US Realm Header are required here as well (CONF:1098-32628).
    b. This assignedAuthor **SHOULD** contain zero or one [0..1] **code**, which **SHOULD** be selected from ValueSet **Healthcare Provider Taxonomy (HIPAA)** urn:oid:2.16.840.1.114222.4.11.1066 **DYNAMIC** (CONF:1098-31671).
        i. If the content is patient authored the code **SHOULD** be selected from Personal And Legal Relationship Role Type (2.16.840.1.113883.11.20.12.1) (CONF:1098-32315).

c. This assignedAuthor **MAY** contain zero or one [0..1] **assignedPerson** (CONF:1098-31474).
    i. The assignedPerson, if present, **MAY** contain zero or more [0..*] **name** (CONF:1098-31475).
d. This assignedAuthor **MAY** contain zero or one [0..1] **representedOrganization** (CONF:1098-31476).
    i. The representedOrganization, if present, **SHALL** contain exactly one [1..1] **@classCode**="ORG" (CONF:1098-31477).
    ii. The representedOrganization, if present, **MAY** contain zero or more [0..*] **id** (CONF:1098-31478).
    iii. The representedOrganization, if present, **MAY** contain zero or more [0..*] **name** (CONF:1098-31479).
    iv. The representedOrganization, if present, **MAY** contain zero or more [0..*] **telecom** (CONF:1098-31480).
    v. The representedOrganization, if present, **MAY** contain zero or more [0..*] **addr** (CONF:1098-31481).

```
<author>
    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
    <time value="201308011235-0800" />
    <assignedAuthor>
        <id root="20cf14fb-b65c-4c8c-a54d-b0cca834c18c" />
        <code code="163W00000X" codeSystem="2.16.840.1.113883.5.53"
codeSystemName="Health Care Provider Taxonomy" displayName="Registered nurse" />
        <assignedPerson>
            <name>
                <given>Nurse</given>
                <family>Nightingale</family>
                <suffix>RN</suffix>
            </name>
        </assignedPerson>
        <representedOrganization>
            <id root="2.16.840.1.113883.19.5" />
            <name>Good Health Hospital</name>
        </representedOrganization>
    </assignedAuthor>
</author>
```

Figure R1.3.4.E26-1: New Author Participant Example


```
<author>
    <time value="201308011235-0800" />
    <assignedAuthor>
        <!--
            This id points to a participant already described
            elsewhere in the document
        -->
        <id root="20cf14fb-b65c-4c8c-a54d-b0cca834c18c" />
    </assignedAuthor>
</author>
```

Figure R1.3.4.E26-2: Existing Author Reference Example

Appendix A – Template Ids for US National Extension

3745 **Table A-1: Template List**

Template Title	Template Type	templateId
EHDI CMS31v4 QRDA Category I Report	document	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.1.1:2015-04-07
EHDI CMS31v4 QRDA Category III Report	document	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.6.2.1.1:2015-04-07
EHDI CMS31 Measure Reference Section	section	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.3.1:2015-03-31
EHDI CMS31 Patient Data Section	section	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.3.3:2015-03-31
EHDI CMS31 QRDA III Measure Reference and Results Section	section	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.6.2.3.1:2015-04-07
EHDI CMS31 Reporting Parameters Section	section	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.3.2:2015-04-07
Aggregate Count	entry	urn:oid:2.16.840.1.113883.10.20.27.3.3
Continuous Variable Measure Value	entry	urn:oid:2.16.840.1.113883.10.20.27.3.2
EHDI CMS31 Diagnosis-Active:Livebirth:SNOMED	entry	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.5:2015-03-31
EHDI CMS31 Diagnosis-Active:Liveborn Newborn Born in Hospital:ICD	entry	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.4:2015-03-31
EHDI CMS31 Diagnostic Study-Performed:NHS Left	entry	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.6:2015-03-31
EHDI CMS31 Diagnostic Study-Performed:NHS Right	entry	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.7:2015-03-31
EHDI CMS31 eMeasure Reference Organizer	entry	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.1:2015-03-31
EHDI CMS31 Encounter-Performed:Inpatient Encounter	entry	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.3:2015-03-31
EHDI CMS31 Reporting Parameters Act	entry	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.2:2015-04-07
Ethnicity Supplemental Data Element	entry	urn:oid:2.16.840.1.113883.10.20.27.3.7
Measure Data	entry	urn:oid:2.16.840.1.113883.10.20.27.3.5
Measure Reference	entry	urn:oid:2.16.840.1.113883.10.20.24.3.98
Measure Reference and Results	entry	urn:oid:2.16.840.1.113883.10.20.27.3.1

Template Title	Template Type	templateId
Patient Characteristic Payer	entry	urn:oid:2.16.840.1.113883.10.20.24.3.55
Patient Preference (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.83:2014-12-01
Payer Supplemental Data Element	entry	urn:oid:2.16.840.1.113883.10.20.27.3.9
Performance Rate for Proportion Measure	entry	urn:oid:2.16.840.1.113883.10.20.27.3.14
Postal Code Supplemental Data Element	entry	urn:oid:2.16.840.1.113883.10.20.27.3.10
Problem Status (DEPRECATED)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.6:2014-06-09
Provider Preference (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.84:2014-12-01
Race Supplemental Data Element	entry	urn:oid:2.16.840.1.113883.10.20.27.3.8
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
Reporting Rate for Proportion Measure	entry	urn:oid:2.16.840.1.113883.10.20.27.3.15
Reporting Stratum	entry	urn:oid:2.16.840.1.113883.10.20.27.3.4
Sex Supplemental Data Element	entry	urn:oid:2.16.840.1.113883.10.20.27.3.6
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.22.4.119

Table A-2: Template Containments

Template Title	Template Type	templateId
EHDI CMS31v4 QRDA Category I Report	document	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.1.1:2015-04-07
EHDI CMS31 Measure Reference Section	section	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.3.1:2015-03-31
EHDI CMS31 eMeasure Reference Organizer	entry	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.1:2015-03-31
EHDI CMS31 Patient Data Section	section	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.3.3:2015-03-31
EHDI CMS31 Diagnosis-Active:Livebirth:SNOMED	entry	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.5:2015-03-31
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.22.4.119
Problem Status	entry	urn:hl7ii:2.16.840.1.113883.10.20.

Template Title	Template Type	templateId
(DEPRECATED)		22.4.6:2014-06-09
EHDI CMS31 Diagnosis-Active:Liveborn Newborn Born in Hospital:ICD	entry	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.4:2015-03-31
Author Participation	unspecified	urn:oid:2.16.840.1.113883.10.20.22.4.119
Problem Status (DEPRECATED)	entry	urn:hl7ii:2.16.840.1.113883.10.20.22.4.6:2014-06-09
EHDI CMS31 Diagnostic Study-Performed:NHS Left	entry	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.6:2015-03-31
Patient Preference (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.83:2014-12-01
Provider Preference (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.84:2014-12-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
EHDI CMS31 Diagnostic Study-Performed:NHS Right	entry	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.7:2015-03-31
Patient Preference (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.83:2014-12-01
Provider Preference (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.84:2014-12-01
Reason (V2)	entry	urn:hl7ii:2.16.840.1.113883.10.20.24.3.88:2014-12-01
EHDI CMS31 Encounter-Performed:Inpatient Encounter	entry	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.3:2015-03-31
Patient Characteristic Payer	entry	urn:oid:2.16.840.1.113883.10.20.24.3.55
EHDI CMS31 Reporting Parameters Section	section	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.3.2:2015-04-07
EHDI CMS31 Reporting Parameters Act	entry	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.2:2015-04-07
EHDI CMS31v4 QRDA Category III Report	document	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.6.2.1.1:2015-04-07
EHDI CMS31 QRDA III Measure Reference and Results Section	section	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.6.2.3.1:2015-04-07
Measure Reference and Results	entry	urn:oid:2.16.840.1.113883.10.20.27.3.1
Measure Data	entry	urn:oid:2.16.840.1.113883.10.20.27.3.5
Aggregate Count	entry	urn:oid:2.16.840.1.113883.10.20.27.3.3
Continuous Variable	entry	urn:oid:2.16.840.1.113883.10.20.2

Template Title	Template Type	templateId
Measure Value		7.3.2
Ethnicity Supplemental Data Element	entry	urn:oid:2.16.840.1.113883.10.20.27.3.7
Aggregate Count	entry	urn:oid:2.16.840.1.113883.10.20.27.3.3
Payer Supplemental Data Element	entry	urn:oid:2.16.840.1.113883.10.20.27.3.9
Aggregate Count	entry	urn:oid:2.16.840.1.113883.10.20.27.3.3
Postal Code Supplemental Data Element	entry	urn:oid:2.16.840.1.113883.10.20.27.3.10
Aggregate Count	entry	urn:oid:2.16.840.1.113883.10.20.27.3.3
Race Supplemental Data Element	entry	urn:oid:2.16.840.1.113883.10.20.27.3.8
Aggregate Count	entry	urn:oid:2.16.840.1.113883.10.20.27.3.3
Reporting Stratum	entry	urn:oid:2.16.840.1.113883.10.20.27.3.4
Aggregate Count	entry	urn:oid:2.16.840.1.113883.10.20.27.3.3
Continuous Variable Measure Value	entry	urn:oid:2.16.840.1.113883.10.20.27.3.2
Sex Supplemental Data Element	entry	urn:oid:2.16.840.1.113883.10.20.27.3.6
Aggregate Count	entry	urn:oid:2.16.840.1.113883.10.20.27.3.3
Performance Rate for Proportion Measure	entry	urn:oid:2.16.840.1.113883.10.20.27.3.14
Reporting Rate for Proportion Measure	entry	urn:oid:2.16.840.1.113883.10.20.27.3.15
EHDI CMS31 Reporting Parameters Section	section	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.3.2:2015-04-07
EHDI CMS31 Reporting Parameters Act	entry	urn:hl7ii:1.3.6.1.4.1.19376.1.7.3.1.1.18.5.2.4.2:2015-04-07

Appendix B – Value Sets for US National Extension

Value sets used in this profile are defined by measure developers in conjunction with CMS for use in Meaningful Use Eligible Provider and Eligible Hospital incentive programs. Value set representations included in this appendix provide an illustrative example of the type of concepts covered. Implementers must reference the National Library of Medicine Value Set Authority Center (vsac.nlm.nih.gov) to retrieve the official set of coded concepts for each value set.

Table B-1: QRDA-I CMS Program Name

Value Set: QRDA-I CMS Program Name urn:oid:2.16.840.1.113883.3.249.14.103 Specifies the CMS Program for QRDA-I report submissions. *The code CDAC_EHR_IQR is an internal code used for eCQM validation and should not appear in any hospital submitted QRDA files.*			
Code	**Code System**	**Code System OID**	**Print Name**
PQRS_MU_INDIVIDUAL	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	PQRS Meaningful Use Individual
PQRS_MU_GROUP	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	PQRS Meaningful Use Group
CEC	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	Comprehensive End-Stage Renal Disease CARE Initiative
HQR_EHR	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	Hospital Quality Reporting for the EHR Incentive Program
HQR_IQR	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	Hospital Quality Reporting for the Inpatient Quality Reporting Program
HQR_EHR_IQR	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	Hospital Quality Reporting for the EHR Incentive Program and the IQR Program
CDAC_EHR_IQR	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	CDAC_EHR_IQR
…			

Table B-2: CMS Program Name

Value Set: CMS Program Name urn:oid:2.16.840.1.113883.3.249.14.101 Specifies the CMS Program for QRDA-III report submissions.			
Code	**Code System**	**Code System OID**	**Print Name**
CPC	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	CPC

PQRS_MU_INDIVIDUAL	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	PQRS Meaningful Use Individual
PQRS_MU_GROUP	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	PQRS Meaningful Use Group
MU_ONLY	CMS Program	urn:oid:2.16.840.1.113883.3.249.7	Meaningful Use Only

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Table B-3: ObservationMethodAggregate

Value Set: ObservationMethodAggregate urn:oid:2.16.840.1.113883.1.11.20450			
Code	**Code System**	**Code System OID**	**Print Name**
AVERAGE	ObservationMethod	urn:oid:2.16.840.1.113883.5.84	Average
COUNT	ObservationMethod	urn:oid:2.16.840.1.113883.5.84	Count
MAX	ObservationMethod	urn:oid:2.16.840.1.113883.5.84	Maxima
MEDIAN	ObservationMethod	urn:oid:2.16.840.1.113883.5.84	Median
MIN	ObservationMethod	urn:oid:2.16.840.1.113883.5.84	Minima
MODE	ObservationMethod	urn:oid:2.16.840.1.113883.5.84	Mode
STDEV.P	ObservationMethod	urn:oid:2.16.840.1.113883.5.84	Population Standard Deviation
STDEV.S	ObservationMethod	urn:oid:2.16.840.1.113883.5.84	Sample Standard Deviation
SUM	ObservationMethod	urn:oid:2.16.840.1.113883.5.84	Sum
VARIANCE.P	ObservationMethod	urn:oid:2.16.840.1.113883.5.84	Population Variance
...			

Table B-4: Livebirth

Value Set: Livebirth urn:oid:2.16.840.1.114222.4.1.214079.1.1.1			
Code	**Code System**	**Code System OID**	**Print Name**
15467003	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Term birth of identical twins, both living (finding)
169826009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Single live birth (finding)
169828005	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Twins - both live born (finding)

169829002	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Twins - one still and one live born (finding)
169831006	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Triplets - all live born (finding)
169832004	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Triplets - two live and one stillborn (finding)
169833009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Triplets - one live and two stillborn (finding)
22514005	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Term birth of fraternal twins, one living, one stillborn (finding)
25192009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Premature birth of fraternal twins, both living (finding)
281050002	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Livebirth (finding)
…			

3765 **Table B-5: Liveborn Newborn Born in Hospital**

Value Set: Liveborn Newborn Born in Hospital urn:oid:2.16.840.1.113762.1.4.1046.6			
Code	**Code System**	**Code System OID**	**Print Name**
V30.00	ICD-9-CM, Volume 1&2	urn:oid:2.16.840.1.113883.6.103	Single liveborn, born in hospital, delivered without mention of cesarean section
V30.01	ICD-9-CM, Volume 1&2	urn:oid:2.16.840.1.113883.6.103	Single liveborn, born in hospital, delivered by cesarean section
V31.00	ICD-9-CM, Volume 1&2	urn:oid:2.16.840.1.113883.6.103	Twin birth, mate liveborn, born in hospital, delivered without mention of cesarean section
V31.01	ICD-9-CM, Volume 1&2	urn:oid:2.16.840.1.113883.6.103	Twin birth, mate liveborn, born in hospital, delivered by cesarean section
V32.00	ICD-9-CM, Volume 1&2	urn:oid:2.16.840.1.113883.6.103	Twin birth, mate stillborn, born in hospital, delivered without mention of cesarean section
V32.01	ICD-9-CM, Volume 1&2	urn:oid:2.16.840.1.113883.6.103	Twin birth, mate stillborn, born in hospital, delivered by cesarean section
V33.00	ICD-9-CM, Volume 1&2	urn:oid:2.16.840.1.113883	Twin birth, unspecified

		3.6.103	whether mate liveborn or stillborn, born in hospital, delivered without mention of cesarean section
V33.01	ICD-9-CM, Volume 1&2	urn:oid:2.16.840.1.11388 3.6.103	Twin birth, unspecified whether mate liveborn or stillborn, born in hospital, delivered by cesarean section
V34.00	ICD-9-CM, Volume 1&2	urn:oid:2.16.840.1.11388 3.6.103	Other multiple birth (three or more), mates all liveborn, born in hospital, delivered without mention of cesarean section
V34.01	ICD-9-CM, Volume 1&2	urn:oid:2.16.840.1.11388 3.6.103	Other multiple birth (three or more), mates all liveborn, born in hospital, delivered by cesarean section
…			

Table B-6: Newborn Hearing Screen Left

Value Set: Newborn Hearing Screen Left urn:oid:2.16.840.1.114222.4.1.214079.1.1.3			
Code	**Code System**	**Code System OID**	**Print Name**
54108-6	LOINC	urn:oid:2.16.840.1.11388 3.6.1	Newborn hearing screen of Ear - left

Table B-7: Newborn Hearing Screen Right

Value Set: Newborn Hearing Screen Right urn:oid:2.16.840.1.114222.4.1.214079.1.1.4			
Code	**Code System**	**Code System OID**	**Print Name**
54109-4	LOINC	urn:oid:2.16.840.1.11388 3.6.1	Newborn hearing screen of Ear - right

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Table B-8: Patient Expired

Value Set: Patient Expired urn:oid:2.16.840.1.113883.3.117.1.7.1.309			
Code	**Code System**	**Code System OID**	**Print Name**
164059009	SNOMED CT	urn:oid:2.16.840.1.11388 3.6.96	On examination - hearing normal (finding)
183924009	SNOMED CT	urn:oid:2.16.840.1.11388 3.6.96	Referral needed (finding)

Table B-9: Encounter Inpatient

Value Set: Encounter Inpatient urn:oid:2.16.840.1.113883.3.666.5.307			
Code	**Code System**	**Code System OID**	**Print Name**
183452005	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Emergency hospital admission (procedure)
32485007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Hospital admission (procedure)
8715000	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Hospital admission, elective (procedure)

Table B-10: Ethnicity

Value Set: Ethnicity urn:oid:2.16.840.1.114222.4.11.837 Code System: Race & Ethnicity - CDC 2.16.840.1.113883.6.238 Value Set Source: https://vsac.nlm.nih.gov/			
Code	**Code System**	**Code System OID**	**Print Name**
2135-2	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Hispanic or Latino
2186-5	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Not Hispanic or Latino

Table B-11: ObservationPopulationInclusion

Value Set: ObservationPopulationInclusion urn:oid:2.16.840.1.113883.1.11.20369			
Code	**Code System**	**Code System OID**	**Print Name**
DENEX	ObservationValue	urn:oid:2.16.840.1.113883.5.1063	Denominator Exclusions
DENOM	ObservationValue	urn:oid:2.16.840.1.113883.5.1063	Denominator
DENEXCEP	ObservationValue	urn:oid:2.16.840.1.113883.5.1063	Denominator Exceptions
IPP	ObservationValue	urn:oid:2.16.840.1.113883.5.1063	Initial Patient Population
MSRPOPL	ObservationValue	urn:oid:2.16.840.1.113883.5.1063	Measure Population
NUMER	ObservationValue	urn:oid:2.16.840.1.113883.5.1063	Numerator
NUMEX	ObservationValue	urn:oid:2.16.840.1.113883.5.1063	Numerator Exclusions

Table B-12: Payer

Value Set: Payer urn:oid:2.16.840.1.114222.4.11.3591

A value set of Public Health Data Standards Consortium Source of Payment Typology Version 3.0 Codes Value Set Source: http://www.phdsc.org/standards/payer-typology.asp			
Code	**Code System**	**Code System OID**	**Print Name**
1	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	Medicare
2	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	Medicaid
311	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	Tricare (CHAMPUS)
33	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	Indian Health Service or Tribe
62	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	BC Indemnity
61	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	BC Managed Care
611	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	BC Managed Care - HMO
619	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	BC Managed Care - Other
613	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	BC Managed Care - POS
612	Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5	BC Managed Care - PPO
…			

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Table B-13: Problem Status

Value Set: Problem Status urn:oid:2.16.840.1.113883.3.88.12.80.68 A value set of SNOMED-CT codes reflecting state of existence. Value Set Source: https://vsac.nlm.nih.gov			
Code	**Code System**	**Code System OID**	**Print Name**
55561003	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Active
73425007	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Inactive
413322009	SNOMED CT	urn:oid:2.16.840.1.113883.6.96	Resolved

Table B-14: Race

Value Set: Race urn:oid:2.16.840.1.114222.4.11.836 Code System: Race & Ethnicity - CDC 2.16.840.1.113883.6.238 Value Set Source: https://phinvads.cdc.gov/vads/ViewValueSet.action?id=67D34BBC-617F-DD11-B38D-00188B398520

Code	Code System	Code System OID	Print Name
1002-5	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	American Indian or Alaska Native
2028-9	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Asian
2054-5	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Black or African American
2076-8	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Native Hawaiian or Other Pacific Islander
2106-3	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	White
2131-1	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Other Race
1002-5	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	American Indian or Alaska Native
2028-9	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Asian
2054-5	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Black or African American
2076-8	Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238	Native Hawaiian or Other Pacific Islander
…			

3785 **Table B-15: Administrative Gender (HL7® V3)**

Value Set: Administrative Gender (HL7 V3) urn:oid:2.16.840.1.113883.1.11.1

Administrative Gender based upon HL7 V3 vocabulary. This value set contains only male, female and undifferentiated concepts.

Value Set Source: http://www.hl7.org/documentcenter/public/standards/vocabulary/vocabulary_tables/infrastructure/vocabulary/vocabulary.html

Code	Code System	Code System OID	Print Name
F	AdministrativeGender	urn:oid:2.16.840.1.113883.5.1	Female
M	AdministrativeGender	urn:oid:2.16.840.1.113883.5.1	Male
UN	AdministrativeGender	urn:oid:2.16.840.1.113883.5.1	Undifferentiated

Table B-16: Healthcare Provider Taxonomy (HIPAA)

Value Set: Healthcare Provider Taxonomy (HIPAA) urn:oid:2.16.840.1.114222.4.11.1066

The Health Care Provider Taxonomy value set is a collection of unique alphanumeric codes, ten characters in length. The code set is structured into three distinct Levels including Provider Type, Classification, and Area of Specialization. The Health Care Provider Taxonomy code set allows a single provider (individual, group, or

institution) to identify their specialty category. Providers may have one or more than one value associated to them. When determining what value or values to associate with a provider, the user needs to review the requirements of the trading partner with which the value(s) are being used.

Value Set Source:
http://www.nucc.org/index.php?option=com_content&view=article&id=14&Itemid=125

Code	Code System	Code System OID	Print Name
171100000X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Acupuncturist
363LA2100X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Nurse Practitioner - Acute Care
364SA2100X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Clinical Nurse Specialist - Acute Care
101YA0400X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Counselor - Addiction (Substance Use Disorder)
103TA0400X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Psychologist - Addiction (Substance Use Disorder)
163WA0400X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Registered Nurse - Addiction (Substance Use Disorder)
207LA0401X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Anesthesiology - Addiction Medicine
207QA0401X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Family Medicine - Addiction Medicine
207RA0401X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Internal Medicine - Addiction Medicine
2084A0401X	Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101	Psychiatry & Neurology - Addiction Medicine
...			

Table B-17: Personal And Legal Relationship Role Type

Value Set: Personal And Legal Relationship Role Type urn:oid:2.16.840.1.113883.11.20.12.1

A personal or legal relationship records the role of a person in relation to another person, or a person to himself or herself. This value set is to be used when recording relationships based on personal or family ties or through legal assignment of responsibility.

Value Set Source:
http://www.hl7.org/documentcenter/public/standards/vocabulary/vocabulary_tables/infrastructure/vocabulary/vocabulary.html

Code	Code System	Code System OID	Print Name
SELF	RoleCode	urn:oid:2.16.840.1.113883.5.111	self
MTH	RoleCode	urn:oid:2.16.840.1.113883.5.111	mother
FTH	RoleCode	urn:oid:2.16.840.1.113883.5.111	father

DAU	RoleCode	urn:oid:2.16.840.1.113883.5.111	natural daughter
SON	RoleCode	urn:oid:2.16.840.1.113883.5.111	natural son
DAUINLAW	RoleCode	urn:oid:2.16.840.1.113883.5.111	daughter in-law
SONINLAW	RoleCode	urn:oid:2.16.840.1.113883.5.111	son in-law
GUARD	RoleCode	urn:oid:2.16.840.1.113883.5.111	guardian
HPOWATT	RoleCode	urn:oid:2.16.840.1.113883.5.111	healthcare power of attorney
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Appendix C – Code Systems for US National Extension

Table C-1: Code Systems

Name	OID
ActCode	urn:oid:2.16.840.1.113883.5.4
ActMood	urn:oid:2.16.840.1.113883.5.1001
ActStatus	urn:oid:2.16.840.1.113883.5.14
AdministrativeGender	urn:oid:2.16.840.1.113883.5.1
CMS Program	urn:oid:2.16.840.1.113883.3.249.7
ConfidentialityCode	urn:oid:2.16.840.1.113883.5.25
Healthcare Provider Taxonomy (HIPAA)	urn:oid:2.16.840.1.113883.6.101
HL7ActClass	urn:oid:2.16.840.1.113883.5.6
HL7ActRelationshipType	urn:oid:2.16.840.1.113883.5.1002
HL7ParticipationType	urn:oid:2.16.840.1.113883.5.90
ICD10CM	urn:oid:2.16.840.1.113883.6.90
ICD-9-CM, Volume 1&2	urn:oid:2.16.840.1.113883.6.103
Language	urn:oid:2.16.840.1.113883.6.121
LOINC	urn:oid:2.16.840.1.113883.6.1
ObservationMethod	urn:oid:2.16.840.1.113883.5.84
ObservationValue	urn:oid:2.16.840.1.113883.5.1063
Race & Ethnicity - CDC	urn:oid:2.16.840.1.113883.6.238
RoleClass	urn:oid:2.16.840.1.113883.5.110
RoleCode	urn:oid:2.16.840.1.113883.5.111
SNOMED CT	urn:oid:2.16.840.1.113883.6.96
Source of Payment Typology (PHDSC)	urn:oid:2.16.840.1.113883.3.221.5

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Appendix D – Data Element Concepts Mapping for US National Extension

This appendix defines the set of data element concepts used in the Newborn Hearing Screening quality measure in terms of the NQF Quality Data Model (QDM) standard.

These data element concepts are included to help implementers of actors that do content creation or content consumption. The mappings to the reference quality data model help to clarify the underlying meaning of the information used in the content modules.

For the US Realm, the CMS Implementation Guide for Quality Reporting Document Architecture Category I and Category III, Eligible Professional Programs and Hospital Quality Reporting (HQR), Supplementary Implementation Guide for 2016 establishes the criteria for representing quality measure submitting organizations in the Patient-Level Quality Report and Aggregate-Level Quality Report documents. This guidance includes specific value sets used in US Implementations. Implementers should consult that Implementation Guide first, then use information from this profile for additional guidance specific to the Newborn Hearing Screening Measure.

The Newborn Hearing Screening Measure measures a hospital's process quality for screening newborn's hearing. The organization referenced in the measure is identified with a unique id that is relevant for reporting. In the US Realm this is the CMS Certification Number (CCN) assigned by CMS.

D.1 Summary of Care Document Data Element Concepts

The Summary of Care Document needs to include, as a minimum, data elements used to populate the Patient-Level Quality Report (PLQR) data elements. The clinical summary may include additional information to summarize a patient encounter or set of encounters. See D1.1.2 for details.

D.2 Patient-Level Data Element Concepts

Concept Variable Name	Description	QDM/CDA® Definition
$PATIENT	The person who the document is about	The recordTarget
$AUTHOR	The person or organization authoring the document	Author
$CUSTODIAN	The organization responsible for keeping/maintaining the document as a persistent/unaltered artifact	Custodian
$LEGAL_AUTHENTICATOR	The person (an associated organization) who is legally accountable for the document	legalAuthenticator
$SERVICE_EVENT	The service event that the document is about.	This identifies the specific service performed within the encounter.

Concept Variable Name	Description	QDM/CDA® Definition
$EMEASURE_TITLE	The title of the measure	The title used when referencing the measure.
$VERSION NEUTRAL_IDENTIFIER	An identifier for the measure which does not change even when the version of the measure changes	The setId
$EMEASURE VERSION_NUMBER	The version number of the Measure Definition	The versionNumber
$VERSION_SPECIFIC_IDEN TIFIER	An identifier for the measure which does change when the version changes.	The clinicalDocument/id
$MEASUREPERIOD	The time interval applicable for the data collection.	
$INPATIENT_ENCOUNTER	Data elements that meet criteria using this datatype should document that the encounter indicated by the QDM category and its corresponding value set has been completed.	Encounter Encounter, Performed Encounter Inpatient Value Set: Encounter Inpatient SNOMEDCT Value Set (2.16.840.1.113883.3.666.5.307)
$ETHNICITY	Data elements that meet criteria using this datatype should document that the patient has one or more of the ethnicities indicated by the QDM category and its corresponding value set.	Individual Characteristic Patient Characteristic Ethnicity Value Set: Ethnicity CDCREC Value Set (2.16.840.1.114222.4.11.837)
$RACE	Data elements that meet criteria using this datatype should document the patient's race.	Individual Characteristic Patient Characteristic Race Value Set: Race CDCREC Value Set (2.16.840.1.114222.4.11.836)
$GENDER	Data elements that meet criteria using this datatype should document that the patient's sex matches the QDM category and its corresponding value set.	Individual Characteristic Patient Characteristic Sex Value Set: ONC Administrative Sex AdministrativeSex Value Set (2.16.840.1.113762.1.4.1)

Concept Variable Name	Description	QDM/CDA® Definition
$PAYER	Data elements that meet criteria using this datatype should document that the patient has one or more of the payers indicated by the QDM category and its corresponding value set	Individual Characteristic Patient Characteristic Payer Value Set: Payer SOP Value Set (2.16.840.1.114222.4.11.3591)
$LIVEBORN_IN_HOSPITAL	To meet criteria using this datatype, the diagnosis indicated by the Condition/Diagnosis/Problem QDM category and its corresponding value set should reflect documentation of an active diagnosis. Keep in mind that when this datatype is used with timing relationships, the criterion is looking for an active diagnosis for the time frame indicated by the timing relationships.	Condition/Diagnosis/Problem Diagnosis, Active Starts during "Occurrence A of Encounter, Performed: Encounter Inpatient" Value set: Liveborn Newborn Born in Hospital Grouping Value Set (2.16.840.1.113762.1.4.1046.6)
$LIVEBIRTH	To meet criteria using this datatype, the diagnosis indicated by the Condition/Diagnosis/Problem QDM category and its corresponding value set should reflect documentation of an active diagnosis. Keep in mind that when this datatype is used with timing relationships, the criterion is looking for an active diagnosis for the time frame indicated by the timing relationships.	Condition/Diagnosis/Problem Diagnosis, Active Starts during "Occurrence A of Encounter, Performed: Encounter Inpatient" Value set: Livebirth SNOMEDCT Value Set (2.16.840.1.114222.4.1.214079.1.1.1)
$EXPIRED	The Patient Characteristic Expired data element should document that the patient is deceased. Note: Patient Characteristic Expired is fixed to SNOMED-CT® code 419099009 (Dead) and therefore cannot be further qualified with a value set.	Individual Characteristic Patient Characteristic Expired During "Occurrence A of Encounter, Performed: Encounter Inpatient" Value set: see note. Note: *Patient Characteristic Expired* is fixed to SNOMED-CT® code 419099009 (Dead) and therefore cannot be further qualified with a value set.

Concept Variable Name	Description	QDM/CDA® Definition
$LEFT_EAR_SCREENED	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.	Diagnostic Study Diagnostic Study, Performed Result (exists) Newborn Hearing Screen Left Value set: Pass Or Refer SNOMEDCT Value Set (2.16.840.1.114222.4.1.214079.1.1.6) Note: the result only needs to exist for this data element as it is evaluated here. The concept of PASS or REFER would be represented in different data elements.
$LEFT_EAR_NOT_SCREENED_REASON	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.	Diagnostic Study Diagnostic Study, Performed Reason Value Set: Medical Reasons SNOMEDCT Value Set (2.16.840.1.114222.4.1.214079.1.1.7)
$LEFT_EAR_NOT_SCREENED_NEGATION_RATIONALE	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.	Diagnostic Study Diagnostic Study, Performed Negation Rationale NegationInd = True
$LEFT_EAR_NOT_SCREENED_PATIENT_PREFERENCE	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.	Diagnostic Study Diagnostic Study, Performed Patient Preference Value Set: Medical Reasons SNOMEDCT Value Set (2.16.840.1.114222.4.1.214079.1.1.7)
$LEFT_EAR_NOT_SCREENED_PHYSICIAN_PREFERENCE	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.	Diagnostic Study Diagnostic Study, Performed Physician Preference Value Set: Medical Reasons SNOMEDCT Value Set (2.16.840.1.114222.4.1.214079.1.1.7)

Concept Variable Name	Description	QDM/CDA® Definition
$RIGHT_EAR_SCREENED	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.	Diagnostic Study Diagnostic Study, Performed Result (exists) Newborn Hearing Screen Right Value set: Pass Or Refer SNOMEDCT Value Set (2.16.840.1.114222.4.1.214079.1.1.6)
$RIGHT_EAR_NOT_SCREENED_REASON	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.	Diagnostic Study Diagnostic Study, Performed Reason NegationInd = True
$RIGHT_EAR_NOT_SCREENED_NEGATION_RATIONALE	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.	Diagnostic Study Diagnostic Study, Performed Negation Rationale Value Set: Medical Reasons SNOMEDCT Value Set (2.16.840.1.114222.4.1.214079.1.1.7)
$C_RIGHT_EAR_NOT_SCREENED_PATIENT_PREFERENCE	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.	Diagnostic Study Diagnostic Study, Performed Patient Preference Value Set: Medical Reasons SNOMEDCT Value Set (2.16.840.1.114222.4.1.214079.1.1.7)
$C_RIGHT_EAR_NOT_SCREENED_PHYSICIAN_PREFERENCE	Data elements that meet criteria using this datatype should document the completion of the diagnostic study indicated by the QDM category and its corresponding value set.	Diagnostic Study Diagnostic Study, Performed Physician Preference Value Set: Medical Reasons SNOMEDCT Value Set (2.16.840.1.114222.4.1.214079.1.1.7)

D.3 Aggregate-Level Quality Report Data Element Concepts

3825 The data elements used in an Aggregate-Level Quality Report are determined in the HQMF and QRDA Category III standards. They depend on the type of measure being reported. The Newborn Hearing Screening measure is a Proportional Measure and does not include any stratification or rate adjustment.

Concept Variable Name	Description
$XXXX	The description of this element as it is used in the context of this quality measure.
$PATIENT	Individual patient information is not included in an Aggregate-Level Quality Report.
$AUTHOR	The organization responsible for creating the document. The authoring device holds information about the system used by the organization to author the report.
$CUSTODIAN	The organization that is responsible for maintaining the Patient-level Quality Report document.
$LEGAL_AUTHENTICATOR	The organization that signs off on, and attests to the accuracy of the Patient-Level report.
$INFORMATION_RECIPIENT	The organization to whom the Aggregate-Level Quality Report will be submitted.
$SERVICE_EVENT	The service events which were measured and may include the clinician information for clinicians responsible for performing the each measured service event.
$C_MEASURE_PERIOD	The time interval applicable for the data collection. This is defined through a start time and an end time for the period.
$C_MEASURE_REFERENCE	The information which identifies the e-Measure definition and its version.
$C_MEASURE_RESULTS	The individual components of the measure, called “populations” and the corresponding result. Each population also includes the defined stratifications required by the measure definition.
$IPOP	The Initial Population which includes all entities to be evaluated by an eMeasure which may but are not required to share a common set of specified characteristics within a named measurement set to which the eMeasure belongs.
$DENOM	The Denominator is the same as the Initial Population or a subset of the Initial Population to further constrain the population for the purpose of the eMeasure.
$DENEX	Entities to be removed from the Initial Population and Denominator before determining if the Numerator Criteria are met. Denominator Exclusions are used in Proportion and Ration Measures to help narrow the Denominator
$NUMER	The process or outcome for each entity defined in the Denominator of a Proportion or Ratio measure.
$NUMEX	Entities that should be removed from the eMeasure’s Numerator. Numerator exclusions are used in Proportion and Ratio measures to help narrow the Numerator (for inverted measures which show improvement as they decrease).
$DENEXCEP	Those conditions that should remove a patient, procedure, or unit of measurement from the Denominator only if the Numerator criteria are not met. Denominator exceptions allow for adjustment of the calculated score for example to account for a higher risk population.

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