Nationwide Health Information Network (NHIN)

Physician Quality Reporting Initiative (PQRI)

Emergence Pilot
Profile Definition

V 1.0

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1 Preface

1.1 Introduction

The Nationwide Health Information Network (NHIN) profiles define how NHIN discovery and information exchange capabilities can be used to address particular use cases or business needs. These discovery and information exchange capabilities rest upon a foundational set of messaging, security, and privacy services.

This document defines a NHIN profile for the transmission of Physician Quality Reporting Initiative (PQRI) program data from health care providers to the U.S. Centers for Medicare & Medicaid Services (CMS) and the transmission of feedback pertaining to the submissions from CMS to the healthcare providers using NHIN capabilities.

CMS has established the PQRI program data set to promote standards-based exchange of PQRI program data with the ultimate goal of improving the quality of care experienced by patients as they migrate between providers. CMS has initiated a proof-of-concept program to explore the use of the PQRI program data and its exchange of over the NHIN.

1.2 Intended Audience

The primary audiences for this document are the individuals responsible for implementing software solutions that realize this profile at Health Information Organizations (HIOs) that intend to transmit PQRI program data to CMS on behalf of eligible professionals participating in the PQRI program.

1.3 Business Needs Supported

In response to the Tax Relief and Health Care Act of 2006, the (CMS) seeks to transform the Medicare Payment methodology from a fee-for-service to a value-based purchasing model. Accomplishing this objective is expected to improve patient care and overall beneficiary health by rewarding Medicare providers who follow certain guidelines indicative of comprehensive quality care. CMS is facilitating this endeavor through the collection of information about the outcome of services rendered that have had claims and clinical quality data codes populated by the Provider. These codes are then used to compute analytical statistics (i.e. ratios) for Provider Feedback reports. CMS has titled this statutory program the Physician Quality Reporting Initiative (PQRI).

CMS determined that a reporting system will form an important part of the PQRI application. The PQRI program's primary purpose is to enable program participants to monitor their participation and clinical performance data as well as obtain information concerning the incentive payments they have earned.

1.4 Referenced Documents and Standards

The following documents and standards were referenced during the development of this profile. Specific deviations from or constraints upon these standards are identified below.

1) **Org/SDO name:** HITSP

   Reference # / Spec Name: C105 / Patient Level Quality Data Document Using HL7 Quality Reporting Document Architecture (QRDA) Component

   Version #: v.1.0

   NHIN Deviations or Constraints:

   Underlying Specs:

   Link:

   http://www.hitsp.org/ConstructSet_Details.aspx?&PrefixAlpha=4&PrefixNumeric=105

2) **Org/SDO name:** Centers for Medicare & Medicaid Services

Reference # / Spec Name: PQRI Implementation Guide

Version #: v.1.0

NHIN Deviations or Constraints:

Underlying Specs:

Link:

At the time this document was published, the PQRI Implementation Guide was not yet published by CMS. This document will be updated once the Implementation Guide is available.

3) Org/SDO name: NHIN

Reference # / Spec Name: Document Submission Emergence Pilot Specification

Version #: v.1.1.0

NHIN Deviations or Constraints:

Underlying Specs: IHE Cross-Enterprise Document Reliable Interchange

Links:

http://healthit.hhs.gov/portal/server.pt?open=512&objID=1407&parentname=CommunityPage&parentid=4&mode=2&in_hi_userid=10741&cached=true

4) Org/SDO name: NHIN

Reference # / Spec Name: Administrative Distribution Emergence Pilot Specification

Version #: v.1.0

NHIN Deviations or Constraints:

- EDXLDistribution.senderID – constrained to be “PQRI_PROGRAM@<homeCommunityId>”
- EDXLDistribution.distributionType - constrained to be “Actual”
- EDXLDistribution.distributionType – constrained to be “Report”
- EDXLDistribution.combinedConfidentiality – constrained to be “CONFIDENTIAL”

Underlying Specs: HITSP T63 / Emergency Message Distribution Element Transaction

Links:

At the time this document was published, the NHIN Administrative Distribution specification was not yet published by ONC. This document will be updated once the NHIN Administrative Distribution specification is available.

1.5 Relationship to other NHIN Specifications

This profile is related to other NHIN specifications as described below:

- **Messaging Platform –** specifies a base set of messaging standards and web service protocols which must be implemented by each NHIN node and applies to all transactions. All NHIN inter-nodal messages are SOAP messages over HTTP using web services, must be encrypted and digitally signed.
- **Authorization Framework** – defines the exchange of metadata used to characterize each NHIN request. The purpose of that exchange is to provide the responder with the information needed to make an authorization decision for the requested function. Each initiating message must convey information regarding end user attributes and authentication using SAML 2.0 assertions.

Together, the Messaging Platform and the Authorization Framework define the foundational messaging, security and privacy mechanisms for the NHIN.

- **Document Submission** – allows an initiating NHIN node to "push" one or more patient-centric documents to another node. The PQRI profile specifies use of this mechanism for the submission of PQRI program data from healthcare providers to CMS.
- **Administrative Distribution** – allows an initiating NHIN node to "push" non-patient specific data to another node. The PQRI profile specifies use of this mechanism for the transmission of submission-based feedback from CMS to healthcare providers.

2 Profile Definition

This profile defines how PQRI program data may be submitted by healthcare providers to the U.S. Centers for Medicare & Medicaid Services (CMS) using the NHIN. The profile also describes how feedback pertaining to these submissions may be sent by CMS to healthcare providers.

PQRI program data is represented by a QRDA document which has been constrained by the PQRI program; this representation will hence forth be referenced as a QRDA document. A QRDA document is based on the Health Level 7 (HL7) Clinical Data Architecture (CDA) and is described in common vocabularies by supporting metadata. It contains a collection of clinical data (CMS determined quality measurements) and information about a patient from a physician for a set of encounters (incidences of treatment). In addition to the clinical information, the QRDA document (as a part of the document header) carries information on actors that participated in the encounter, and actors responsible for creation and maintenance of the QRDA document. A QRDA document also carries clinical information regarding patient encounters limited to those encounters that relate to a prescribed set of measures requested by the PQRI program. This profile does not define the PQRI program data set. For guidance on the structure and format of PQRI program data, please refer to the PQRI Implementation Guide published by CMS.

The PQRI Implementation Guide is a document describing the QRDA data elements as well as the capture and exchange of the QRDA data elements, including the associated business rules and data standards required.

2.1 Design Principles and Assumptions

The following assumptions or design principles underlie this profile:

- This profile refers to the use of de-identified data. De-identified data is data from which Personally Identifiable Information (PII), as defined in OMB Memorandum M-07-16, are removed. Where de-identification is specified in this profile, the business rules for de-identifying data will follow the HIPAA Privacy Rule[1].
- This document does not describe how NHIOs should collect, store, or format PQRI program data. For guidance on the structure and format of PQRI program data, please refer to the PQRI Implementation Guide published by CMS.

2.2 Technical Pre-conditions

The following technical pre-conditions exist for this profile:

- The initiating NHIO has received a valid QRDA document from an eligible provider or generated a valid QRDA document from data elements received from an eligible provider.
- QRDA documents and pertinent Document Submission metadata must be de-identified, and the Initiating NHIO must assign a pseudonymous identifier (pseudo id) to the patient. The same pseudonymous identifier must be used for the same patient on subsequent submissions. There is no requirement for CMS to be able to re-identify the patient using this pseudonymous identifier.

2.3 Technical Post-conditions

No technical post-conditions have been identified specifically for this profile beyond those given in referenced specifications.

[1] http://www.hhs.gov/ocr/privacy/hipaa/administrative/privacyrule/index.html

3 NHIN Exchange of PQRI Data

This profile utilizes the NHIN Document Submission and Administrative Distribution service interface specifications. See section 1.5 for more details about these two specifications. The PQRI NHIN process can generally be broken up in to two facets: Submission and Feedback.

Submission is hereby profiled to use the Document Submission service interface specification, while Feedback is profiled to leverage the Document Submission response for “submission based” feedback and Administrative Distribution service interface specification for “end of the year” feedback.

3.1 Sample Scenario for Use

A provider in a given care setting treats a patient who is a Medicare beneficiary and then submits a QRDA document, which contains PQRI program data, or the data elements called for in the QRDA specification, to their associated NHIO. The NHIO to which the provider and the patient belong submits or “pushes” the PQRI data in the form of a QRDA document to CMS. The determination for the “push” model is based on CMS’ desire to regularly consume data feeds from participating providers without having to request or subscribe to the data feeds. The QRDA document submission transaction uses the messaging and security protocols defined by the NHIN. The payload (the QRDA document) is formatted as per the PQRI Implementation Guide.

Upon receipt of the QRDA document, CMS returns an acknowledgement of document receipt. CMS then validates the QRDA document for compliance with the PQRI Implementation Guide and returns an “Accepted” or “Rejected” status as a response to the submitting NHIO. Appropriate indications of reasons for rejection are included for rejected submissions. At a later point, governed by PQRI business rules, feedback will be returned to the submitting NHIO. This feedback is not in response to any given submission, but is related to PQRI program data acquired from one or more submissions. This feedback should be sent using a NHIN Administrative Distribution transaction.

CMS requires that submitted QRDA documents to be de-identified as per the HIPAA Privacy. A pseudonymous identifier should be assigned for each patient and included in the QRDA document. At the conclusion of PQRI, CMS may consider receiving QRDA document with PII, such as the patient’s Health Insurance Claim Number (HICN).

3.2 Submission of QRDA Document

Submission or “Push” of QRDA documents utilizes the NHIN Document Submission service interface specification. The Initiating NHIO Gateway is required to initiate the asynchronous transaction.

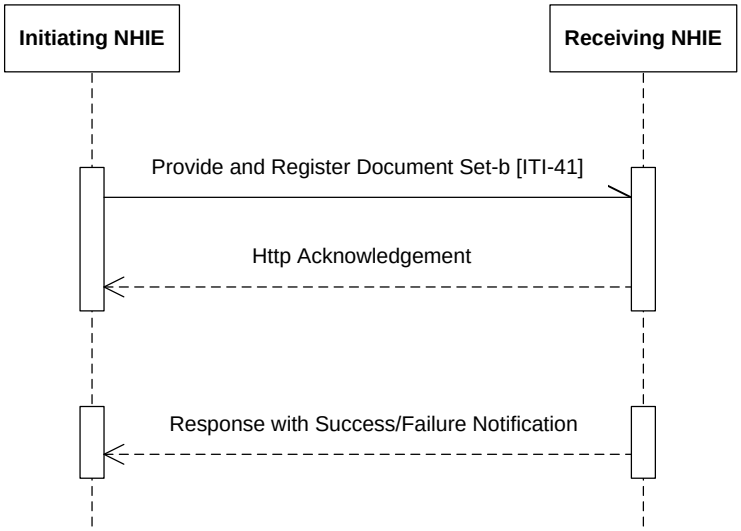
3.2.1 Web Service Asynchronous Messaging

The PQRI Profile requires use of the Asynchronous Web Services Exchange option on the NHIN Document Submission Service Interface Specification. NHIOs may not submit QRDA documents to CMS using the synchronous mode, as the processing time required to validate the submission is expected to exceed typical HTTP timeout thresholds.

3.2.2 QRDA Document Submission Response

The Receiving NHIO returns a HTTP acknowledgement of document receipt (HTTP 202 “Accepted” response code).

Upon validation of a QRDA document or document set, the Receiving NHIO (e.g., CMS) returns “success” or “failure” status as a success or failure response to the Initiating NHIO. Appropriate indications of reasons for rejection are included in failure responses. The response is synonymous with “submission based feedback”, discussed below in section 3.3.1.



3.2.3 Error Handling

Error codes are defined in section 4 of IHE's ITI Technical Framework, Volume 3.For the purposes of PQRI we will reuse XDSRepositoryError and XDSRepositoryMetadataError. The following table lists a set of errors, the error code, and a description of information which will populate the RegistryError text field.

Error	Error Code	Description
Document not de-identified	XDSRepositoryError	Document is not de-identified as per HIPAA rules
Patient not Medicare eligible	XDSRepositoryMetadataError	The patient to whom QRDA document belongs to is not Medicare Eligible
Document not well formed	XDSRepositoryError	The QRDA document does not conform to PQRI Implementation Guide. List violating elements if possible.
Submission out of date range	XDSRepositoryMetadataError	The QRDA document submission is not submitted within 7 days of service date.

3.3 Feedback

Feedback from CMS to the NHIO in the PQRI domain can be broken into three categories; submission based feedback, end of the year feedback, and interim feedback. The exact requirements for interim feedback have not been completely defined and therefore are currently out of the scope of this profile. Conversely, the mechanisms for transmission of submission based feedback and end of the year feedback from CMS to the submitter are defined. Submission based feedback will leverage the Document Submission Response and end of the year feedback shall be based on the NHIN Administrative Distribution interface specification. It is expected that Administrative Distribution is generic enough to handle future feedback report delivery requirements of the PQRI program.

Administrative Distribution provides a way to submit a non-patient centric report from one node on the NHIN to another. Administrative Distribution is built on HITSP T63, originally developed to support situational and EMT reports and designed as a distribution element or "container" to route information or "payloads". It will support non XML payloads and any constructs. It is a point-to-point web services based conversation and can be provisioned with access control security which would be a requirement for feedback distribution. The construct doesn't address storage, deprecation or auditing and these could be addressed per CMS/ HIE policies.

Administrative Distribution will be constrained by this profile in section 3.3.3.

3.3.1 Submission Based Feedback

Submission based feedback content has a one to one relationship to each individual submission – and as such is conveyed in the Document Submission response (see section 3.2.2). There are two cases for the content of submission based feedback. In the case of a successful submission, the Document Submission response will simply be returned with a "success" status (as defined in the underlying standard). In the case of an error, the Document Submission response will contain a "failure" status and will contain a registry error list that represents the reason or reasons for the processing failure (also as defined in the underlying standard).

3.3.2 End of the Year Feedback

End of the year feedback is not in response to any in particular submission or patient. Instead, it is a summary report produced via the aggregation and processing of the CMS backend systems. This type of feedback will contain justification for incentive payments paid by CMS to a given eligible professional (EP). Given that this type of message is a *non patient centric* "push" from CMS to an eligible professional, the Document Submission service interface specification does not suit the needs of this transaction.

End of the Year feedback implies a once a year, unidirectional transmission of a report to CMS, although quarterly or semi-annual reports could also be pushed via this transport. The method an NHIO would use to propagate this message inside the NHIO is outside of the scope of this profile.

3.3.3 Administrative Distribution Constraints

The Administrative Distribution interface specification dictates that the following metadata elements need to be constrained in this profile.

3.3.3.1 EDXLDistribution.senderID

The base specification has departed from the Oasis specification for this element and defined it as "actor@homecomminityid". For the purposes of the PQRI profile, the "actor" will be defined as "PQRI_PROGRAM".

3.3.3.2 EDXLDistribution.distributionStatus

For the purposes of PQRI, distributionStatus will be constrained to be "Actual"

3.3.3.3 EDXLDistribution.distributionType

For the purposes of PQRI, distributionType will be constrained to be "Report"

3.3.3.4 EDXLDistribution.combinedConfidentiality

For the purposes of PQRI, the combinedConfidentiality will be "CONFIDENTIAL" due to the possibility of a feedback reporting containing an SSN.

Appendix A: Sample Messages

Sample “End of the Year” Feedback message:

```
<t63Request xmlns="urn:oasis:names:tc:emergency:EDXL:DE:1.0">
   <EDXLDistribution>
      <distributionID>633990682441061250</distributionID>
      <senderID>PQRI_PROGRAM@2.16.840.1.113883.3.166</senderID>
      <dateTimeSent>2010-01-14T12:18:13.512375-08:00</dateTimeSent>
      <distributionStatus>Actual</distributionStatus>
      <distributionType>Report</distributionType>
      <combinedConfidentiality>Public</combinedConfidentiality>
<explicitAddressScheme>modified_IHEIntendedRecipient</explicitAddressScheme>
<explicitAddressValue>8439299^^^^^^^^^2.16.840.1.113883.3.166|000001</explicitAddressValue>
      <contentObject>
         <contentDescription>PQRI Feedback</contentDescription>
         <incidentID>TEST</incidentID>
         <incidentDescription>PQRI Feedback</incidentDescription>
         <confidentiality>CONFIDENTIAL</confidentiality>
         <nonXMLContent>
            <embeddedXMLContent>
                 <mimeType>application/pdf>
                 <size>19</size>
                 <digest></digest>
                 <uri></uri>

  <contentData>LDLIHAPIISDALKDF902383K1182K4J49DFNF3KR0482HJ1029F393</contentData>


            </embeddedXMLContent>
         </nonXMLContent>
      </contentObject>
   </EDXLDistribution>
</t63Request>
```