Nationwide Health Information Network (NHIN)

Electronic Submission of Medical Documentation (esMD)

X12 Profile

V 1.0

3/6/2012
# Contributors

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<tr>
<th>Name</th>
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<tr>
<td>Dan Kalwa</td>
<td>CMS</td>
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<td>Melanie Combs-Dyer</td>
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<tr>
<td>Manoj Chaganti</td>
<td>CMS</td>
<td>CMS/QSSI</td>
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<td>Sacchidanand Girde</td>
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<td>Aaron Walton</td>
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<td>Craig Miller</td>
<td>ONC</td>
<td>Vangent</td>
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<td>Gary Beatty</td>
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<td>Eric Heflin</td>
<td>NHIN Exchange</td>
<td>Medicity</td>
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<td>Mary Lynn Bushman</td>
<td>CMS</td>
<td>National Government Services</td>
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<td>Rachel Foerster</td>
<td>CAQH CORE</td>
<td>Boundary Information Group (CORE Consultants)</td>
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<td>Raja Kailar</td>
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<td>Business Networks International (BNETAL) (CORE Consultants)</td>
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<td>Kevin Castellow</td>
<td>CAQH CORE</td>
<td>Business Networks International (BNETAL) (CORE Consultants)</td>
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## Document Change History

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<td>Tracey Banks, Edaptive Systems</td>
<td>Revised draft as per NHIN Specification meeting on August 25, 2010: Updated document numbering and headers; Added Application Level Acknowledgement section; Incorporated Connectivity Payload and Standard Acknowledgements diagram;</td>
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<td>Mary Lynn Bushman</td>
<td>Minor language revisions for clarification.</td>
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<td>08/30/2010</td>
<td>Tracey Banks, Edaptive</td>
<td>Revised draft as follows: Modified Provider language in Section 3.2-Submission Specification. Added Figure-Asynchronous Messaging with Multiple HTTP Connections to Section 3.9- Security and Transport Specifications for esMD 275 Documents.</td>
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<td>Tracey Banks, Edaptive</td>
<td>Revised draft as follows: Section 3.1-Changed section header from “Authentication Framework” to Implementation Specification for 275”. Inserted new Section 3.5-277 [Placeholder]. Removed Figure 1-Asynchronous Messaging with Two HTTP Connections.</td>
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<td>Tracey Banks, Edaptive</td>
<td>Revised draft as follows: Removed Section 3.4-Error Handling. Section 3.8-Attachments in esMD-Removed reference to Section 508. Moved Figure 1- Figure 1- Connectivity Payload and Standard Acknowledgements from Section 3.10 Security and Transport Specifications for esMD 275 Documents to Section 3.8- Application Level Acknowledgements. Section 3.9-Security and Transport Specifications for esMD 275 Documents-Made minor language modifications, Removed extraneous text, “Processing Mode”, “Security”, “MTOM”, and “Authentication” sections. Added MTOM as a bulleted item.</td>
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<td>Revised draft as follows: Section 3.2-Submission Specifications-revised verbiage as provided by Mary Lynn Bushman. Section 3.2-Claim ID and Case ID- revised section and Table 1 verbiage as provided by Mary Lynn Bushman. Section 3.8- Application Level Acknowledgements. Changed section title to “Acknowledgements”. Section 3.8- Added section text for TA1, 999, and</td>
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<td>Added verbiage to the following sections as per Mary Lynn Bushman and Melanie Combs-Dyer: Section 1.2 Intended Audience, Section 1.4 Referenced Documents and Standards, Section 2 Profile Definition, and Section 3.1 Implementation Standards for 275. Removed the following from Section 3.7-Attachments in the esMD 275 Format: b. The message size must not exceed 19 mb (this constraint will be modified if and when the CONNECT/NHIN is changed to allow large file transfer. This information will be placed into the Implementation Guide. Updated the ASC X12N/005010X210 document version from Version 5, Release 1 (July 2007 Draft) to (September 2007 Final)</td>
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<td>Removed title page header as per C62 Profile Definition V 1.0.0 document. Added the following verbiage to the paragraph in Section 1.2 Intended Audience- In addition, it is assumed that readers have prior knowledge of the X12 275 standards. Added 5) Health Level Seven (HL7) to Section 1.4 Referenced Documents and Standards Added link for the HITSP/C62 location to table in Section 2.0 Profile Definition. Standardized tables. Sections 3.1, 3.4, 3.7, and 3.8-Updated language as per Gary Beatty and Mary Bushman. Added two diagrams in Section 3.8.</td>
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<td>Section 3.8-Updated the Functional Group Envelope details with</td>
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<td>one Transaction Set. Updated the Interchange Control Structure.</td>
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<td>10/13/2010</td>
<td>Tracey Banks, Edaptive Systems</td>
<td>Revised the draft as follows based on feedback provided in the October 13, 2010 NHIN Spec Factory esMD Meeting. Added “beneficiary/” in front of all references to “claim” in sections 2.1, 3.1, 3.2, 3.3, 3.4 and 3.7.</td>
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<td>Replaced Figure 1- Interchange Control Structure</td>
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<td>And Figure 2- X12 Transaction with updated Versions.</td>
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<td>Revised title and updated description for Transport and Message (Envelope).</td>
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<td>Table 2- 275 Claim ID and Case ID added <strong>May be referred to as a 'case ID' or 'CID' by some review contractors.</strong> to the Case ID definition. Table 2-Changed Industry Usage for Case ID from “R” to “R2”. Section 3.7-Gary Beatty, CMS Provided Appendices A and B Section 3.8-Mary Lynn Bushman and Gary Beatty Added verbiage to help clarify that the Message Envelope is CAQH CORE and not X12. Section 3.8- Rachel Foerster Updated Figure 1- Interchange Control Structure</td>
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<td>Added Figure 2-CAQH/CORE SOAP Envelope</td>
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<td>Section 3.11-Eric Heflin</td>
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<td>Added verbiage for normative and non-normative specifications.</td>
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| 0.4.16  | 11/17/2010 | Tracey Banks, Edaptive Systems | Updated Figure 2.  
Section 3. 9-Tracey Banks  
Added previously deleted text to section. |
| 0.4.17  | 11/24/2010 | Tracey Banks, Edaptive Systems | Revised the draft as follows:  
Added line numbers to document for review purposes.  
Incorporated Section 3.6 Submission Specifications and 3.7 Attachments in the esMD 275 Format into Section 3.2 Submission Specifications.  
Moved Section 3.4 277 Health Care Claim Request for Additional Information to end of document |
| 0.4.18  | 11/29/2010 | Tracey Banks, Edaptive Systems | Revised the draft as follows:  
Incorporated feedback provided by Manoj Chaganti.  
Updated Figure 2 in Section 3.5. |
| 0.4.19  | 12/01/2010 | Tracey Banks, Edaptive Systems | Revised the draft as follows:  
Updated Section 1.4 as per Manoj Chaganti. |
| 0.4.20  | 12/02/2010 | Tracey Banks, Edaptive Systems | Revised the draft as follows:  
Updated Section 3.3 Meta Data-esMD Tiger Team  
Moved Section 3.4 Error Handling to Section 3.6 Acknowledgements-esMD Tiger Team  
Added Appendix C- Glossary-Manoj Chaganti |
| 0.4.21  | 12/02/2010 | Tracey Banks, Edaptive Systems | Revised the draft as follows:  
Incorporated feedback from esMD Tiger Team.  
Updated Figure 2-Gary Beatty |
| 0.4.22  | 12/13/2010 | Tracey Banks, Edaptive Systems | Revised the draft as follows:  
Incorporated feedback from esMD Tiger Team. |
| 0.4.23  | 12/29/2010 | Tracey Banks, Edaptive | Revised the draft as follows:  
Section 1.4- Reference Documents. Added "*Note:* |
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|         |          | Systems                           | *There is a fee for the 999 and 824 Implementation Guides.*  
Section 3.6- Removed Table 4- Error Codes and added introductory text along with Implementation Guide links.                                                                                                    |
| 0.4.24  | 1/9/2011 | Tracey Banks, Edaptive Systems    | Revised the draft as follows:  
Changed title from “Profile Definition” to X12 Service Definition”.                                                                                                                                                                    |
| 0.4.25  | 4/18/2011| Donna Jones, Signature Consulting | Revised the draft as follows:  
Section 4.1, line 471, BGN*02* change to BGN*11*  
Section 4.2, row 4 column 1, BGN*02* change to BGN*11*  
Section 4.2, row 4 column 1, change from unsolicited to solicited.                                                                                                                                                                |
| 0.4.26  | 6/9/2011 | Donna Jones, Signature Consulting | Revised the draft as follows:  
Change title from X12 Service Definition to X12 Specifications  
Sec. 1.3,line 38, change esMD X12/C62 to esMD X12/HL7/C62  
Sec. 2, Table 1, column for 275, added Unstructured, omitted all formats except for pdf.  
Sec. 3.2, line 282, change a & f to pdf format.  
Move Provider loop language from sec. 1000B, line 270 to line 279 under the section 1000C.  
Omit sec. 4.1 & 4.2. These will go in the Implementation Guide.  
Sec. 3.3, Table 3, row Unique Messaging ID, column 275 – added ST02 – Transaction Set Control Number – provided by Gary  
Sec. 3.3, Table 3, row Unique Messaging ID, column C62, add Clinical Document.id provided by Gary  
Sec. 3.3, Table 2, HIH organization, add submitter loop in the X12 column.                                                                                                                                                        |
| 0.4.27  | 6/21/2011| Manoj Chaganti QSSI & Sacchidanand Girde/QSSI | Revised the draft as follows:  
In section 1.4, updated the name and link for Document Submission Specification v 2.0  
In section 1.4, added the reference for NHIN Messaging Platform Specification v2.0  
In Section 2 Table 1, removed the reference to TIF for HITSP/C62  
Updated language in the paragraph after Table 1 i.e. lines 187 - 192.                                                                                                                                                           |
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|         |            |                                                | In section 3.2, added more language to lines 250 – 252 to clarify esMD ADR  
On Page 13, numbered and named the table  
In section 3.2, points 1 and 2, added the full form for RAC, MAC and HIH  
In section 3.2, point 3, updated the language  
In section 3.2, deleted the reference to TIF resolution  
In section 3.3 renamed Table 2 to Table 3  
In section 3.3, table 3 Metadata Elements, updated the language for Hash Key and HIH Home Community ID  
In section 3.4, removed the reference to TIF  
In section 3.4, renamed table 3 to table 4  
In section 3.5 Point 1, deleted reference to IHE ITI TF Vol. 3 and XDSRepository error  |
| 0.4.28  | 6/28/2011  | Manoj Chaganti, Mary Lynn, Christine Stahlecker | Reviewed for terminology consistency.  
Revised to support deferred X12 response.                                                                                                                                                                                                                                                                                                                                 |
| 0.4.29  | 7/20/2011  | Donna Jones, Signature Consulting              | Revised the draft as follows:  
Added in Sections 4.1 & 4.2  
Updated table of Contents                                                                                                                                                                                                                                                                                                                                 |
| 0.4.30  | 07/25/2011 | Manoj Chaganti, Gary Beatty, Mary Lynn, Donna Jones, Kevin Castellow | Update the Communication Flow with X12 deferred Responses.  
Reviewed content in various sections.  
Added X12 Document Submission Reference.  
Added the 275, TA1, 999 and 824 messages.                                                                                                                                                                                                                                                                                                                                 |
| 0.4.31  | 09/22/2011 | Manoj Chaganti Sacchidanand Girde, Donna Jones Raja Kailar Kevin Castellow | Cleaned the comments  
Added the possible esMD Metadata values  
Updated the X12 Deferred Response Acknowledgements with Multiple HTTP Connections diagram.                                                                                                                                                                                                                                                                                           |
| 0.4.32  | 10/03/2011 | Manoj Chaganti Raja Kailar Donna Jones Gary Beatty, Mary Lynn | Update the diagram 2, 3 and 4.  
Update the context around diagram 4 with generic batch.  
Update the samples.  
Section 1.4  
Updated the Reference documents.  
Updated the name of the NHIN X12 Document Submission specification to NHIN CAQH X12  |
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<td>10/06/2011</td>
<td>Raja Kailar, Manoj Chaganti, Laura Higdon, Kevin Castellow</td>
<td>Updates to CORE Connectivity terminology and references to Generic Batch interaction</td>
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<td>Update the Section 3.1 with metadata sub sections.</td>
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<td>Reviewed and updated completed document.</td>
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<td>- Updated diagrams, Corrected the links and Table Titles</td>
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<td>- Updated the X12 999 TR3 version identifier to be 00501X231A1</td>
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| 1.0     | 3/6/2012   | Gary Beatty, Donna Jones | Transaction info to Loop 2000A — ASSIGNED NUMBER Loop TRN02 (TRN01=2) Referenced Transaction Trace Numbers  
- Line 763 from *1* to *2*  
- Line 846, Table 5, Row 16, column 1 from *1* to *2*, column 2 – from *1* to *2* and updated to reflect (Referenced Transaction Trace Numbers)  
- Line 1230 from *1* to *2* |

### Document Approval

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<td>Melanie Combs-Dyer</td>
<td>Deputy Director CMS / OFM / Provider Compliance Group</td>
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<td>NHIN Coordinating Committee</td>
<td>Approves NHIN Specifications for Production Use</td>
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1 Preface

1.1 Introduction

For 2009 the Medicare fee-for-service (FFS) program made an estimated $35.4 billion in improper payments. Medicare review contractors compare the claims submitted by Medicare providers against entries in medical records to measure, prevent, and correct improper payments.

- **RACs identify and correct improper payments.** Recovery Audit Contractors (RACs) conduct post-payment review by comparing information from medical records to Medicare claims. The Centers for Medicaid & Medicare Services (CMS) estimates that RACs will request over 1 million medical records from providers each year.

- **MACs prevent improper payments.** Medicare Administrative Contractors (MACs) conduct pre-payment and post-payment reviews of Medicare FFS claims. CMS estimates that MACs will request several thousand medical records per year.

Prior to the Electronic Submission of Medical Documentation (esMD) Phase 1 program, the provider had three choices when responding to these documentation requests: mail paper, mail a CD containing a Portable Document Format (PDF) or Tag Image File Format (TIFF) file, or transmit a fax. The esMD program will give providers an additional option for responding to these requests for medical documentation: electronic transmission via the Nationwide Health Information Network (NHIN).


1.2 Intended Audience

The primary audiences for this document include:

- Medicare review contractors that will receive medical documentation in esMD format sent by Health Information Handlers on behalf of Medicare providers,

- Developers of software that aim to assist Medicare review contractors in viewing and more efficiently processing documents received in esMD format,

- Health Information Handlers (HIHs) that will send medical documentation in esMD format to the Medicare review contractors on behalf of Medicare providers,

- Developers of Electronic Health Records (EHR) extraction software that assist HIHs more easily extract data from EHRs into the esMD format.

It is assumed that the readers have prior knowledge of Health Information Technology Standards Panel (HITSP)/C62 formats. In addition, it is assumed that readers have prior knowledge of the ASC X12 275 standards.
1.3 Business Needs Supported

The esMD Phase 1 program will support the submission of documentation by providers such as physicians and hospitals to a limited number of Medicare review contractors.

The purpose of this profile is to describe the esMD X12/HITSP C62 formats and messaging formats and provide background information about the underlying standards upon which the esMD formats are based. It is intended to:

- Communicate the data requirements necessary for EHR vendors to incorporate into the design and development of their EHR products, and
- Serve as the roadmap for HIHs such as Regional Health Information Organizations (RHIOs), Health Information Exchanges (HIEs), Release of Information (ROI) vendors, and claim clearinghouses to use on behalf of providers submitting documentation to Medicare review contractors.

NOTE: This document will refer to RHIOs, HIEs, ROI vendors, claim clearinghouses and others entities that move health information over NHIN gateways on behalf of health care providers as “Health Information Handlers.”

Only a limited number of HIHs will be selected to participate in the esMD Phase 1 Program.

This esMD X12 profile describes the metadata rules (e.g., what goes in which fields) and submission rules (e.g., how to address the packages) for the esMD program. CMS will develop a different document called an "esMD Implementation Guide" to provide more detail such as the onboarding process, authentication and authorization, implementation details, Message formats, OIDs, contractor numbers, etc.

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.

1.4.1 Org/SDO name: HITSP

Reference # / Spec Name: HITSP/C62 Unstructured Document Component and HITSP T85

Version #: v.1.1

NHIN Deviations or Constraints: None

Underlying Specs:

1.4.2 Org/SDO name: NHIN
Reference # / Spec Name: NHIN CAQH CORE X12 Document Submission Specification
Version #: v.1.0 (or Current Version)
NHIN Deviations or Constraints: None
Underlying Specs: Phase II CORE 270: Connectivity Rule version 2.2.0
Links: http://exchange-specifications.wikispaces.com/CMS+esMD

1.4.3 Org/SDO name: NHIN
Reference # / Spec Name: NHIN Authorization Framework Specification
Version #: v.2.0/2.2
NHIN Deviations or Constraints: None
Underlying Specs: NHIN Authorization Framework Specification 2.2
Links: http://healthit.hhs.gov/portal/server.pt/gateway/PTARGS_0_11673_910545_0_0_18/NHIN_Autho_rizationFrameworkProductionSpecification_v2.0.pdf

1.4.4 Org/SDO name: ASCX12
Reference # / Spec Name: ASC X12N/005010X210 (275)
Reference # / Spec Name: ASCX12/00510X231 (999)
Reference # / Spec Name: ASCX12/00510X186 (824)
Reference # / Spec Name: ASCX12/00510X186A1 (824 errata)
Version #: Version 5, Release 1 (September 2007 Final)
NHIN Deviations or Constraints: None
Underlying Specs: ASC X12 005010
1.4.5 Org/SDO name: NIST/FEDERAL INFORMATION PROCESSING STANDARDS (FIPS 140-2)  
Reference #: Spec Name: Security Requirements for CRYPTOGRAPHIC Modules  
Version #: FIPS PUB 140-2  

**NHIN Deviations or Constraints:** This standard specifies the security requirements that will be satisfied by a cryptographic module utilized within a security system protecting sensitive, but unclassified, information (hereafter referred to as sensitive information). The standard provides four increasing, qualitative levels of security. Level 1 and Level 2 are intended to cover the wide range of potential applications and environments in which cryptographic modules may be employed. The security requirements cover areas related to the secure design and implementation of a cryptographic module. These areas include cryptographic module specification, cryptographic module ports and interfaces; roles, services, and authentication, finite state model; physical security; operational environment; cryptographic key management; electromagnetic interference/electromagnetic compatibility (EMI/EMC); self-tests; design assurance; and mitigation of other attacks. This standard supersedes FIPS 140-1, Security Requirements for Cryptographic Modules, in its entirety. The Cryptographic Module Validation Program (CMVP) validates cryptographic modules to Federal Information Processing Standard (FIPS) 140-2 and other cryptography based standards. Products validated as conforming to FIPS 140-2 are accepted by the CMS for the protection of sensitive information. The goal of the CMVP is to promote the use of validated cryptographic modules and provide Federal agencies with a security metric to use in procuring equipment containing validated cryptographic modules.

**Underlying Specs:** None  

**Links:**  

1.4.6 Org/SDO name: CMS / CMS Information Security ARS - CMSR Moderate Impact Level Data  
Reference #: Spec Name: Appendix B - CMSR Moderate Impact Level Data  
Version #: CMS-CIO-STD-SEC01-1.0
NHIN Deviations or Constraints: All cryptographic modules used by HIHs must adhere to FIPS 140-2 Compliance criteria and utilize TLS. The FIPS 140-2 is a CMS standard that provides a benchmark for implementing the cryptographic module.


Links:

1.4.7 Org/SDO name: NHIN

Reference # / Spec Name: NHIN Messaging Platform Specification

Version #: v.2.0

NHIN Deviations or Constraints: None

Underlying Specs: None


1.4.8 Org/SDO name: CAQH CORE

Reference # / Spec Name: Phase II CORE 270: Connectivity Rule version 2.2.0

Version #: v2.2.0 (March 28, 2011)

NHIN Deviations or Constraints:

- Use of TLS 1.0 as per Messaging Platform Specification
- Use of SAML Assertions as per Authorization Framework Specification

Underlying Specs: CAQH CORE Phase I and II Connectivity Operating Rules


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 Simple Object Access Protocol (SOAP) messages over Hypertext Transfer Protocol (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 Security Assertion Markup Language (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” claim-centric Medicare supporting documents to another node. The esMD profile specifies use of this mechanism for the submission of the medical documentation electronic transmission data from healthcare providers to CMS.

### 2 Profile Definition

This profile defines how esMD program data may be submitted by healthcare providers to the U.S. CMS using the NHIN. The profile also describes how feedback pertaining to these submissions may be sent by CMS to healthcare providers.

The approach taken in the development of this specification was to balance the needs of:

• Medicare review contractors that desire to receive all data in a structured format to facilitate the review of Medicare claims, and

• Many HIHs that still retain some patient records in an unstructured format (i.e., imaged PDF files).

As a result of this balanced approach, the esMD Phase 2 program will accept medical documentation only in the following formats:

#### Table 1: esMD Specifications

<table>
<thead>
<tr>
<th>Name of Specification</th>
<th>Purpose</th>
<th>Structured or Unstructured</th>
<th>What Section in this Document</th>
</tr>
</thead>
<tbody>
<tr>
<td>HITSP/C62</td>
<td>For submitting <strong>any type</strong> of documentation in PDF format</td>
<td>Unstructured</td>
<td>Please see document at: Section 1.4 – Referenced Documents and Standards</td>
</tr>
<tr>
<td>275</td>
<td>For submitting <strong>any type</strong> of documentation in PDF format. This documentation must be in an ASC x12 275 EDI transaction with a HITSP C62 PDF attachment inside the binary segment or with the HL7 attachment (PDF) standard inside the binary segment.</td>
<td>Unstructured</td>
<td>Section 3</td>
</tr>
</tbody>
</table>

### 2.1 Design Principles and Assumptions
The following assumptions or design principles underlie this profile:

- **The provider decides what to submit.** In both the current paper process and the new esMD process, the Medicare review contractor does not specify what the provider must send. It is up to the provider to decide which documents to send. This often includes discharge summaries, progress notes, orders, radiology reports, lab results, etc.

- **The esMD initial Phase I program will allow providers to send unstructured documents and in later Phase 1 will allow providers to send structured and unstructured documents.** (Only imaged documents in PDF format).

- **One Way Transmission: Provider-to-Review Contractor.** The esMD Phase I program will be unidirectional (provider-to-Medicare review contractor). Future phases will allow the Medicare review contractor to send the documentation request letter to the provider electronically.

- **Each package must contain documentation about a single Medicare claim.** Throughout this profile, the term “package” will be used to refer to one or more documents associated with a single Medicare claim. Each package can contain multiple documents so long as all documents are related to the same beneficiary/claim. The technical term for a package is a “SOAP message.”

### 2.2 Technical Pre-conditions

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

### 2.3 Technical Post-conditions

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

### 3 NHIN Exchange of esMD Data in 275 Format

This profile utilizes the NHIN Document Submission service interface specifications.

#### 3.1 Implementation Specification for 275

The esMD will follow the ASC X12 Additional Information to Support a Health Care Claim or Encounter (275) TR3 Implementation Guide (ASC X12N/005010X210, September 2007 Final) without modification. This 275 Implementation Guide is available for purchase at [http://store.x12.org/store/healthcare-5010-original-guides](http://store.x12.org/store/healthcare-5010-original-guides). The purpose of this implementation guide is to provide standardized data requirements and content to all users of the ASC X12 Patient Information (275) Transaction Set that focuses on the use of the 275 to send additional information about a Medicare claim or encounter. This implementation guide provides a detailed explanation of the transaction set by defining uniform data content, identifying valid code tables, and specifying values applicable for the business use of conveying Additional Information to Support a Health Care Claim or Encounter (275). This implementation guide
describes a solution that includes the encapsulation of a Health Level Seven (HL7) Standard within the 275 transaction to support the exchange of clinical data.

### 3.2 Submission Specifications

This profile describes how to use 275 format to foster submission of medical documentation requested by the Medicare review contractor. This profile:

- References underlying 275 Segments and Elements,
- Specifies constraints and other rules for using the formats, and
- Specifies additional constraints for using standard vocabularies and code sets where applicable.

The profile does not intend to detail 275 and messaging implementation constraints but rather directs implementers to 275 specification documents for conformance specifications.

Document submission specifications shall conform to the 275 transmissions except as noted below.

#### The BGN Segments

The Beginning Segment (BGN) indicates the transaction use.

- BGN01, the Transaction Set Purpose Code must be “11” that indicates that this 275 is a response to a 277 Request for Additional Information. In esMD, Request for Additional Information equates to the Additional Documentation Request (ADR) letter sent by the review contractor to a provider.
- A value of “02” indicating an unsolicited 275 is not supported by this profile.

The following is an example of the transaction header segments.

**BGN*11*1*20060724~**

Table 2 of the 275 consists of Loop ID 1000 which is repeated four times to define the participants involved in the transaction. The transaction participants must be in the following order:

**Table 2: Loop ID & Transaction Participants**

<table>
<thead>
<tr>
<th>Loop ID</th>
<th>Loop Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000A</td>
<td>Payer Name</td>
</tr>
<tr>
<td>1000B</td>
<td>Submitter Information</td>
</tr>
</tbody>
</table>
1.  **1000A Payer Name** - This entity is the decision maker in the business transaction. In this profile, this shall be the CMS-assigned Organization ID (OID) for the RAC or MAC that is intended to receive the submission.

2.  **1000B Submitter Information** - This entity is the sender of the transaction. For this business use, this entity is the HIH. A provider may choose to act as its own HIH (i.e., be the submitter). The submitter’s email address is optional data that can be reported. If reported, the Payer Contact Information segment (PER) may be used in the 1000C Provider Name Information loop. The PER segment, if used, would be after the Provider Taxonomy Information segment (PRV) and before the Provider Secondary Identification segment (REF).

   The PER segment, data element 01, will be the value of IC with data element 02 including the Provider Contact name. The PER segment, data element 03, will be the value of EM with data element 04 including the submitter’s email address.

3.  **1000C Provider Name Information** - This entity is the provider of the health care service. In this profile, the National Provider Identifier (NPI) number of the provider shall be reported in the 1000C loop in the NM109 data element.

   The following is an example of the Provider loop with the submitter’s email address segment:

   NM1*1P*2*ABC Provider Group******XX*1599999998~
   PRV*B1*PXC*506TY34888~
   PER*IC*Jane Smith*EM*ABCPROVIDER@GROUP.COM~

4.  **1000D Patient Name** - This is the person who received the services. The additional information is being sent to support the beneficiary/claim or encounter related to those services.

   The following constraints apply to the 275 attachments:

   a.  The attached clinical information must be in .pdf format.
   b.  At least one file must be attached to a 275.
   c.  Multiple files may be attached to a 275. However, all documents in a 275 must relate to a single beneficiary/claim. Multiple documents can be attached by repeating the LX loop for each additional file.
d. The 275 transaction only supports sending documentation for one claim/one patient. Each response for a claim must be sent in a separate 275 transaction. Since this is intended to be a real time process, a separate transmission will be required for each 275 transaction.

e. Any PDF file must be binary base64 encoded.

3.3 esMD Phase II CAQH CORE and X12 Metadata

The submitter HIH shall include the following Submission Set Package level attribute metadata (in combination with Phase II CAQH CORE & ASC X12 275 attributes) and Document Attribute metadata (in combination with Phase II CAQH CORE, ASC X12 275 and HITSP C62 attributes) elements for transactions submitted to the CAQH CORE X12 esMD Gateway in addition to other required elements from the ASC X12 275 TR3 Implementation Guide X12N/005010X210 Additional Information and NHIN CAQH CORE X12 Document Submission to Support various esMD functionality in a Health Care Claim or Encounter (275).

3.3.1 Submission Set Package level attribute metadata (in combination of Phase II CAQH CORE Connectivity Rule Version 2.2.0 & ASC X12 275 attributes) for CAQH CORE Connectivity Rule Version 2.2.0 and ASC X12 275 Transaction

<table>
<thead>
<tr>
<th>S. No</th>
<th>esMD X12 SubmissionSet Metadata Slot Attribute</th>
<th>Definition</th>
<th>esMD R/R2</th>
<th>CAQH CORE Connectivity Rule Metadata</th>
<th>ASC X12 275 Transaction Metadata (005010X210)-Loop and Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>urn:nhin:esMD:ClaimId</td>
<td>Claim Identifier is the identifier, with which the provider submits the Claim to CMS. This could be found in the ADR letter from review contractor.</td>
<td>R</td>
<td></td>
<td>Loop 1000D Patient Name Loop&lt;br&gt;REF02 (REF01 = EJ) Patient Account Number</td>
</tr>
<tr>
<td>2</td>
<td>urn:nhin:esMD:CaseId</td>
<td>Case Identifier is the identifier, generated by the review contractor to open a claim specific case. This could be found in ADR letter from the review contractor if the request is from MACs.</td>
<td>R2</td>
<td></td>
<td>Loop 2000A — ASSIGNED NUMBER Loop&lt;br&gt;TRN02 (TRN01=2) Referenced Transaction Trace Numbers</td>
</tr>
<tr>
<td>3</td>
<td>Urn:nhin:esMD:MedicalRecordId</td>
<td>This is X12 Specific Medical Record Identifier and is optional at the phase1 and 2 of the esMD</td>
<td>R2</td>
<td></td>
<td>Loop 1000D Patient Name Loop&lt;br&gt;REF02 (REF01 = EA) Medical Record Identification Number (R2)</td>
</tr>
<tr>
<td>S. No</td>
<td>esMD X12 SubmissionSet Metadata Slot Attribute</td>
<td>Definition</td>
<td>esMD R/R2 /O</td>
<td>CAQH CORE Connectivity Rule Metadata</td>
<td>ASC X12 275 Transaction Metadata (005010X210)-Loop and Segment</td>
</tr>
<tr>
<td>-------</td>
<td>----------------------------------------------</td>
<td>------------</td>
<td>--------------</td>
<td>-----------------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>4</td>
<td>IntendedRecipient</td>
<td>Intended Recipient represents the organization(s) or person(s) for whom the Document Submission set is intended. In esMD, the Intended Recipient will be an organization (review contractor) to whom the sender (HIH) will submit the message with esMD Claim supporting Documents. This Intended Recipient will be identified by an HL7 issued OID.</td>
<td>R</td>
<td></td>
<td>Loop: 1000A — Payer Name</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NM109 (NM108 = “PI” Payor Identification)</td>
</tr>
<tr>
<td>5</td>
<td>Author</td>
<td>This is at the X12 Level. Note: Not at the Document level. Represents the provider (NPI), who submits the Claim Supporting Documents in response to the Additional Documentation Request letter (ADR) from the CMS Review Contractor. This attribute could contain the following sub-attributes based on who (either Provider or institution NPI) submits the documentation: authorInstitution authorPerson</td>
<td>R</td>
<td></td>
<td>Loop: 1000C — Provider Name Information</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NM109 (NM108 = “XX” CMS NPI)</td>
</tr>
<tr>
<td>S. No</td>
<td>esMD X12 SubmissionSet Metadata Slot Attribute</td>
<td>Definition</td>
<td>esMD R/R2</td>
<td>CAQH CORE Connectivity Rule Metadata</td>
<td>ASC X12 275 Transaction Metadata (005010X210)-Loop and Segment</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------</td>
<td>------------</td>
<td>----------</td>
<td>-------------------------------------</td>
<td>-------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| 5.1   | authorInstitution (sub-attribute of author)   | This is at the X12 Level.  
Note: Not at the Document level.  
If there is only one document in the SubmissionSet, authorInstitution attribute of the SubmissionSet shall have the same NPI as the one used in the authorInstitution attribute at the document level.  
If there is more than one document in the SubmissionSet, authorInstitution attribute of the SubmissionSet shall have the NPI of the organization/institution which put together all the documents included in the SubmissionSet.  
Please note: At the SubmissionSet level either the authorInstitution or authorPerson attribute shall be used but never both. | R2          |                      | Loop: 1000C — Provider Name Information  
NM109 (NM108 = “XX” CMS NPI) |
| 5.2   | authorPerson (sub-attribute of author)        | This is at the X12 Level.  
Note: Not at the Document level.  
If there is only one document in the SubmissionSet, authorPerson attribute of the SubmissionSet shall have the same NPI as the one used in the authorPerson attribute at the document level. | R2          |                      | Loop: 1000C — Provider Name Information  
NM109 (NM108 = “XX” CMS NPI) |
<table>
<thead>
<tr>
<th>S. No</th>
<th>esMD X12 SubmissionSet Metadata Slot Attribute</th>
<th>Definition</th>
<th>esMD R/R2 /O</th>
<th>CAQH CORE Connectivity Rule Metadata</th>
<th>ASC X12 275 Transaction Metadata (005010X210)-Loop and Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>esMD D X12 SubmissionSet Metadata Slot Attribute</td>
<td>If there is more than one document in the SubmissionSet, authorPerson attribute of the SubmissionSet shall have the NPI of the provider who put together all the documents in the SubmissionSet. Please note: At the SubmissionSet level either the authorInstitution or authorPerson attribute shall be used but never both.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>comments</td>
<td>Comments associated with the SubmissionSet in a free form text format. There is no comment in either Phase II CAQH CORE Connectivity Rule or ASC X12 275.</td>
<td>O</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>contentTypeCode</td>
<td>The submission set is a response to ADR from the review contractor. The ContentTypeCode is the code that specifies this – a Response to ADR.</td>
<td>R</td>
<td></td>
<td>BGN01 = 11</td>
</tr>
<tr>
<td>8</td>
<td>sourceId (aka - HIH Home Community ID (OID))</td>
<td>Globally unique identifier, in OID format, identifying the HIH Gateway through which document(s) were sent to the CMS esMD Gateway.</td>
<td>R</td>
<td>&lt;SenderID&gt;HIH OID&lt;/SenderID&gt;</td>
<td>ISA06 Sender ID</td>
</tr>
<tr>
<td>9</td>
<td>Organization ID (OID)</td>
<td>Metadata segment to contain the OID of any organization intermediate (broker handling) between provider and the HIH, who will be submitting</td>
<td>O</td>
<td></td>
<td>Not mapped and not identified in the X12 World.</td>
</tr>
</tbody>
</table>

6 comments

There is no comment in either Phase II CAQH CORE Connectivity Rule or ASC X12 275.
<table>
<thead>
<tr>
<th>S. No</th>
<th>esMD X12 SubmissionSet Metadata Slot Attribute</th>
<th>Definition</th>
<th>esMD R/R2 /O</th>
<th>CAQH CORE Connectivity Rule Metadata</th>
<th>ASC X12 275 Transaction Metadata (005010X210)-Loop and Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>submissionTime</td>
<td>Point in Time when the SubmissionSet was created at the HIH CONNECT Adapter level</td>
<td>R</td>
<td>&lt;TimeStamp&gt; 2007-08-30T10:20:34Z &lt;/TimeStamp&gt;</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>title</td>
<td>Represents the title of the Submission Set. The esMD Title for the Document SubmissionSet shall be ‘Claim Supporting Medical Documentation’.</td>
<td>O</td>
<td>Title is not identified in either CAQH CORE or ASC X12 metadata. If needed, then get the details from HITSP C62 &lt;title&gt; tag.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Hash Key</td>
<td>Metadata segment to contain the hash key of all the submitted C62 document attachments. This hash key is computed by the submitting gateway for detecting the improper resubmission of Documents using SHA1 encoding algorithm to maintain the integrity of the document.</td>
<td>R</td>
<td>ST–Transaction Set Header, 2nd Data Element (ST02) Transaction Control Number</td>
<td></td>
</tr>
</tbody>
</table>
3.3.2 Document Attribute metadata (in combination of Phase II CAQH CORE Connectivity Rule Version 2.2.0, ASC X12 275 and HITSP C62 attributes) with in X12 275 BIN Segment

Following are HITSP C62 Documents related attributes with in the ASC X12 275 BIN Segment. There could be multiple HITSP C62 Documents with in the ASC X12 275 BIN segment.

Table 4: Document Metadata Elements

<table>
<thead>
<tr>
<th>S. No</th>
<th>esMD XDR Metadata Attribute</th>
<th>Definition</th>
<th>esMD R/R2</th>
<th>Source from ASC X12 / HITSP C62</th>
<th>ASC X12 275 Loop and Segment / HITSP C62</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>author Institution (sub-attribute of author)</td>
<td>Represents the provider NPI or institution NPI who authored the individual Document included in the Submission Set. This attribute contains either the following sub-attributes and never both: authorInstitution, authorPerson</td>
<td>R2</td>
<td>X12 275 (005010X210)</td>
<td>Loop 2110B BIN Segment HITSP C62 &lt;ClinicalDocument&gt; &lt;Author&gt; Note: The author may not necessarily be the same provider identified in the provider loop (1000C) in the 275 transaction.</td>
</tr>
<tr>
<td>1.1</td>
<td>author Institution (sub-attribute of author)</td>
<td>Represents the NPI of the institution or the organization under which the human or machine authored the individual document included in the Submission Set. Please note: At the Document Metadata level, either the authorInstitution or authorPerson attribute shall</td>
<td>R2</td>
<td>X12 275 (005010X210)</td>
<td>Loop 2110B BIN Segment HITSP C62 &lt;ClinicalDocument&gt; &lt;Author&gt; &lt;representedOrganization&gt;</td>
</tr>
<tr>
<td>S. No</td>
<td>esMD XDR Metadata Attribute</td>
<td>Definition</td>
<td>esMD R/R2/O</td>
<td>Source from ASC X12 / HITSP C62</td>
<td>ASC X12 275 Loop and Segment / HITSP C62</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------</td>
<td>------------</td>
<td>-------------</td>
<td>---------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>1.2</td>
<td>authorPerson (sub-attribute of author)</td>
<td>Represents the NPI of the provider who authored the individual document included in the submissionSet. Please note: At the Document Metadata level, either the authorInstitution or authorPerson attribute shall be used but never both.</td>
<td>R2</td>
<td>X12 275 (005010X210)</td>
<td>Loop 2110B BIN Segment HITSP C62 &lt;ClinicalDocument&gt; &lt;Author&gt; &lt;assignedAuthor&gt; &lt;id&gt;</td>
</tr>
<tr>
<td>2</td>
<td>classCode</td>
<td>The code that specifies the particular kind of document.</td>
<td>R</td>
<td>X12 275 (005010X210)</td>
<td>Loop 2110B BIN Segment HITSP C62 &lt;ClinicalDocument&gt; &lt;code&gt; Logical Observation Identifiers Names and Codes (LOINC) Mapped from typeCode below, see HITSP C80</td>
</tr>
<tr>
<td>3</td>
<td>classCode DisplayName</td>
<td>The name to be displayed for communicating to a human the meaning of the classCode. Shall have a single value corresponding to the classCode used.</td>
<td>R</td>
<td>X12 275 (005010X210)</td>
<td>Loop 2110B BIN Segment HITSP C62 &lt;ClinicalDocument&gt; &lt;title&gt; Mapped from LOINC Display Name for classCode</td>
</tr>
<tr>
<td>4</td>
<td>comments</td>
<td>Comments associated with the Document in a free form text format.</td>
<td>O</td>
<td>X12 275 (005010X210)</td>
<td>Loop 2110B BIN Segment HITSP C62 &lt;ClinicalDocument&gt;</td>
</tr>
<tr>
<td>S. No</td>
<td>esMD XDR Metadata Attribute</td>
<td>Definition</td>
<td>esMD R/R2/O</td>
<td>Source from ASC X12 / HITSP C62</td>
<td>ASC X12 275 Loop and Segment / HITSP C62</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------</td>
<td>------------</td>
<td>------------</td>
<td>----------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>5</td>
<td>confidentialityCode</td>
<td>The code specifying the level of confidentiality of the Document.</td>
<td>R</td>
<td>X12 275 (005010X210) HITSP C62</td>
<td>X12 275 ISA10 Interchange Creation Date ISA11 Interchange Creation Time GS04 Functional Group Creation Date GS05 Functional Group Creation Time BGN03 Transaction Set Creation Date Loop 2110B BIN Segment</td>
</tr>
<tr>
<td>6</td>
<td>creationTime</td>
<td>Represents the time the HH created the document.</td>
<td>R</td>
<td>X12 275 (005010X210) HITSP C62</td>
<td>ISA13 Interchange Control Number GS06 Functional Group Control Number ST03 Transaction Set Control Number Loop 2110B BIN Segment HITSP C62</td>
</tr>
<tr>
<td>7</td>
<td>entryUUID</td>
<td>A unique ID or a globally unique identifier for each document in the Submission Set.</td>
<td>R</td>
<td>X12 275 (005010X210) HITSP C62</td>
<td>Loop 2100B CAT</td>
</tr>
<tr>
<td>8</td>
<td>formatCode</td>
<td>Globally unique code for specifying the format of the document. For example, the format code for esMD is HITSP C62 urn:hitsp:c62:cda:pdf</td>
<td>R</td>
<td>X12 275 (005010X210) HITSP C62</td>
<td>Loop 2100B CAT Category of Patient Information Service CAT02 (HL-7) CAT03</td>
</tr>
<tr>
<td>S. No</td>
<td>esMD XDR Metadata Attribute</td>
<td>Definition</td>
<td>esMD R/R2/O</td>
<td>Source from ASC X12 / HITSP C62</td>
<td>ASC X12 275 Loop and Segment / HITSP C62</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------</td>
<td>------------</td>
<td>-------------</td>
<td>---------------------------------</td>
<td>------------------------------------------</td>
</tr>
</tbody>
</table>
| 9     | Hash                        | Hash key of the C62 Document based on the SHA1 Hash Algorithm. | R | X12 275 (005010X210) | Loop 2110B BIN Segment  
|       |                             |            |             |                                 | BIN01  
|       |                             |            |             |                                 | Length of Binary Data |
| 10    | healthcareFacilityTypeCode  | Represents the type of organizational or provider setting under which the documented act in the claim occurred. | R | X12 275 (005010X210) | Loop 2110B BIN Segment  
|       |                             |            |             |                                 | HITSP C62  
|       |                             |            |             | <ClinicalDocument>  
|       |                             |            |             | <Author>  
|       |                             |            |             | <assignedAuthor>  
|       |                             |            |             | <representedOrganization>  
|       |                             |            |             | <typeId> |
| 11    | healthcareFacilityTypeCodeDisplay Name | The name to be displayed for communicating to a human the meaning of the healthcareFacilityTypeCode. Shall have a single value corresponding to the healthcareFacilityTypeCode. | R | X12 275 (005010X210) | Loop 1000C NM103 Provider Last or Organizational Name  
|       |                             |            |             | Loop 2110B BIN Segment  
|       |                             |            |             | HITSP C62  
|       |                             |            |             | <ClinicalDocument>  
|       |                             |            |             | <Author>  
|       |                             |            |             | <assignedAuthor>  
|       |                             |            |             | <representedOrganization>  
|       |                             |            |             | <name> |
| 12    | languageCode                | Specifies the human language of character data in the document. The values of the attribute are language identifiers as described by the IETF (Internet Engineering Task Force) RFC 3066. | R | X12 275 (005010X210) | Loop 2110B BIN Segment  
|       |                             |            |             | HITSP C62  
|       |                             |            |             | <ClinicalDocument>  
|       |                             |            |             | <languageCode> |
| 13    | mimeType                    | MIME type of the document. | R | X12 275 (005010X210) | Loop 2110B BIN Segment  
|       |                             |            |             | HITSP C62  
|       |                             |            |             | (mime) Content-Type  
<p>|       |                             |            |             | Fixed to text/xml since C62 is always of that MIME type. |</p>
<table>
<thead>
<tr>
<th>S. No</th>
<th>esMD XDR Metadata Attribute</th>
<th>Definition</th>
<th>esMD R/R2/O</th>
<th>Source from ASC X12 / HITSP C62</th>
<th>ASC X12 275 Loop and Segment / HITSP C62</th>
</tr>
</thead>
</table>
| 14    | patientId                  | This is a required XDR field. Since esMD is Claim centric (and not Patient centric), esMD shall populate this field with Claim ID using the format Root + Extension. esMD shall include CMS OID as the root and Claim ID as the extension, like so: CMS OID.esMDClaimID  
Please, note: this value shall be the same as the one used at the Submission Set level. | R          | X12 275 (005010X210)            | Loop 1000D Patient Name Loop  
REF02 (REF01 = EJ)  
Patient Account Number  
REF02 (REF01 = EA)  
Medical Record Identification Number (R2) |
| 15    | practiceSettingCode        | The code specifying the clinical specialty where the act that resulted in the document was performed. This value will not be used by esMD (i.e., will be ignored). However, since this field is required by XDR, an input is required.  
Any possible value assigned by the sender will be accepted. | R          | X12 275 (005010X210)            | Loop 2110B BIN Segment  
HITSP C62  
<ClinicalDocument>  
<componentOf>  
<encompassingEncounter>  
<location>  
<healthCareFacility>  
<code> |
| 16    | practiceSettingCode        | The name to be displayed for communicating to a human the meaning of the practiceSettingCode. Shall have a single value corresponding to the practiceSettingCode.  
This value will not be used by esMD (i.e., will be ignored). However, since this field is required by XDR, an input is required. Any possible value assigned by the sender will be accepted. | R          | X12 275 (005010X210)            | Loop 2110B BIN Segment  
HITSP C62  
<ClinicalDocument>  
<componentOf>  
<encompassingEncounter>  
<location>  
<healthCareFacility> |
<table>
<thead>
<tr>
<th>S. No</th>
<th>esMD XDR Metadata Attribute</th>
<th>Definition</th>
<th>esMD R/R2/O</th>
<th>Source from ASC X12 / HITSP C62</th>
<th>ASC X12 275 Loop and Segment / HITSP C62</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>serviceStartDateTime</td>
<td>Represents the start time of the provider service being documented. This value will not be used by esMD (i.e., will be ignored). However, since this field is required by XDR, an input is required. Any possible value assigned by the sender will be accepted.</td>
<td>R</td>
<td>X12 275 (005010X210)</td>
<td>Loop 2110B BIN Segment HITSP C62</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;ClinicalDocument&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;DocumentationOf&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;ServiceEvent&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;effectiveTime&gt;</td>
</tr>
<tr>
<td>18</td>
<td>serviceStopDateTime</td>
<td>Represents the stop time of the provider service being documented. This value will not be used by esMD (i.e., will be ignored). However, since this field is required by XDR, an input is required. Any possible value assigned by the sender will be accepted.</td>
<td>R</td>
<td>X12 275 (005010X210)</td>
<td>Loop 2110B BIN Segment HITSP C62</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;ClinicalDocument&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;DocumentationOf&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;ServiceEvent&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;effectiveTime&gt;</td>
</tr>
<tr>
<td>19</td>
<td>size</td>
<td>Size in bytes of the C62 attachment byte stream that was provided through the request.</td>
<td>R</td>
<td>X12 275 (005010X210)</td>
<td>Loop 2110B BIN Segment BIN01 Length of Binary Data</td>
</tr>
<tr>
<td>20</td>
<td>title</td>
<td>Represents the title of the document. Max length shall be 128 bytes in UTF-8 format.</td>
<td>O</td>
<td>X12 275 (005010X210)</td>
<td>Loop 2110B BIN Segment HITSP C62</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;ClinicalDocument&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;title&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>le if present, otherwise it can be derived from displayName for /ClinicalDocument/code</td>
</tr>
<tr>
<td>21</td>
<td>typeCode</td>
<td>The code specifying the precise kind of document (e.g., Claim Document Summary, ADR, ADMC, Progress Notes, Orders, Appeal Request).</td>
<td>R</td>
<td>X12 275 (005010X210)</td>
<td>Loop 2110B BIN Segment HITSP C62</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;ClinicalDocument&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;code&gt;</td>
</tr>
</tbody>
</table>
### 3.4 esMD 275 Context Overview

The X12 275 could include an unstructured (e.g., UTF8 Text) presentation preserved format, such as PDF file within the Binary Data Segment (BIN). The PDF document format is further specified in the International Organization for Standardization (ISO) PDF/A ISO#19005-1b, Document management - Electronic document file format for long-term preservation standard. **The documents must be attached according to the HL7 standard within the BIN Segment.**

The HL7 non XML body element contains a reference to the filename where the information block is encapsulated with the attributes of a document, such as persistence, authenticity, wholeness, etc. Examples of documents that would be embedded in the 275 document include plain text file or PDF (esMD 275 Standards).

In the initial implementation, submitters and responders shall always use a C62 payload as defined by HITSP that can be unstructured data (UTF8 such as PDF as described in the first paragraph).
Table 4: esMD 275 Standards

<table>
<thead>
<tr>
<th>esMD 275 Standards</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASC X12N/005010X210</td>
<td>This guide provides standardized data requirements and content to all users of ANSI ASC X12 Patient Information (275) Transaction Set that focuses on the use of the 275 to send additional information about a claim or encounter. This implementation guide provides a detailed explanation of the transaction set by defining uniform data content, identifying valid code tables, and specifying values applicable for the business use of conveying Additional Information to Support a Health Care Claim or Encounter (275). For a fee, this guide is available at: <a href="http://store.x12.org/store/healthcare-5010-original-guides">http://store.x12.org/store/healthcare-5010-original-guides</a>.</td>
</tr>
</tbody>
</table>

3.5 Acknowledgements

The basic structure of the interchange between the submitter and receiver of X12 transactions (275 transactions for this profile) is referred to as the interchange control structure. The interchange control structure has four levels of nested enveloping including:

**Figure 1: Interchange Control Structure**

1. HTTP Transport Protocol
2. Message Envelope (SOAP Envelope as defined within the CORE Connectivity Rule)
3. Interchange Envelope
4. Functional Group Envelope
5. Transaction Set Envelope
Level 1, Transport and Message (Envelope) is the transport protocol prescribed by the Phase II CORE 270: Connectivity Rule version 2.2.0 (http://www.caqh.org/COREv5010.php) which is outside the scope of the X12 275 TR3 (005010X210).

Level 2, 3 and 4 are all included in the X12 275 TR3 (005010X210).

Please see below for additional details.

Each of these four levels has an acknowledgment that is returned to the submitter acknowledging receipt and level of acceptance or rejection.

1. **Transport and Message (Envelope):** The transport protocol prescribed by the Phase II CORE 270: Connectivity Rule version 2.2.0 is HTTP/S over the public Internet. The processing and error codes for the HTTP Layer are defined as part of the HTTP
specifications [http://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html]. An exhaustive list of HTTP Status Codes and descriptions is included in the HTTP specification [http://tools.ietf.org/html/rfc2616#section-6.1.1]. An HTTP status code is always generated to indicate the appropriate status of the message (e.g., OK, Accepted, Bad Request, Forbidden, and Internal Server Errors). The reporting of message (envelope) processing errors required by the Phase II CORE 270: Connectivity Rule version 2.2.0 map to SOAP faults [http://www.w3.org/TR/soap12-part1/#soapfault]. To handle CORE-compliant envelope processing status and error codes, two fields called ErrorCode and ErrorMessage are included in the CORE-compliant Envelope. ErrorMessage is a free form text field that describes the error (for the purpose of troubleshooting/logging).

2. **Interchange Envelope**: Interchange Acknowledgment (TA1) – The TA1 transaction shall only acknowledge the X12 Interchange (ISA/IEA) of the received file. The TA1 shall only be generated if the Interchange (ISA/IEA) of the file is rejected and the ISA14 value is equal to 1. The TA1 is not generated if the Interchange (ISA/IEA) is accepted.

3. **Functional Group Envelope**: Application Acknowledgment (999) – The 999 transaction shall only be generated when the received file is accepted at the TA1 level. The 999 transaction will acknowledge the X12 standard syntax and X12 Implementation Guide errors. The 999 shall be generated for accepted as well as rejected files. Functional Group Envelope shall have one Transaction set with one 275 / HITSP C62.

4. **Transaction Envelope**: Application Advice (824) – The 824 transaction shall only be generated when the received file is accepted at the TA1 and 999 levels. The 824 transaction will acknowledge any errors outside the scope of the 999 transaction and/or application system’s data content errors. The 824 will be able to acknowledge the X12 and HITSP C62 pieces of the received files. The 824 shall be generated for accepted as well as rejected files.

3.5.1 **Communication between HIH and CMS esMD Gateways**

The communication mechanism between the CMS esMD CONNECT Gateway and HIH CONNECT compatible gateway with Phase II CORE 270: Connectivity Rule version 2.2.0 service deals with secure web service Transportation and X12 translation mechanism.

The Secure web service Transportation leverages *NHIN CAQH CORE X 12 Document Submission specification*. NHIN CAQH CORE X12 Document Submission handles the CAQH CORE Connectivity SOAP Envelope based on the *Generic Batch* message interaction pattern defined within the Phase II CORE 270: Connectivity Rule version 2.2.0. The NHIN CAQH CORE X12 Document Submission messages will be generated after successful Two-way TLS authentication (TLS Handshake) and SAML Assertion validation between the HIH and CMS esMD Gateways. Otherwise, the SOAP Fault will be generated.

Note: NHIN Deferred Mode Interaction can be supported using a sequence of three *Generic Batch* message interactions as defined within Phase II CORE 270: Connectivity Rule version 2.2.0.
514 Note: Within the diagram below, there are 3 applications of CORE Connectivity Rule’s *Generic Batch* message interaction, each consisting of a pair of request and corresponding response interactions (e.g., 1 and 1a).

517 As shown in the diagram below, the communication between the HIH and the CMS Gateway consists of three CORE Connectivity Rule’s *Generic Batch* mode interactions, which when taken together, provide the same functionality as the NHIN Deferred Document submission:

521 1. **NHIN CAQH CORE X12 Submission Request using CAQH CORE Connectivity Rule’s Generic Batch Message Interaction** - Using the HIH CONNECT compatible gateway with CAQH CORE Connectivity Rule II support, provider submits a CMS Claim ADR letter PDF documents Response embedded in a X12 275 transaction to CMS esMD CONNECT Gateway using the NHIN CAQH X12 Submission service (SOAP envelope as defined in the Phase II CORE 270: Connectivity Rule version 2.2.0).

528 HIH CONNECT compatible gateway with Phase II CORE 270: Connectivity Rule version 2.2.0 service establishes a new secure HTTP connection to CMS esMD Gateway. The SOAP envelope and metadata for this NHIN CAQH CORE X12 Document Submission request is defined in Phase II CORE 270: Connectivity Rule version 2.2.0.

534 Following is the NHIN CAQH CORE X12 Document Submission Request with 275 X12 Transaction and its Phase II CORE 270: Connectivity Rule version 2.2.0 *Generic Batch* mode Payload Type under step1:

538 - NHIN CAQH CORE X12 Document Submission Request - aka CAQH Generic Batch mode (Batch PayloadType= X12_275_Request_005010X210E1)

541 **1a.** The CMS esMD Gateway sends the HTTP/SOAP transport level acknowledgment response to the HIH CONNECT compatible gateway with Phase II CORE 270: Connectivity Rule version 2.2.0 service by using the same step1 secure HTTP connection.

545 Following are the possible NHIN CAQH CORE X12 Document Submission Responses with Phase II CORE 270: Connectivity Rule version 2.2.0 *Generic Batch* mode Payload Types under step1:

549 - *(If no SOAP Fault) HTTP 200 Transmission/Transport Acknowledgement Response, with CORE Connectivity SOAP Envelope, (Batch PayloadType=X12_BatchReceiptConfirmation)*

553 - *(If SOAP Fault) HTTP 500 SOAP Fault Transmission / Transport Acknowledgement Response with CORE Connectivity SOAP Envelope (Batch PayloadType=CoreEnvelopeError)*
(Payload Type=X12_TA1_Response in case of interchange rejected, if no X12_TA1 then Payload Type=X12_999_Response in case of Implementation Guide Conformance error)

TA1 Interchange Acknowledgment (if interchange is rejected) with PayloadType=X12_TA1 and 999 transaction (if Implementation Guide conformance error) with PayloadType=X12_999. Any errors that occur prior to the processing of the esMD metadata will be communicated via a SOAP fault. The SOAP action for the deferred X12 document submission request acknowledgement will be by leveraging the Phase II CORE 270: Connectivity Rule version 2.2.0 metadata elements.

This Transport Level Acknowledgment message will be sent to the HIH X12 compatible gateways after successful two-way TLS authentication between HIH and esMD X12 compatible Gateways, and esMD Gateway SAML Assertion validation. Otherwise, the SOAP Fault will be received by HIH gateway.

2. First Notification: (NHIN CAQH CORE Connectivity X12 Document Submission Deferred Response using Phase II CORE 270: Connectivity Rule version 2.2.0’s Generic Batch Message Interaction for esMD Gateway Processing status) - The CMS esMD Gateway establishes a new secure HTTP connection to the HIH CONNECT compatible gateway with Phase II CORE 270: Connectivity Rule version 2.2.0 service and submits the esMD X12 Document Submission deferred Response web service message (using the CAQH CORE Connectivity Rule version 2.2.0’s Generic Batch Message Interaction). This response contains information related to Transaction 824 message for document Repository Delivery status along with its Processing of esMD metadata or Transaction 999 error (if Implementation Guide conformance error or TA1 transaction error for interchange was rejected). The SOAP envelope, metadata and action for this deferred response will be determined by leveraging the Phase II CORE 270: Connectivity Rule version 2.2.0.

Based on following validations and processes, the system will generate an 824/999/TA1 X12 transactions in the NHIN CAQH CORE Connectivity Rule based X12 document submission deferred (using the Phase II CORE 270: Connectivity Rule version 2.2.0’s Generic Batch messaging interactions) response message and will be sent to the HIH CONNECT compatible gateway with Phase II CORE 270: Connectivity Rule version 2.2.0 service from the CMS Gateway.

To correlate the request and response messages, the CAQH CORE Connectivity based SOAP envelope esMD response header shall have the HIH esMD application generated request unique ID for each submission, request message ID and, its esMD system generated transaction ID (in the case of successful OID validation) and processing Request Type like ‘OID Authorization’ or ‘Delivery to ECM’, and its esMD Processing status details.
esMD System Validation:
• Validate the Unique ID and Message ID of the message to avoid duplicate submission
• Validate the OID authorization based on CMS On-boarding
• Validate the participation of the intended recipient (i.e., the review contractor)
• Validate the syntaxes
• Validate the Semantics against esMD affinity domain specific values
• Hashcode (Digest) validation for the Integrity of the attachments.

esMD System Processes:
• Persist Metadata into CMS esMD metadata database
• Deliver provider submitted claim document/s to CMS Enterprise Content Management (ECM) repository
• Review contractor picks up the submitted documents from the CMS ECM repository

Following are the possible NHIN CAQH CORE X12 Document Submission Requests with CAQH CORE Connectivity Phase II Generic Batch mode Payload Types under step2:

• **824** - If no conformance and Transmission errors exist, then - ASC X12 Batch Notification Request with 824 Application Advice Acknowledgement – Intermediate Status related to “esMD document delivery to ECM” (Batch PayloadType=X12_824_Request_005010X186).

• **999** - If any conformance and validation errors related to Implementation Guide exist, then - ASC X12 EDI Response with 999 Application Acknowledgement. (Batch PayloadType=X12_999_Response_005010X231A1).

• **TA1** - If interchange is rejected, only then - TA1 Interchange Acknowledgement (Batch PayloadType = X12_TA1_Response_00501X231A1).

2a. The HIH CONNECT compatible gateway with Phase II CORE 270: Connectivity Rule version 2.2.0 service sends the HTTP acknowledgments and its related X12 transactions response to the CMS esMD Gateway by using the same step2 secure HTTP connection.

Following are the possible NHIN CAQH X12 Document Submission Deferred Responses with Phase II CORE 270: Connectivity Rule version 2.2.0 Generic Batch mode Payload Types under step2a:

• **(If no SOAP Fault) HTTP 200 Transmission/Transport Acknowledgement Response** (Batch PayloadType=X12_BatchReceiptConfirmation)
(If SOAP Fault) HTTP 500 SOAP Fault Transmission / Transport Acknowledgement Response (Batch PayloadType=CoreEnvelopeError)

999 - If any conformance and validation errors related to Implementation Guide exist at the HIH gateway, then - ASC X12 EDI Response with 999 Application Acknowledgement (Batch PayloadType=X12_999_Response_005010X231A1)

TA1 - If interchange is rejected, then - TA1 Interchange Acknowledgement (Batch PayloadType = X12_TA1_Response_00501X231A1)

Note: X12 TA1 transaction Response is generated in case of interchange rejected. If no TA1, then X12 999 transaction Response is generated in the case of Implementation Guide Conformance error.

3. Second Notification: (NHIN CAQH CORE Connectivity X12 Document Submission Deferred Response using Phase II CORE 270: Connectivity Rule version 2.2.0’s Generic Batch Message Interaction for Review Contractor Pick Up status) - Upon successful 824 transaction in step 2, the esMD review contractor picks up the PDF document from the CMS ECM by scheduled polling. Based on review contractor pickup status, the CMS esMD Gateway establishes a new secure HTTP connection to the HIH CONNECT compatible gateway with Phase II CORE 270: Connectivity Rule version 2.2.0 supports and submits the NHIN CAQH X12 Document Submission deferred Response web service message with 824 transaction using the Phase II CORE 270: Connectivity Rule version 2.2.0’s Generic Batch Message Interaction. This response message with 824 transaction with the original NHIN CAQH CORE Connectivity X12 document submission deferred request message ID, unique ID, its esMD generated transaction ID (in the case of successful OID validation), Request Type (OID Authorization and Review Contractor Pickup), and status details. The SOAP envelope, metadata and action for this deferred response will be determined by leveraging the Phase II CORE 270: Connectivity Rule version 2.2.0.

The possible NHIN CAQH CORE X12 Document Submission Requests with Phase II CORE 270: Connectivity Rule version 2.2.0 Generic Batch mode Payload Types for the second notification is same as step2:

Figure 3: NHIN CAQH CORE X12 Deferred Document Submission (using three CAQH CORE Connectivity Generic Batch message interactions) Communication with Multiple SOAP over HTTP/S Connections
The following diagram depicts the flow and processing of the X12 acknowledgements.

### 3.6 Error Codes

The possible 999 error codes for the 275 are located in the ASC X12/005010X231A1 Implementation Specification and the possible 824 error codes are located in the ASC X12/005010X186A1 for the 824. The following are the error and acknowledgment code links:
The submitter and responder shall comply with the NHIN CAQH CORE Connectivity X12 Document Submission Specification when submitting an esMD 275 profile.

Normative: Implementations of the esMD Profile MUST implement NHIN X12 Document Submission Specification which addresses security, transport, and messaging as specified in the current versions of the NHIN Exchange Authorization Framework and Messaging Platform specifications along with Phase II CORE 270: Connectivity Rule version 2.2.0. Its authorization and messaging standards implementations must use FIPS 140-2 Level 2 assurance or greater as documented in section 1.2 of their document.

Non-normative: The CMS imposes the Level 2 or greater FIPS assurance levels constraints.

3.7 277 Health Care Claim Request for Additional Documentation Request (ADR) Letter

HealthCare Claim request for additional information (277 – 005010X213) will be automated/handled in the future esMD implementation. For more details - http://store.x12.org/store/healthcare-5010-original-guides

The purpose of this implementation guide is to provide standardized data requirements and content for all users of the ASC X12 Health Care Claim Request for Additional Information (277). This implementation guide focuses on the use of the 277 by a health care payer to request additional information to support a health care claim or encounter. The use of the 277 for this specific business purpose is the reason for this separate implementation guide.
4 Appendices A – X12 HITSP C62/HL7 CDA PDF payload Messages

4.1 Sample esMD 275 with Truncated Encoded HL7 CDA/C62 Message

ISA*00* *00* *28*SSSSSS *28*PPPPP
*100811*1213**00501*100000001*0*P*>

GS*PI*SSSSSS*01001*20100811*1213*100000001*X*005010X210~
ST*275*100000001*005010X210~
BN*11*00125*20100811~
NM1*PR*2*HEALTH PAYER AMERICA****PI*PPPPP~

NM1*41*2*ABBNEY MEMORIAL MEDICAL CLN****46*SSSSSS~
NM1*1P*1*CURE*KEN****XX*NNNNN~
NX1*1P~
N3*9999A STEVE D SMITHY AVE~
N4*LOS ANGELES*CA*900332414~
NM1*QC*1*PATIENT*SAMPLE*H***MI*6910828~
REF*EJ*458726-A1~
REF*BLT*111~
DTP*472*RD8*20100720-20100724~
LX*1~
TRN*2*XA728302~
DTP*368*D8*20100811~
CAT*AE*MB*CDA R2~

(EIF*05~

BIN*29277*Mime-Version: 1.0
Content-Type: multipart/mixed;
boundary="####esMD Boundry String fro Example####"

--####esMD Boundry String fro Example####
Content-Type: application/x-hl7-cda-level-one+xml
Content-Transfer-Encoding: 7bit
Content-Disposition: inline; filename=esMD_Example.xml

<?xml version="1.0" encoding="utf-8"?>
<ClinicalDocument classCode="DOCCLIN" moodCode="EVN" xmlns="urn:hl7-org:v3"
xmns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:hl7-org:v3 file://:/cd/hl7/cda/CDA_R2_NormativeWebEdition2005/infrastructure/cda/CDA.xsd">
<typeId extension="POCD_HD000040" root="2.16.840.1.113883.1.1.1"/>
<id EX="XA728302" RT="2.16.840.1.113883.19.2744.1.1"/>
<document_type_cd V="34106-5" DN="DISCHARGE SUMMARIZATION NOTE"/>
<effectiveTime value="20100811" />
<author contextControlCode="OP" typeCode="AUT">
  <time value="20100811" />
  <assignedAuthor classCode="ASSIGNED">
    <id extension="NNNNNNNNNN" root="2.16.840.1.113883.19.2744.1.3" />
    <assignedPerson>
      <name>
        <given>Ken</given> <family>Cure</family> <suffix>MD</suffix>
      </name>
    </assignedPerson>
  </assignedAuthor>
</author>
<recordTarget contextControlCode="OP" typeCode="RCT">
  <patientRole classCode="PAT">
    <id extension="6910828" root="2.16.840.1.113883.19.2744.1.2" />
    <patient>
      <name>
        <given>Patient</given> <given>H</given> <family>Sample</family>
      </name>
      <administrativeGenderCode code="F" codeSystem="2.16.840.1.113883.5.1" codeSystemName="AdministrativeGender" displayName="Female" />
      <birthTime value="19320924" />
    </patient>
  </patientRole>
</recordTarget>
<body>
  <nonXMLBody>
    <text mediaType="application/pdf" representation="B64" V="PHYSICIAN_HOSPITAL_DISCHARGE_SUMMARY_BASE64.txt">
      <REF/>
    </text>
  </nonXMLBody>
</body>
</ClinicalDocument>

--###esMD Boundry String fro Example###
Content-Type: application/pdf
Content-Transfer-Encoding: base64
Content-Disposition: attachment;
filename=ADDITIONAL_DOCUMENTATION_REQUEST_BASE64.pdf
JVBERi0xLjQNJeLjz9MNCjYgMCBvYmoNPDwvTGluZWFyaXplZCAxL0wgMjAzNDUvTiAzL0wgMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wqMTYxMDMvTiAxL0wqMjAxNzkyMDUvTiAwL0wQ1
4.2 Sample esMD 275 Annotated 275 Patient Information (005010X210)

Below is an annotated example of the 275 Patient Information Transaction Set for the exchange of a PDF of a patient discharge Summary. Within the 275 transaction, the HL7 CDA message contains a single non-XML body containing the PDF document.

<table>
<thead>
<tr>
<th>X12 Segment</th>
<th>Annotated Data Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISA<em>00</em></td>
<td>ISA – Interchange Control Header Segment ID</td>
</tr>
<tr>
<td><em>00</em></td>
<td>* - Data Element Separator</td>
</tr>
<tr>
<td><em>28</em>SSSSSS</td>
<td>00 – No Authorization Information Present Qualifier</td>
</tr>
<tr>
<td><em>28</em>PPPPP</td>
<td>00 – No Security Information Present Qualifier</td>
</tr>
<tr>
<td><em>100811</em>1213*^00501<em>100000001</em>0<em>P</em>&gt;~*</td>
<td>28 – Fiscal Intermediary ID Number Qualifier</td>
</tr>
<tr>
<td>SSSSSS</td>
<td>SSSSSS – Fiscal Intermediary ID Number</td>
</tr>
<tr>
<td>28</td>
<td>28 – Fiscal Intermediary ID Number Qualifier</td>
</tr>
<tr>
<td>PPPPPP</td>
<td>PPPPPP – Fiscal Intermediary ID Number</td>
</tr>
<tr>
<td>100811</td>
<td>100811 – Interchange Date (YYMMDD)</td>
</tr>
<tr>
<td>1213</td>
<td>1213 – Interchange Time (HHMMSS)</td>
</tr>
<tr>
<td>^</td>
<td>^ - Repeating Data Element Separator</td>
</tr>
<tr>
<td>00501</td>
<td>00501 – Interchange Control Version Number</td>
</tr>
<tr>
<td>100000001</td>
<td>100000001 – Interchange Control Number</td>
</tr>
<tr>
<td>0</td>
<td>0 – Interchange Requested Qualifier (none)</td>
</tr>
<tr>
<td>P</td>
<td>P – Interchange Usage Indicator - Production</td>
</tr>
<tr>
<td>&gt;</td>
<td>&gt; - Component Element Separator</td>
</tr>
<tr>
<td>X12 Segment</td>
<td>Annotated Data Elements</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------</td>
</tr>
</tbody>
</table>
| GS*PI*SSSSS*01001*20100811*1213*100000001*X*005010X210~ | GS – Functional Group Header Segment ID  
PI – Functional ID Code (Patient Information)  
SSSSSS – Application Sender’s Code  
01001 – Application Receiver’s Code  
20100811 – Functional Group Date (CCYYMMDD)  
1213 – Functional Group Time (HHMM)  
100000001 – Functional Group Control Nbr  
X – Responsible Agency Code (ASC X12)  
005010X210 – TR3 Identifier |
| ST*275*100000001*005010X210~ | ST – Transaction Set Header Segment ID  
275 – Transaction Set ID Code(Patient Info)  
100000001 – Transaction Set Control Nbr  
005010X210 – TR3 Identifier |
| BGN*11*00125*20100811~ | BGN – Beginning Segment ID  
11 – Transaction Set Purpose Code(solicited)  
00125 – Transaction Set Ref Nbr  
20100811 – Transaction Set Creation Date |
| NM1*PR*2*HEALTH PAYER AMERICA*****PI*PPPPP~ | NM1 – Individual/Org Name Segment ID  
PR – Entity ID Code(Payer)  
2 – Entity Type Qual (non-person)  
HEALTH PAYER AMERICA – Payer’s Name  
PI – ID Code Qual (Payer ID)  
PPPPP – Payer ID |
| NM1*41*2*ABBSEY MEMORIAL MEDICAL CLN*****46*SSSSSS~ | NM1 - Individual/Org Name Segment ID  
41 – Submitter Qualifier  
2 – Entity Type Qual (non-person)  
ABBSEY MEMORIAL – Submitter’s Name  
46 – ETIN Qualifier  
SSSSSS - ETIN |
| NM1*1P*1*CURE*KEN****XX*NNNNNNNNNN~ | NM1 - Individual/Org Name Segment ID  
1P – Entity ID Code(Provider)  
1 – Entity Type Qual (person) |
<table>
<thead>
<tr>
<th>X12 Segment</th>
<th>Annotated Data Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>CURE – Provider Last (Org) Name</td>
<td></td>
</tr>
<tr>
<td>KEN – Provider First Name</td>
<td></td>
</tr>
<tr>
<td>XX – NPI Qualifier</td>
<td></td>
</tr>
<tr>
<td>NNNNNNNNNN – NPI</td>
<td></td>
</tr>
<tr>
<td>NX1 – Provider ID Segment ID</td>
<td></td>
</tr>
<tr>
<td>1P – Entity ID Code(Provider)</td>
<td></td>
</tr>
<tr>
<td>N3 – Provider Address Segment ID</td>
<td></td>
</tr>
<tr>
<td>9999A STEVE D SMITHY AVE – Provider Addr</td>
<td></td>
</tr>
<tr>
<td>N4 – Provider City/ST/Zip Segment ID</td>
<td></td>
</tr>
<tr>
<td>LOS ANGELES - City</td>
<td></td>
</tr>
<tr>
<td>CA – State Code</td>
<td></td>
</tr>
<tr>
<td>900332414 – Zip + Four</td>
<td></td>
</tr>
<tr>
<td>NM1 – Individual/Org Name Segment ID</td>
<td></td>
</tr>
<tr>
<td>QC – Entity Type Qual (patient)</td>
<td></td>
</tr>
<tr>
<td>1 – Entity Type Qual (person)</td>
<td></td>
</tr>
<tr>
<td>PATIENT – Last Name</td>
<td></td>
</tr>
<tr>
<td>SAMPLE – First Name</td>
<td></td>
</tr>
<tr>
<td>H – Middle Initial</td>
<td></td>
</tr>
<tr>
<td>MI – ID Code Qualifier(Member ID Number)</td>
<td></td>
</tr>
<tr>
<td>6910828 – Member ID Number</td>
<td></td>
</tr>
<tr>
<td>REF – Reference Information Segment ID</td>
<td></td>
</tr>
<tr>
<td>EJ – Ref ID Qual (Patient Account Number)</td>
<td></td>
</tr>
<tr>
<td>458726-A1 - Patient Account Number</td>
<td></td>
</tr>
<tr>
<td>REF – Reference Information Segment ID</td>
<td></td>
</tr>
<tr>
<td>BLT – Ref ID Qual (Billing Type)</td>
<td></td>
</tr>
<tr>
<td>111 – Hospital, Inpatient</td>
<td></td>
</tr>
<tr>
<td>DTP – Date/Time/Period Segment ID</td>
<td></td>
</tr>
<tr>
<td>472 – Service Date Qualifier</td>
<td></td>
</tr>
<tr>
<td>RD8 – Date format CCYYMMDD-CCYYMMDD</td>
<td></td>
</tr>
<tr>
<td>20100720-20100724 – Service Dates</td>
<td></td>
</tr>
<tr>
<td>LX – Transaction Set Line Nbr Segment ID</td>
<td></td>
</tr>
<tr>
<td>1 – Assigned Number</td>
<td></td>
</tr>
<tr>
<td>TRN – Trace Segment ID</td>
<td></td>
</tr>
<tr>
<td>2– Trace Type Cd(Referenced Transaction Trace Numbers)</td>
<td></td>
</tr>
<tr>
<td>XA728302 - Current Trans. Trace Nbr</td>
<td></td>
</tr>
</tbody>
</table>
### X12 Segment Annotated Data Elements

<table>
<thead>
<tr>
<th>X12 Segment</th>
<th>Annotated Data Elements</th>
</tr>
</thead>
</table>
| DTP*368*D8*20100811~ | DTP – Date/Time/Period Segment ID  
|                   | 368 – Date information submitted qualifier  
|                   | D8 – Date format CCYYMMDD  
|                   | 20100811 9 – Additional Info Submitted Date              |
| CAT*AE*MB*CDA R2~  | CAT – Category of Patient Info Segment ID  
|                   | AE – Attachment Qualifier  
|                   | MB – Binary Image Qualifier  
|                   | CDA R2 – Version ID                                        |
| EFI*05~            | EFI – Electronic Format ID Segment ID  
|                   | 05 – Security Level Code(Personal)                        |
| BIN*29277*… (see esMD_Example_CDA.xml for complete HL7 CDA content) | BIN – Binary Segment ID  
|                   | 29277 – Length of Binary Data                             |
| SE*19*100000001~   | SE – Transaction Set Trailer Segment ID  
|                   | 19 – Number of Included Segments  
|                   | 100000001 – Transaction Set Control Nbr                   |
| GE*1*100000001~    | GE – Functional Group Trailer Segment ID  
|                   | 1 – Number of included transaction sets  
|                   | 100000001 – Functional Group Control Nbr                  |
| IEA*1*100000001~   | IEA – Interchange Control Trailer Segment ID  
|                   | 1 – Number of included Functional Groups  
|                   | 100000001 – Interchange Control Number                     |

#### 4.3 TA1 Transaction (In Case of Interchange of the file is Rejected)

The TA1 shall only be generated if the Interchange (ISA/IEA) of the file is rejected, and the ISA14 value is equal to 1.

| ISA*00*          | *00* *28*PPPPP *28*SSSSSS  
|                 | *100811*1600*^*00501*100000001*1*P*>~  
| TA1*100000001*100811*1213*A*000~ |  
| IEA*1*100000001~ |                                             |

ISA*00* *00* *28*PPPPP *28*SSSSSS *100811*1600*^*00501*100000001*1*P*>~
### 4.4 999 Transaction with X12 standard syntax and X12 Implementation Guide errors

Application Acknowledgment (999) – The 999 transaction shall only be generated when the received file is accepted at the TA1 level. The 999 transaction will acknowledge the X12 standard syntax and X12 Implementation Guide errors.

```plaintext
ISA*00*  *00*  *28*PPPPP  *28*SSSSSS
*100811*1600*^*00501*100000001*X*005010X231A1~
GS*FA*SENDERCODE*RECVRCODE*20100811*1600*00000001*X*005010X231A1~
ST*999*000000001*005010X231A1~
AK1*PI*100000001*005010X210~
AK9*A*1*1*1~
IEA*1*100000001~
```

Page 48 of 78
<table>
<thead>
<tr>
<th>ISA<em>00</em></th>
<th><em>00</em></th>
<th><em>28</em>PPPPP</th>
<th><em>28</em>SSSSSS</th>
<th><em>100811</em>1600*^<em>00501</em>100000001<em>X</em>005010X231</th>
<th>~</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISA</td>
<td>Segment ID – Interchange Control Header</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00</td>
<td>Authorization Information Qualifier – None</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>spaces</td>
<td>Authorization Information</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00</td>
<td>Security Information Qualifier – None</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>spaces</td>
<td>Security Information</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Interchange Sender ID Qualifier - Fiscal Intermediary Identification Number</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPPPPP</td>
<td>Fiscal Intermediary Identification Number</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Interchange Sender ID Qualifier - Fiscal Intermediary Identification Number</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSSSSS</td>
<td>Fiscal Intermediary Identification Number</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100811</td>
<td>Interchange Date (YYMMDD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1600</td>
<td>Interchange Time (HHMM)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Repetition Separator</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>00501</td>
<td>Interchange Control Version Number</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100000001</td>
<td>Interchange Control Number</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>l</td>
<td>Acknowledgment Requested: 1=Interchange Acknowledgment Requested (TA1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>Interchange Usage Indicator – Production Data</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>&gt;</td>
<td>Component Element Separator</td>
<td></td>
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<tr>
<td>~</td>
<td>Segment Terminator</td>
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<tr>
<td>GS<em>FA</em>SENDERCODE<em>RECVRCODE</em>20100811<em>1600</em>000000001<em>X</em>005010X231</td>
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<td>GS</td>
<td>Segment ID – Functional Group Header</td>
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<tr>
<td>FA</td>
<td>Functional Identifier Code: FA=Functional or Implementation Acknowledgment Transaction Sets (997, 999)</td>
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</tr>
<tr>
<td>SENDERCODE</td>
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<td>RECVRCODE</td>
<td>Application Receiver’s Code</td>
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<td>20100811</td>
<td>Functional group creation date</td>
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<td>1600</td>
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<td>X</td>
<td>Responsible Agency Code: X=Accredited Standards Committee X12</td>
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<td>ST<em>999</em>000000001*005010X231A1</td>
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<td>ST</td>
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<td>999</td>
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<td>000000001</td>
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<tr>
<td>AK1<em>PI</em>100000001*005010X210</td>
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</tr>
<tr>
<td>AK1</td>
<td>Segment ID – Functional Group Response Header</td>
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<td></td>
</tr>
<tr>
<td>PI</td>
<td>Functional Identifier Code</td>
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<td>005010X210</td>
<td>Version / Release / Industry Identifier Code</td>
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<tr>
<td>AK9<em>A</em>1<em>1</em>1</td>
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<tr>
<td>AK9</td>
<td>Segment ID – Functional Group Response Trailer</td>
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<tr>
<td>A</td>
<td>Functional Group Acknowledge Code: A=Accept</td>
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4.5 824 Application Advice - Positive Acknowledgment from NHIN Gateway to HIH.

Annotated Example:

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<th>ISA<em>00</em></th>
<th>00*</th>
<th>28*PPPPP</th>
<th>28*SSSSSS</th>
<th>100811<em>1213**00501</em>100000001<em>1</em>P*&gt;~</th>
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<td>00</td>
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<tr>
<td>SSSSSSS</td>
<td>Fiscal Intermediary Identification Number</td>
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<tr>
<td>100811</td>
<td>Interchange Date (YYMMDD)</td>
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<tr>
<td>Code</td>
<td>Description</td>
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<td>1213</td>
<td>Interchange Time (HHMM)</td>
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<td>^</td>
<td>Repetition Separator</td>
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<td>00501</td>
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<td>Interchange Control Number</td>
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<td>1</td>
<td>Acknowledgment Requested: 1=Interchange Acknowledgment Requested (TA1)</td>
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<td>P</td>
<td>Interchange Usage Indicator – Production Data</td>
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<tr>
<td>&gt;</td>
<td>Component Element Separator</td>
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<tr>
<td>~</td>
<td>Segment Terminator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GS<em>AG</em>SENDER CODE<em>RECEIVER CODE</em>20100811<em>1215</em>1<em>X</em>005010X186~</td>
<td>GS Segment ID – Functional Group Header</td>
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<tr>
<td></td>
<td>AG Application Sender’s Code</td>
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<tr>
<td></td>
<td>RECEIVER CODE Application Receiver’s Code</td>
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<td></td>
<td>20100811 Date (CCYYMMDD)</td>
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<tr>
<td>1215</td>
<td>Time (HHMMssst)</td>
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<td>Group Control Number</td>
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<td>X</td>
<td>Responsible Agency – X: ASC X12</td>
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<td>005010X186</td>
<td>Version / Release / Industry Identifier Code</td>
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<td>ST<em>824</em>824000001*005010X186~</td>
<td>ST Segment ID – Transaction Set Header</td>
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<td>824 Transaction Set ID – 824: Application Advice</td>
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<td>824000001 Transaction Set Control Number</td>
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<td>005010X186 Version / Release / Industry Identifier Code</td>
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<tr>
<td>BGN<em>11</em>INTERNAL TRACKING NBR<em>20100811</em>1215*00125**WQ~</td>
<td>BGN Segment ID – Beginning Segment</td>
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<td>11 Transaction Set Purpose Code – 11: Response</td>
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<td></td>
<td>20100811 Transaction Set Creation Date</td>
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<td></td>
<td>1215 Transaction Set Creation Time</td>
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<tr>
<td></td>
<td>00125 BGN02 from original 275 Transaction Set</td>
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<td>WQ</td>
<td>Action Code – WQ: Accept</td>
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<tr>
<td>N1<em>41</em>HEALTH PAYER AMERICA<em>46</em>PPPPP~</td>
<td>N1 Segment ID – Submitter Name</td>
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<td>41 Entity Identifier Code – 41: Submitter</td>
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<tr>
<td></td>
<td>HEALTH PAYER AMERICA Submitter’s Name</td>
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</tr>
<tr>
<td></td>
<td>46 Identification Code Qualifier – 46: ETIN</td>
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</tr>
<tr>
<td>PPPPPP</td>
<td>ETIN</td>
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</tr>
<tr>
<td>PER<em>IC</em>JOHN SMITH<em>TE</em>8005551234<em>EX</em>1439~</td>
<td>PER Segment ID – Submitter EDI Contact Information</td>
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<tr>
<td></td>
<td>IC Contact Function Code – IC: Information Contact</td>
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<td></td>
<td>JOHN SMITH Submitter Contact Name</td>
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<tr>
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<td>TE Communication Number Qualifier – TE: Telephone</td>
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<td>8005551234 Communication Number (Telephone)</td>
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<tr>
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<td>EX Communication Number Qualifier – EX: Telephone Extension</td>
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<td>1439 Communication Number (Telephone Extension)</td>
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<td>N1<em>40</em>ABBEY MEMORIAL MEDICAL CLN<em>46</em>SSSSSS~</td>
<td>N1 Segment ID - RECEIVER NAME</td>
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<td>40 Entity Identifier Code – 40: Receiver</td>
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<td>ABBEY MEMORIAL MEDICAL CLN Receiver’s Name</td>
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<td>46 Identification Code Qualifier – 46: ETIN</td>
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<tr>
<td>SSSSSS</td>
<td>ETIN</td>
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</tbody>
</table>
### 4.6 824 Application Advice Forwarded Acknowledgment from NHIN Gateway to HIH.

#### Annotated Example:

```
ISA*00* *00* *28*PPPPP *28*SSSSSS
*100811*1600*^*00501*100000001*1*P*>~
GS*AG*SENDER CODE*RECEIVER CODE*20100811*1600*1*X*005010X186~
ST*824*824000001*005010X186~
BGN*11*INTERNAL TRACKING NBR*20100811*1600**00125**?~
N1*41* HEALTH PAYER AMERICA*46*PPPPP ~
PER*IC*JOHN SMITH*TE*8005551234*EX*1439~
N1*40* ABBEY MEMORIAL MEDICAL CLN*46*SSSSSS ~
OTI*TA*TN*NA***20100811*1213*100000001*100000001*275*005010X210~
SE*7*824000001~
GE*1*1~
IEA*1*100000001~
```
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<tr>
<th>Field</th>
<th>Value</th>
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<tr>
<td>Authorization Information Qualifier</td>
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<tr>
<td>Security Information Qualifier</td>
<td>None</td>
</tr>
<tr>
<td>Interchange Sender ID Qualifier - Fiscal Intermediary Identification Number</td>
<td>PPPPP</td>
</tr>
<tr>
<td>Fiscal Intermediary Identification Number</td>
<td>SSSSSS</td>
</tr>
<tr>
<td>Interchange Date (YYMMDD)</td>
<td>100811</td>
</tr>
<tr>
<td>Interchange Time (HHMM)</td>
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</tr>
<tr>
<td>Interchange Control Version Number</td>
<td>005010X186</td>
</tr>
<tr>
<td>Interchange Control Number</td>
<td>100000001</td>
</tr>
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<td>Acknowledgment Requested</td>
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</tr>
<tr>
<td>Interchange Usage Indicator</td>
<td>Production Data</td>
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<tr>
<td>Transaction Set Creation Date</td>
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</tr>
<tr>
<td>Transaction Set Creation Time</td>
<td>1215</td>
</tr>
<tr>
<td>Transaction Set Identifier Code</td>
<td>00125</td>
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<tr>
<td>Submitter’s Name</td>
<td>HEALTH PAYER AMERICA</td>
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<tr>
<td>Identification Code Qualifier</td>
<td>ETIN</td>
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</table>

```
GS*AG*SENDER CODE*RECEIVER CODE*20100811*1215*1*X*005010X186~
ST*824*824000001*005010X186~
BGN*11*INTERNAL TRACKING NBR*20100811*1215**00125**WQ~
N1*41*HEALTH PAYER AMERICA*46*PPPPP~
PER*IC*JOHN SMITH*TE*8005551234*EX*1439~
```
5 Appendix B - SOAP Envelope Samples

5.1 ASC X12 275 Batch Submission Message with HI7/CDA/PDF (X12 Deferred Document Submission Request)

The Batch Submission message structure shown below specifies SOAP 1.2 and also uses MTOM to send the payload file. This shows the following:

1. The HTTP Headers are shown colored in blue.
2. The WS-Security, SAML, etc. (shown here with a yellow background) is added to the SOAP Header by the CONNECT or CONNECT compatible platform on which SOAP is run.

3. The portion of the SOAP envelope colored in green has the metadata that is defined as part of the CORE Phase II Connectivity Rule and esMD Specific Metadata.

4. The Batch file (MTOM attachment) is shown colored in grey.

```
POST /core/eligibilityBatch HTTP/1.1
Content-Type: multipart/related;
boundary=MIMEBoundaryurn:uuid:5117AAE1116EA8B87A1200060184614;
type="application/xop+xml";
start="0.urn:uuid:5117AAE1116EA8B87A1200060184615@apache.org";
start-info="application/soap+xml"; action="BatchSubmitTransaction"

--MIMEBoundaryurn:uuid:5117AAE1116EA8B87A1200060184614
Content-ID: <0.urn:uuid:5117AAE1116EA8B87A1200060184615@apache.org>
Content-Type: application/xop+xml; charset=UTF-8; type="application/soap+xml"
Content-Transfer-Encoding: binary

<?xml version='1.0' encoding='UTF-8'?>
<soapenv:Envelope xmlns:S="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd"
xmlns:wsu="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
xmlns:wsse11="http://docs.oasis-open.org/wss/oasis-wss-wssecurity-secext-1.1.xsd"
xmlns:exc14n="http://www.w3.org/2001/10/xml-exc-c14n#">
<soapenv:Header>
<To xmlns="http://www.w3.org/2005/08/addressing">
</soapenv:Header>
<Action xmlns="http://www.w3.org/2005/08/addressing">
<ReplyTo xmlns="http://www.w3.org/2005/08/addressing">
http://www.w3.org/2005/08/addressing/anonymous</ReplyTo>
<MessageID xmlns="http://www.w3.org/2005/08/addressing">
uuid:7a580843-6871-4e01-8db4-963e9912345678</MessageID>
<wsse:Security S:mustUnderstand="true">
```
  <saml2:Action Namespace="urn:oasis:names:tc:SAML:1.0:action:rwedc"
    >Execute</saml2:Action>
  <saml2:Evidence>
    <saml2:Assertion ID="40df7c0a-ff3e-4b26-baeb-f2910f6d0mc24091165"
      <saml2:Issuer
        Format="urn:oasis:names:tc:SAML:1.1:nameid-format:X509SubjectName"
        >CN=SAML User,OU=QSSI,O=HITS,L=Columbia,ST=MD,C=US</saml2:Issuer>
        NotOnOrAfter="2009-12-31T12:00:00.000Z"/>
      <saml2:AttributeStatement>
        <saml2:Attribute Name="AccessConsentPolicy"
          NameFormat="http://www.hhs.gov/healthit/nhin">
          <saml2:AttributeValue
            xmlns:ns6="http://www.w3.org/2001/XMLSchema-instance"
            xmlns:ns7="http://www.w3.org/2001/XMLSchema"
            ns6:type="ns7:string">Claim-Ref-1234</saml2:AttributeValue>
        </saml2:Attribute>
        <saml2:Attribute Name="InstanceAccessConsentPolicy"
          NameFormat="http://www.hhs.gov/healthit/nhin">
          <saml2:AttributeValue
            xmlns:ns6="http://www.w3.org/2001/XMLSchema-instance"
            xmlns:ns7="http://www.w3.org/2001/XMLSchema"
            ns6:type="ns7:string">Claim-Instance-1</saml2:AttributeValue>
        </saml2:Attribute>
      </saml2:AttributeStatement>
    </saml2:Assertion>
  </saml2:Evidence>
<exc14n:InclusiveNamespaces PrefixList="wsse S"/>
<ds:CanonicalizationMethod/>
<ds:SignatureMethod Algorithm="http://www.w3.org/2000/09/xmldsig#rsa-sha1"/>
<ds:Reference URI="# 1">
<ds:Transforms>
<ds:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#">
<exc14n:InclusiveNamespaces PrefixList="wsu wsse S"/>
</ds:Transform>
</ds:Transforms>
<ds:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldsig#sha1"/>
<ds:DigestValue>
<Include xmlns="http://www.w3.org/2004/08/xop/include" href="cid:984d42f8-3ec8-4708-9a48-53d8283db4d7@example.jaxws.sun.com"/>
</ds:DigestValue>
</ds:Reference>
</ds:SignedInfo>
<ds:SignatureValue>
<Include xmlns="http://www.w3.org/2004/08/xop/include" href="cid:926569ac-d833-4d0a-b6e8-d6070e11568f@example.jaxws.sun.com"/>
</ds:SignatureValue>
<ds:KeyInfo>
<wsse:SecurityTokenReference
<wsse11:TokenType="http://docs.oasis-open.org/wss/oasis-wss-saml-token-profile-1.1#SAMLV2.0">
<wsse:KeyIdentifier
ValueType="http://docs.oasis-open.org/wss/oasis-wss-saml-token-profile-1.1#SAMLID">
<ds:KeyInfo>
</ds:KeyInfo>
<ds:Signature>
<wsse:Security>
</soapenv:Header>
</ns1:COREEnvelopeBatchSubmission>
<soapenv:Body>
<payload>xmlns="http://www.caqh.org/soap/WSF/SAML2.2.xsd">
</soapenv:Body>
<ns1:PayloadType>X12_275_Request_005010X210E1</ns1:PayloadType>
<ns1:ProcessingMode>Batch</ns1:ProcessingMode>
<ns1:PayloadID>f81d4fae-7dec-11d0-a765-00a0c91e6bf6</ns1:PayloadID>
<ns1:PayloadLength>1551254</ns1:PayloadLength>
<ns1:TimeStamp>2007-08-30T10:20:34Z</ns1:TimeStamp>
<ns1:SenderID>HospitalA</ns1:SenderID>
<ReceiverID>PayerB</ReceiverID>
</COREEnvelopeBatchSubmission>

--MIMEBoundary urn_uuid_5117AAE1116EA8B87A1200060184614
Content-ID: <1.urn:uuid:5117AAE1116EA8B87A1200060184692@apache.org>
Content-Type: application/octet-stream
Content-Transfer-Encoding: binary

ISA*00*          *00*          *28*SSSSSS         *28*PPPPP
*100811*1213**00501*100000001*0*P*>~
GS*PI*SSSSSS*01001*20100811*1213*100000001*X*005010X210~
ST*275*100000001*005010X210~
BGN*11*00125*20100811~
NM1*PR*2*HEALTH PAYER AMERICA*****PI*PPPPP~
NM1*41*2*ABBEY MEMORIAL MEDICAL CLN*****46*SSSSSS~
NM1*1P*1*CURE*KEN****XX*NNNNNNNN~
NX1*1P~
N3*9999A STEVE D SMITHY AVE~
N4*LOS ANGELES*CA*900332414~
NM1*OC*1*PATIENT*SAMPLE*H***MI*6910828~
REF*EJ*458726-A1~
REF*BLT*111~
DTP*472*RD8*20100720-20100724~
LX*1~
TRN*2*XA728302~
DTP*368*D8*20100811~
CAT*AE*MB*CDA R2~ (IA for C62 and MB - HL7 CDA qualifier. Details are in 275
Implementation guide page 90)
EFI*05~
BIN*29277*Mime-version: 1.0
Content-Type: multipart/mixed;
boundary="###esMD Boundry String fro Example###"
--###esMD Boundry String fro Example###
Content-Type: application/x-hl7-cda-level-one+xml
Content-Transfer-Encoding: 7bit
<?xml version="1.0" encoding="utf-8"?>
<ClinicalDocument classCode="DOCCLIN" moodCode="EVN" xmlns="urn:hl7-org:v3"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:hl7-org:v3
file:/D:/cd/hl7/cda/CDA_R2_NormativeWebEdition2005/infrastructure/cda/CDA.xsd">
  <typeId extension="POCD_HD000040" root="2.16.840.1.113883.1.3"/>
  <id EX="XA728302" RT="2.16.840.1.113883.19.2744.1.1"/>
  <document_type_cd V="34106-5" DN="DISCHARGE SUMMARIZATION NOTE"/>
  <effectiveTime value="20100811" />
  <author contextControlCode="OP" typeCode="AUT"/>
  <time value="20100811" />
  <assignedAuthor classCode="ASSIGNED">
    <id extension="NNNNNNNNNN" root="2.16.840.1.113883.19.2744.1.3"/>
    <assignedPerson>
      <name>
        <given>Ken</given> <family>Cure</family> <suffix>MD</suffix>
      </name>
    </assignedPerson>
    <assignedAuthor>
      <recordTarget contextControlCode="OP" typeCode="RCT">
        <patientRole classCode="PAT">
          <id extension="6910828" root="2.16.840.1.113883.19.2744.1.2"/>
          <patient>
            <name>
              <given>Patient</given> <given>H</given> <family>Sample</family>
            </name>
            <administrativeGenderCode code="F" codeSystem="2.16.840.1.113883.5.1"
            codeSystemName="AdministrativeGender" displayName="Female"/>
            <birthTime value="19320924"/>
          </patient>
        </patientRole>
      </recordTarget>
      <body>
        <nonXMLBody>
          <text mediaType="application/pdf" representation="B64">
            <REF
            V="ADDITIONAL_DOCUMENTATION_REQUEST_BASE64.pdf"/>
          </text>
        </nonXMLBody>
      </body>
    </assignedAuthor>
  </author>
</ClinicalDocument>
5.2 X12 275 Batch Submission Response Message (X12 Deferred Document Submission Response)

The Batch Submission message structure shown below specifies SOAP 1.2 and also uses MTOM to send the payload file. This shows the following:

1. The HTTP Headers are shown colored in blue.
2. The WS-Security, SAML, etc. (shown here with a yellow background) is added to the SOAP Header by the CONNECT or CONNECT compatible platform on which SOAP is run.
3. The portion of the SOAP envelope colored in green has the metadata that is defined as part of the CORE Phase II Connectivity Rule and esMD Specific Metadata.

HTTP/1.1 200 OK
Server: Apache-Coyote/1.1
Content-Type: multipart/related;
boundary=MIMEBoundaryurn(uuid:0B72121B1FEFA9BDD31200060195339);
type="application/xop+xml",
start="0.urn:uuid:0B72121B1FEFA9BDD31200060195340@apache.org"; start-info="application/soap+xml";
action="http://www.caqh.org/SOAP/WSDL/CORETransactions/BatchSubmitTransactionResponse"
--MIMEBoundaryurn(uuid:0B72121B1FEFA9BDD31200060195339

---###esMD Boundry String fro Example###
Content-Type: application/pdf
Content-Transfer-Encoding: base64
Content-Disposition: attachment; filename=ADDITIONAL_DOCUMENTATION_REQUEST_BASE64.pdf

JVBERi0xLjQNJeLjz9MNCjYgMCBvYmoNPDwvTGluZWFyaXplZCAxL0wgMjAzNDUvTyA4L0UgMTYxMDMvTiAxL1QgMjAxNzkvSCKEdhnkuQmVhdHR5KS9DcmVhdG9yKFBTY3JpcHQ1LmRsbCBWBZXJzaW9uIDMkIHMwMjA0NjkgOTki
IEA*1*100000001~
GE*1*100000001~
IEA*1*100000001~
5.3 X12 824 Application Advice Forwarded Acknowledgment (X12 Deferred Document Submission Request from CMS Gateway to HIH)

The Batch Submission Request message structure shown below specifies SOAP 1.2, and also uses MTOM to send the payload file. This shows the following:
1. The HTTP Headers are shown colored in blue.

2. The WS-Security, SAML, etc. (shown here with a yellow background) is added to the SOAP Header by the CONNECT or CONNECT compatible platform on which SOAP is run.

3. The portion of the SOAP envelope colored in green has the metadata that is defined as part of the CORE Phase II Connectivity Rule and esMD Specific Metadata.

4. The Batch file (MTOM attachment) is shown colored in grey.

```xml
POST /core/eligibilityBatch HTTP/1.1
Content-Type: multipart/related;
boundary=MIMEBoundaryurn_uuid_5117AAE1116EA8B87A1200060184614;
type="application/xop+xml";
start="0.urn:uuid:5117AAE1116EA8B87A1200060184615@apache.org";
start-info="application/soap+xml"; action="BatchSubmitTransaction"

--MIMEBoundaryurn_uuid_5117AAE1116EA8B87A1200060184614
Content-ID: <0.urn:uuid:5117AAE1116EA8B87A1200060184615@apache.org>
Content-Type: application/xop+xml; charset=UTF-8; type="application/soap+xml"
Content-Transfer-Encoding: binary

<?xml version='1.0' encoding='UTF-8'?>
<soapenv:Envelope xmlns:S="http://www.w3.org/2003/05/soap-envelope"
xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.0.xsd"
xmlns:wsu="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
xmlns:wsse11="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-1.1.xsd"
xmlns:exc14n="http://www.w3.org/2001/10/xml-exc-c14n#">
<soapenv:Header>

<To xmlns="http://www.w3.org/2005/08/addressing">
</soapenv:Header>

</Action>

<ReplyTo xmlns="http://www.w3.org/2005/08/addressing">
<Address>http://www.w3.org/2005/08/addressing/anonymous</Address>
</ReplyTo>

<MessageID xmlns="http://www.w3.org/2005/08/addressing">uuid:7a580843-6871-4e01-8db4-963c9912345678</MessageID>
```
<wsse:Security S:mustUnderstand="true">
  <wsu:Timestamp
    xmlns:ns17="http://docs.oasis-open.org/ws-sx/ws-secureconversation/200512"
    xmlns:ns16="http://schemas.xmlsoap.org/soap/envelope/"
    wsu:Id="_1">
    <wsu:Created>2011-09-12T19:27:18Z</wsu:Created>
  </wsu:Timestamp>

  <saml2:Assertion>...The assertions are same as X12 275 Batch Deferred Document Submission Request....</saml2:Assertion>

  <ds:Signature xmlns:ns17="http://docs.oasis-open.org/ws-sx/ws-secureconversation/200512"
    xmlns:ns16="http://schemas.xmlsoap.org/soap/envelope/"
    Id="_2">
    <ds:SignedInfo>
      <ds:CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#">
        <exc14n:InclusiveNamespaces PrefixList="wsse S"/>
      </ds:CanonicalizationMethod>
      <ds:SignatureMethod Algorithm="http://www.w3.org/2000/09/xmldsig#rsa-sha1"/>
      <ds:Reference URI="#_1">
        <ds:Transforms>
          <ds:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#">
            <exc14n:InclusiveNamespaces PrefixList="wsu wsse S"/>
          </ds:Transform>
        </ds:Transforms>
        <ds:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldsig#sha1"/>
        <ds:DigestValue>
          <Include xmlns="http://www.w3.org/2004/08/xop/include"
            href="cid:984d42f8-3ec8-4708-9a48-53d8283db4d7@example.jaxws.sun.com"/>
        </ds:DigestValue>
      </ds:Reference>
    </ds:SignedInfo>
    <ds:SignatureValue>
      <Include xmlns="http://www.w3.org/2004/08/xop/include"
        href="cid:926569ac-d833-4d0a-b6e8-d6070e11568f@example.jaxws.sun.com"/>
    </ds:SignatureValue>
  </ds:Signature>
</wsse:Security>
<?xml version="1.0"?>
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xop="http://www.w3.org/2004/08/xop/include"
  xmlns:ns1="http://www.caqh.org/SOAP/WSDL/CORERule2.2.0.xsd">
  <soapenv:Header>
    <wsse:Security>
      <wsse:SecurityTokenReference />
      <wsse:KeyIdentifier />
    </wsse:Security>
  </soapenv:Header>
  <soapenv:Body>
    <ns1:COREEnvelopeBatchSubmission
      xmlns:ns1="http://www.caqh.org/SOAP/WSDL/CORERule2.2.0.xsd">
      <PayloadType>X12_824_Request_005010X186</PayloadType>
      <ProcessingMode>Batch</ProcessingMode>
      <PayloadID>f81d4fae-7dec-11d0-a765-00a0c91e6bf6</PayloadID>
      <PayloadLength>1551254</PayloadLength>
      <TimeStamp>2007-08-30T10:20:34Z</TimeStamp>
      <SenderID>HospitalA</SenderID>
      <ReceiverID>PayerB</ReceiverID>
      <CORERuleVersion>2.2.0</CORERuleVersion>
      <CheckSum>43B8485AB5</CheckSum>
      <Payload>
        <xop:Include
          href="cid:1.urn:uuid:5117AAE1116EA8B87A1200060184692@apache.org"/>
      </Payload>
    </ns1:COREEnvelopeBatchSubmission>
  </soapenv:Body>
</soapenv:Envelope>

--MIMEBoundaryurn_uuid_5117AAE1116EA8B87A1200060184614
Content-ID: <1.urn:uuid:5117AAE1116EA8B87A1200060184692@apache.org>
Content-Type: application/octet-stream
Content-Transfer-Encoding: binary

ISA*00*00*28*PPPPP*28*SSSSSS
*100811*1600**00501*100000001*1*P*~
GS*AG*SENDER CODE*RECEIVER CODE*20100811*1600*1*X*005010X186~
ST*824*824000001*005010X186~
BGN*1I*INTERNAL TRACKING NBR*20100811*1600**00125***20100811*1213*100000001*100000001*275*005010X210~
SE*7*824000001~
GE*1I~
IEA*1*100000001~
5.4 X12 275 – 999 Batch Submission Acknowledgement Response Message

Application Acknowledgment (999) – The 999 transaction shall only be generated when the received file is accepted at the TA1 level. The 999 transaction will acknowledge the X12 standard syntax and X12 Implementation Guide errors.

The Batch Submission Acknowledgement Retrieval Response message structure shown below specifies SOAP 1.2 and MTOM. This shows the following:

1. The HTTP Headers are shown colored in blue.
2. The portion of the SOAP envelope colored in green has the metadata that is defined as part of the CORE Phase II Connectivity Rule and esMD Specific Metadata.
3. The Batch file (MTOM attachment) is shown colored in grey.

HTTP/1.1 200 OK
Server: Apache-Coyote/1.1
Content-Type: multipart/related;
boundary=MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339;
type="application/xop+xml";
start="0.urn:uuid:0B72121B1FEFA9BDD31200060195340@apache.org"; start-info="application/soap+xml"; action="BatchSubmitAckRetrievalTransaction"

--MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339
Content-Type: application/xop+xml; charset=UTF-8; type="application/soap+xml"
Content-Transfer-Encoding: binary
Content-ID: <0.urn:uuid:0B72121B1FEFA9BDD31200060195340@apache.org>

<?xml version='1.0' encoding='UTF-8'?>
<soapenv:Envelope xmlns:S="http://www.w3.org/2003/05/soap-envelope">
    <soapenv:Header>
        <To xmlns="http://www.w3.org/2005/08/addressing">
        <Action xmlns="http://www.w3.org/2005/08/addressing">
        <ReplyTo xmlns="http://www.w3.org/2005/08/addressing">
            http://www.w3.org/2005/08/addressing/anonymous</ReplyTo>
        <MessageID xmlns="http://www.w3.org/2005/08/addressing">uuid:7a580843-6871-4e01-8db4-963c991477avd</MessageID>
    </soapenv:Header>
</soapenv:Envelope>
5.5 X12 TA1 Response (In Case of Interchange of the file is Rejected)
The TA1 shall only be generated if the Interchange (ISA/IEA) of the file is rejected, and the ISA14 value is equal to 1.

The Batch Submission Acknowledgement Retrieval Response message structure shown below specifies SOAP 1.2 and MTOM. This shows the following:

1. The HTTP Headers are shown colored in blue.
2. The portion of the SOAP envelope colored in green has the metadata that is defined as part of the CORE Phase II Connectivity Rule and esMD Specific Metadata.
3. The Batch file (MTOM attachment) is shown colored in grey.

```
HTTP/1.1 200 OK
Server: Apache-Coyote/1.1
Content-Type: multipart/related;
boundary=MIMEBoundaryurn_uid_0B72121B1FEFA9BDD31200060195339;
type="application/xop+xml";
start="0urn:uuid:0B72121B1FEFA9BDD31200060195340@apache.org";
start-info="application/soap+xml";
action="BatchSubmitAckRetrievalTransaction"

--MIMEBoundaryurn_uid_0B72121B1FEFA9BDD31200060195339
Content-Type: application/xop+xml; charset=UTF-8; type="application/soap+xml"
Content-Transfer-Encoding: binary
Content-ID: <0urn:uuid:0B72121B1FEFA9BDD31200060195340@apache.org>

<?xml version='1.0' encoding='UTF-8'?>
<soapenv:Envelope xmlns:S="http://www.w3.org/2003/05/soap-envelope">
  <soapenv:Header>
    <To xmlns="http://www.w3.org/2005/08/addressing">
    <Action xmlns="http://www.w3.org/2005/08/addressing">
    <ReplyTo xmlns="http://www.w3.org/2005/08/addressing">
      http://www.w3.org/2005/08/addressing/anonymous</ReplyTo>
    <MessageID xmlns="http://www.w3.org/2005/08/addressing">uuid:7a580843-6871-4e01-8db4-963c9914748d</MessageID>
    <RelatesTo xmlns="http://www.w3.org/2005/08/addressing">uuid:7a580843-6871-4e01-8db4-963c9912345678</RelatesTo>
  </soapenv:Header>
  <soapenv:Body>
    <ns1:COREEnvelopeBatchSubmissionAckRetrievalResponse
      xmlns:ns1="http://www.caqh.org/SOAP/WSDL/CORERule2.2.0.xsd">

```
<PayloadType>X12_TA1_Response_00501X231A1</PayloadType>

<ProcessingMode>Batch</ProcessingMode>

<PayloadID>f81d4fae-7dec-11d0-a765-00a0c91e6bf6</PayloadID>

<PayloadLength>1551254</PayloadLength>

<TimeStamp>2007-08-30T10:20:34Z</TimeStamp>

<SenderID>PayerB</SenderID>

<ReceiverID>HospitalA</ReceiverID>

<CORERuleVersion>2.2.0</CORERuleVersion>

<CheckSum>43B8485AB5</CheckSum>

<Payload>

<xop:Include
href="cid:1.urn:uuid:5117AAE1116EA8B87A1200060184692@apache.org"
xmlns:xop="http://www.w3.org/2004/08/xop/include"/>

</Payload>

<ErrorCode>Success</ErrorCode>

<ErrorMessage/>

</ns1:COREEnvelopeBatchSubmissionAckRetrievalResponse>

</soapenv:Body>

</soapenv:Envelope>

--MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339

Content-Type: application/pdf

Content-Transfer-Encoding: binary

Content-ID: <1.urn:uuid:5117AAE1116EA8B87A1200060184692@apache.org>

ISA*00*          *00*          *28*PPPPP          *28*SSSSSS
*100811*1600*^*00501*100000001*1*P*>~
TA1*100000001*100811*1213*A*000~
IEA*1*10000001--

--MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339--
5.6 Appendix F- Glossary

Accredited Standards Committee (ASC) X12

The Accredited Standards Committee (ASC) X12, chartered by the American National Standards Institute in 1979, develops electronic data interchange (EDI) standards and related documents for national and global markets. X12 EDI standards and a growing collection of X12 XML schemas, ASC X12 enhances business processes, reduces costs and expands organizational reach.

Acknowledgement (ACK)

Message (such as one used in ‘handshaking’ process between two systems) that indicates the status of communications received. It is commonly written as ACK.

Deferred and CAQH CORE Connectivity Generic Batch Message Interaction

NHIN Deferred Response message interaction can be supported using the Phase II CORE 270: Connectivity Rule version 2.2.0’s Generic Batch message interaction. In particular, a sequence of 3 Generic Batch message interactions are used to provide the same functionality as the NHIN Deferred Response Message Interaction, namely, (1) submission of the initial X12 275 Batch and the corresponding synchronous response, (2) delayed notification using the X12 824 notification and the corresponding synchronous response, and (3) delayed notification about the pickup of the PDF using a second X12 824 notification and the corresponding synchronous response.

Health Information Handler (HIH)

A Health Information Handler (HIH) is defined as an organization that oversees and governs the exchange of health-related information from the health care provider to the CMS esMD Gateway according to nationally recognized standards.\(^1\) Health information handlers come in many forms. The following list, though not all-inclusive, shows some of the types of HIHs that CMS has become aware of:

- HIE
- RHIO
- ROI vendor
- claim clearinghouse
- EHR vendor

HTTPs

A set of rules for speedy retrieval and transmission of electronic documents written in HTML over a secure connection. HTTPS addresses differentiate from HTTP ones because they encrypt

\(^1\) The National Alliance for Health Information Technology Report to the Office of the National Coordinator for Health Information Technology on Defining Key Health Information Technology Terms April 28, 2008
and decrypt user pages to prevent unauthorized access to sensitive data. Online credit card processing and banking websites use HTTPS addresses to ensure privacy and provide secure processing for users.

**Interoperability**

Interoperability is the ability of health information systems to work together, within and across organizational boundaries, in order to advance the effective delivery of health care for individuals and communities.

**Nationwide Health Information Network (NHIN)**

The Nationwide Health Information Network (NHIN) is a set of standards, protocols, legal agreements, and specifications that a consortium of health information organizations have agreed are necessary for secure and private exchange of health information over the internet. The NHIN is overseen by the Office of the National Coordinator for Health IT (ONC).

**NHIN Exchange**

The NHIN Exchange is designed to connect a diverse set of federal agencies and private organizations to securely exchange electronic health information. CMS believes the NHIN Exchange holds promise and intends to use it during the esMD program. More information on NHIN Exchange can be found at [http://healthit.hhs.gov/portal/server.pt?open=512&objID=1407&parentname=Community Page&parentid=7&mode=2&in_hi_userid=10741&cached=true](http://healthit.hhs.gov/portal/server.pt?open=512&objID=1407&parentname=Community Page&parentid=7&mode=2&in_hi_userid=10741&cached=true).

**Privacy**

An individual’s interest in protecting his or her individually identifiable health information and the corresponding obligation of those persons and entities that participate in a network for the purposes of electronic exchange of such information, to respect interests through fair information practices.

**Security**

The physical, technological, and administrative safeguards used to protect individually identifiable health information.

**TLS**

Transport Layer Security (TLS) and its predecessor, Secure Sockets Layer (SSL), are cryptographic protocols that "provide communications security over the Internet". TLS and SSL encrypt the segments of network connections above the Transport Layer, using symmetric cryptography for privacy and a keyed message authentication code for message reliability. TLS
is an IETF standards track protocol, last updated in RFC 5246, and is based on the earlier SSL specifications developed by Netscape Corporation.

The TLS protocol allows client/server applications to communicate across a network in a way designed to prevent eavesdropping and tampering. A TLS client and server negotiate a stateful connection by using a handshaking procedure. During this handshake, the client and server agree on various parameters used to establish the connection's security.

- The handshake begins when a client connects to a TLS-enabled server requesting a secure connection, and presents a list of supported CipherSuites (ciphers and hash functions).
- From this list, the server picks the strongest cipher and hash function that it also supports and notifies the client of the decision.
- The server sends back its identification in the form of a digital certificate. The certificate usually contains the server name, the trusted certificate authority (CA), and the server's public encryption key.
- The client may contact the server that issued the certificate (the trusted CA as above) and confirm that the certificate is valid before proceeding.
- In order to generate the session keys used for the secure connection, the client encrypts a random number (RN) with the server's public key (PbK), and sends the result to the server. Only the server should be able to decrypt it (with its private key (PvK)): this is the one fact that makes the keys hidden from third parties, since only the server and the client have access to this data. The client knows PbK and RN, and the server knows PvK and (after decryption of the client's message) RN. A third party is only able to know RN if PvK has been compromised.
- From the random number, both parties generate key material for encryption and decryption.
- This concludes the handshake and begins the secured connection, which is encrypted and decrypted with the key material until the connection closes.

If any one of the above steps fails, the TLS handshake fails, and the connection is not created.

SAML

Security Assertion Markup Language used for message authentication.

Interface

A well-defined boundary where direct contact between two different environments, systems, etc., occurs, and where information is exchanged.

SOAP

Simple Object Access Protocol is a message exchange format for web services.
Transaction

Event or process (such as an input message) initiated or invoked by a user or system, regarded as a single unit of work and requiring a record to be generated for processing in a database.
5.7 Appendix B- Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR</td>
<td>Additional Documentation Request</td>
</tr>
<tr>
<td>ASC X12</td>
<td>Accredited Standards Committee (ASC) X12</td>
</tr>
<tr>
<td>BGN</td>
<td>Beginning Segment</td>
</tr>
<tr>
<td>BIN</td>
<td>Binary Data segment</td>
</tr>
<tr>
<td>CA</td>
<td>Certificate Authority</td>
</tr>
<tr>
<td>CAQH</td>
<td>Council for Affordable Quality Healthcare</td>
</tr>
<tr>
<td>CMS</td>
<td>Centers for Medicare &amp; Medicaid Services</td>
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<tr>
<td>CMVP</td>
<td>Cryptographic Module Validation Program</td>
</tr>
<tr>
<td>ECM</td>
<td>Enterprise Content Management</td>
</tr>
<tr>
<td>EDI</td>
<td>Electronic Data Interchange</td>
</tr>
<tr>
<td>EHR</td>
<td>Electronic Health Record</td>
</tr>
<tr>
<td>EMC</td>
<td>Electromagnetic Compatibility</td>
</tr>
<tr>
<td>EMI</td>
<td>Electromagnetic Interference</td>
</tr>
<tr>
<td>esMD</td>
<td>Electronic Submission of Medical Documentation</td>
</tr>
<tr>
<td>FFS</td>
<td>Fee-For-Service</td>
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<tr>
<td>FIPS</td>
<td>Federal Information Processing Standard</td>
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<tr>
<td>HIH</td>
<td>Health Information Handler</td>
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<td>HIE</td>
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<td>Health Information Portability and Accountability Act</td>
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<td>HIT</td>
<td>Health Information Technology</td>
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<td>HITSP</td>
<td>Health Information Technology Standards Panel</td>
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<td>HTTP</td>
<td>Hypertext Transfer Protocol</td>
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<td>HTTPs</td>
<td>Hypertext Transfer Protocol Secured</td>
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<td>IETF</td>
<td>Internet Engineering Task Force</td>
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<td>ISO</td>
<td>International Organization for Standardization</td>
</tr>
<tr>
<td>MAC</td>
<td>Medicare Administrative Contractor</td>
</tr>
<tr>
<td>NHIN</td>
<td>Nationwide Health Information Network</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>NPI</td>
<td>National Provider Identifier</td>
</tr>
<tr>
<td>OASIS</td>
<td>Outcome Assessment Information Set</td>
</tr>
<tr>
<td>OID</td>
<td>Organizational Identifier</td>
</tr>
<tr>
<td>ONC</td>
<td>Office of National Coordinator for Health IT</td>
</tr>
<tr>
<td>PbK</td>
<td>Public Key</td>
</tr>
<tr>
<td>PDF</td>
<td>Portable Document Format</td>
</tr>
<tr>
<td>PvK</td>
<td>Private Key</td>
</tr>
<tr>
<td>RAC</td>
<td>Recovery Audit Contractor</td>
</tr>
<tr>
<td>RHIO</td>
<td>Regional Health Information Organization</td>
</tr>
<tr>
<td>RN</td>
<td>Random Number</td>
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<tr>
<td>ROI</td>
<td>Release of Information</td>
</tr>
<tr>
<td>SAML</td>
<td>Security Assertion Markup Language</td>
</tr>
<tr>
<td>SOAP</td>
<td>Simple Object Access Protocol</td>
</tr>
<tr>
<td>SSL</td>
<td>Secure Sockets Layer</td>
</tr>
<tr>
<td>TIFF</td>
<td>Tag Image File Format</td>
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<tr>
<td>TLS</td>
<td>Transport Layer Security</td>
</tr>
<tr>
<td>UUID</td>
<td>Universally Unique Identifier</td>
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<tr>
<td>XML</td>
<td>Extensible Markup Language</td>
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