



# Nationwide Health Information Network (NHIN)

## **Electronic Submission of Medical Documentation (esMD)**

### X12 Profile



V 1.0

3/6/2012

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### Document Change History

Version	Date	Changed By	Items Changed Since Previous Version
0.1		Melanie Combs-Dyer, CMS	Initial Draft
0.2		Aaron Walton, Edaptive Systems	Revised draft – removed all references to C62 format
0.3		Aaron Walton, Edaptive Systems	Revised draft – added language on error handling
0.4		Melanie Combs-Dyer, CMS	Revised draft – added section 3.8 security and transportation for 275 language on: 1) SOAP transport, 2) realtime, 3) MTOM, 4) TLS 5) SAML
0.4.2	08/25/2010	Tracey Banks, Edaptive Systems	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;



Version	Date	Changed By	Items Changed Since Previous Version
			Minor language revisions for clarification.
0.4.3	08/25/2010	Mary Lynn Bushman	Minor language revisions for clarification.
0.4.4	08/30/2010	Tracey Banks, Edaptive Systems	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
0.4.5	09/03/2010	Tracey Banks, Edaptive Systems  Mary Lynn Bushman	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.
0.4.6	09/08/2010	Tracey Banks, Edaptive Systems	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.
0.4.7	09/15/2010	Tracey Banks, Edaptive Systems	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



Version	Date	Changed By	Items Changed Since Previous Version
			824 as provided by Mary Lynn Bushman and elaborated upon during the weekly NHIN Spec meeting. Section 3.8-Removed Figure 1-Connectivity Payload and Standard Acknowledgements.
0.4.8	09/29/2010	Tracey Banks, Edaptive Systems	Revised the draft as follows:  Added verbiage to the following sections as per Mary Lynn Bushman and Melanie Combs-Dyer: Section 1.2 <i>Intended Audience</i> , Section 1.4 <i>Referenced Documents and Standards</i> , Section 2 <i>Profile Definition</i> , and Section 3.1 <i>Implementation Standards for 275</i> . Removed the following from Section 3.7- Attachments in the esMD 275 Format: b. The message size must not exceed 19 mb ( <b>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.</b> ) Updated the ASC X12N/005010X210 document version from Version 5, Release 1 (July 2007 Draft) to (September 2007 Final)
0.4.9	10/05/2010	Tracey Banks, Edaptive Systems	Revised the draft as follows:  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- <i>In addition, it is assumed that readers have prior knowledge of the X12 275 standards.</i> 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.
0.4.10	10/08/2010	Tracey Banks, Edaptive Systems	Revised the draft as follows based on information provided by Manoj Chaganti, QSSI:  Section 3.8- Updated the Functional Group Envelope details with



Version	Date	Changed By	Items Changed Since Previous Version
			one Transaction Set. Updated the Interchange Control Structure.
0.4.11	10/13/2010	Tracey Banks, Edaptive Systems	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.
0.4.12	10/25/2010	Tracey Banks, Edaptive Systems	Revised the draft as follows:  Section 3.8- (Rachel Foerster) <b>Replaced Figure 1- Interchange Control Structure And Figure 2- X12 Transaction with updated Versions. Revised title and updated description for Transport and Message (Envelope).</b>
0.4.13	11/03/2010	Tracey Banks, Edaptive Systems	Revised the draft as follows:  Section 3.3-Melanie Combs-Dyer, CMS Table 2- 275 Claim ID and Case ID <b>added “May be referred to as a 'case ID' or 'CID' by some review contractors.” to the Case ID definition.</b> <b>Table 2-Changed Industry Usage for Case ID from “R” to “R2”.</b> 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 <b>Updated</b> Figure 1- Interchange Control Structure
0.4.14	11/09/2010	Tracey Banks, Edaptive Systems	Revised the draft as follows:  Section 3.8- Manoj Chaganti Added Figure 2-CAQH/CORE SOAP Envelope Section 3.11-Eric Heflin Added verbiage for normative and non-normative specifications.
0.4.15	11/17/2010	Tracey Banks, Edaptive Systems	Revised the draft as follows:  Section 3.8- Manoj Chaganti



Version	Date	Changed By	Items Changed Since Previous Version
			Updated Figure 2. Section 3. 9- Tracey Banks Added previously deleted text to section.
0.4.16	11/17/2010	Tracey Banks, Edaptive Systems	Revised the draft as follows:  Added line numbers to document for review purposes. Incorporated Section 3.6 <b>Submission Specifications</b> and 3.7 <b>Attachments in the esMD 275 Format</b> into Section 3.2 <b>Submission Specifications</b> . Moved Section 3.4 <b>277 Health Care Claim Request for Additional Information</b> to end of document
0.4.17	11/24/2010	Tracey Banks, Edaptive Systems	Revised the draft as follows:  Incorporated feedback provided by Manoj Chaganti. Updated Figure 2 in Section 3.5.
0.4.18	11/29/2010	Tracey Banks, Edaptive Systems	Revised the draft as follows: Updated list of contributors. Revised Figure 2 in Section 3.5-Gary Beatty Updated Table 2-Metadata Elements-Gary Beatty Added Table 3- Error Codes- Gary Beatty Incorporated Section 3 comments/feedback-Gary Beatty
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 text in Section 3.7- Security and Transport Specifications for esMD 275 Document- Eric Heflin. 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 <b>“*Note:</b>



Version	Date	Changed By	Items Changed Since Previous Version
		Systems	<i>There is a fee for the 999 and 824 Implementation Guides.</i> Section 3.6- Removed Table 4- <i>Error Codes</i> 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



Version	Date	Changed By	Items Changed Since Previous Version
			<p>In section 3.2, added more language to lines 250 – 252 to clarify esMD ADR</p> <p>On Page 13, numbered and named the table</p> <p>In section 3.2, points 1 and 2, added the full form for RAC, MAC and HIH</p> <p>In section 3.2, point 3, updated the language</p> <p>In section 3.2, deleted the reference to TIF resolution</p> <p>In section 3.3 renamed Table 2 to Table 3</p> <p>In section 3.3, table 3 Metadata Elements, updated the language for Hash Key and HIH Home Community ID</p> <p>In section 3.4, removed the reference to TIF</p> <p>In section 3.4, renamed table 3 to table 4</p> <p>In section 3.5 Point 1, deleted reference to IHE ITI TF Vol. 3 and XDSRepository error</p>
0.4.28	6/28/2011	Manoj Chaganti, Mary Lynn, Christine Stahlecker	<p>Reviewed for terminology consistency.</p> <p>Revised to support deferred X12 response.</p>
0.4.29	7/20/2011	Donna Jones, Signature Consulting	<p>Revised the draft as follows:</p> <p>Added in Sections 4.1 &amp; 4.2</p> <p>Updated table of Contents</p>
0.4.30	07/25/2011	Manoj Chaganti Gary Beatty, Mary Lynn, Donna Jones, Kevin Castellow	<p>Update the Communication Flow with X12 deferred Responses.</p> <p>Reviewed content in various sections.</p> <p>Added X12 Document Submission Reference.</p> <p>Added the 275, TA1, 999 and 824 messages.</p>
0.4.31	09/22/2011	Manoj Chaganti Sacchidanand Girde, Donna Jones Raja Kailar Kevin Castellow	<p>Cleaned the comments</p> <p>Added the possible esMD Metadata values</p> <p>Updated the X12 Deferred Response Acknowledgements with Multiple HTTP Connections diagram.</p>
0.4.32	10/03/2011	Manoj Chaganti Raja Kailar Donna Jones Gary Beatty, Mary Lynn	<p>Update the diagram 2, 3 and 4.</p> <p>Update the context around diagram 4 with generic batch.</p> <p>Update the samples.</p> <p>Section 1.4</p> <p>Updated the Reference documents.</p> <p>Updated the name of the NHIN X12 Document Submission specification to NHIN CAQH X12</p>





Version	Date	Changed By	Items Changed Since Previous Version
			Document Submission. Section 3.3 – Updated the metadata Section 3.5.1.1 – Communication between CMS esMD Gateway and HIH Gateway.
0.4.33	10/06/2011	Raja Kailar Manoj Chaganti Laura Higdon Kevin Castellow	Updates to CORE Connectivity terminology and references to Generic Batch interaction
0.4.34	11/17/2011	Manoj Chaganti Gary Beatty Sacchidanand Girde Raja Kailar Donna Jones	Update the Section 3.1 with metadata sub sections.
0.4.35	11/23/2011	Manoj Chaganti Gary Beatty Sacchidanand Girde Raja Kailar Donna Jones Mary Lynn	Reviewed and updated completed document.
0.4.36	11/23/2011	Manoj Chaganti Craig Miller Daniel Kalwa Sacchidanand Girde Donna Jones	Reviewed and updated completed document.
0.4.37	12/09/2011 12/12/2011	Manoj Chaganti Donna Jones Rachel Foerster Gary Beatty	- Updated diagrams, Corrected the links and Table Titles - Updated the X12 999 TR3 version identifier to be 00501X231A1
0.4.38	12/19/2011	Manoj Chaganti Sacchidanand Girde Raja Kailar Kevin Castellow Laura Higdon Donna Jones	- Updated diagrams, Corrected the links and Table Titles - Updated the X12 999 TR3 version identifier to be 00501X231A1 - Formatting and review.
0.4.39	12/30/2011	Manoj Chaganti	Updated broken links.
0.4.40	1/19/2012	Sacchidanand Girde	Revised the draft as follows: - Line 403, Table 3, Row 2, ASC X12



Version	Date	Changed By	Items Changed Since Previous Version
		Gary Beatty Donna Jones	Transaction info to Loop 2000A — ASSIGNED NUMBER Loop TRN02 (TRN01=2) Referenced Transaction Trace Numbers <ul style="list-style-type: none"> <li>- Line 763 from *1* to *2*</li> <li>- 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)</li> <li>- Line 1230 from *1* to *2*</li> </ul>
1.0	3/6/2012	ONC	Finalized for Production Publication

**Document Approval**

Version	Date	Approved By	Role
0.0.4.40	1/19/2012	Melanie Combs-Dyer	Deputy Director CMS / OFM / Provider Compliance Group
0.0.4.40	3/1/2012	NHIN Coordinating Committee	Approves NHIN Specifications for Production Use



## Table of Contents

1		
2		
3	<b>1</b>	<b>PREFACE .....12</b>
4	1.1	INTRODUCTION .....12
5	1.2	INTENDED AUDIENCE .....12
6	1.3	BUSINESS NEEDS SUPPORTED.....13
7	1.4	REFERENCED DOCUMENTS AND STANDARDS .....13
8	1.4.1	Org/SDO name: HITSP .....13
9	1.4.2	Org/SDO name: NHIN.....14
10	1.4.3	Org/SDO name: NHIN.....14
11	1.4.4	Org/SDO name: ASCX12.....14
12	1.4.5	Org/SDO name: NIST/FEDERAL INFORMATION PROCESSING STANDARDS (FIPS 140-2).....15
13	1.4.6	Org/SDO name: CMS / CMS Information Security ARS - CMSR Moderate Impact Level Data.....15
14	1.4.7	Org/SDO name: NHIN.....16
15	1.4.8	Org/SDO name: CAQH CORE.....16
16	1.5	RELATIONSHIP TO OTHER NHIN SPECIFICATIONS .....16
17	<b>2</b>	<b>PROFILE DEFINITION .....17</b>
18	2.1	DESIGN PRINCIPLES AND ASSUMPTIONS .....17
19	2.2	TECHNICAL PRE-CONDITIONS .....18
20	2.3	TECHNICAL POST-CONDITIONS .....18
21	<b>3</b>	<b>NHIN EXCHANGE OF ESMD DATA IN 275 FORMAT.....18</b>
22	3.1	IMPLEMENTATION SPECIFICATION FOR 275 .....18
23	3.2	SUBMISSION SPECIFICATIONS .....19
24	3.3	ESMD PHASE II CAQH CORE AND X12 METADATA .....21
25	3.3.1	Submission Set Package level attribute metadata (in combination of Phase II CAQH CORE
26		Connectivity Rule Version 2.2.0 & ASC X12 275 attributes) for CAQH CORE Connectivity Rule Version 2.2.0
27		and ASC X12 275 Transaction .....21
28	3.3.2	Document Attribute metadata (in combination of Phase II CAQH CORE Connectivity Rule Version
29		2.2.0, ASC X12 275 and HITSP C62 attributes) with in X12 275 BIN Segment.....26
30	3.4	ESMD 275 CONTEXT OVERVIEW .....32
31	3.5	ACKNOWLEDGEMENTS .....33
32	3.5.1	Communication between HIH and CMS esMD Gateways.....35
33	3.6	ERROR CODES .....40
34	3.7	277 HEALTH CARE CLAIM REQUEST FOR ADDITIONAL DOCUMENTATION REQUEST (ADR) LETTER .....41
35	<b>4</b>	<b>APPENDICES A – X12 HITSP C62/HL7 CDA PDF PAYLOAD MESSAGES.....42</b>
36	4.1	SAMPLE ESMD 275 WITH TRUNCATED ENCODED HL7 CDA/C62 MESSAGE .....42
37	4.2	SAMPLE ESMD 275 ANNOTATED 275 PATIENT INFORMATION (005010X210).....44
38	4.3	TA1 TRANSACTION (IN CASE OF INTERCHANGE OF THE FILE IS REJECTED) .....47
39	4.4	999 TRANSACTION WITH X12 STANDARD SYNTAX AND X12 IMPLEMENTATION GUIDE ERRORS.....48
40	4.5	824 APPLICATION ADVICE - POSITIVE ACKNOWLEDGMENT FROM NHIN GATEWAY TO HIH. ....50
41	4.6	824 APPLICATION ADVICE FORWARDED ACKNOWLEDGMENT FROM NHIN GATEWAY TO HIH. ....52
42	<b>5</b>	<b>APPENDIX B - SOAP ENVELOPE SAMPLES .....54</b>
43	5.1	ASC X12 275 BATCH SUBMISSION MESSAGE WITH HL7/CDA/PDF (X12 DEFERRED DOCUMENT
44		SUBMISSION REQUEST) .....54
45	5.2	X12 275 BATCH SUBMISSION RESPONSE MESSAGE (X12 DEFERRED DOCUMENT SUBMISSION RESPONSE) 63
46	5.3	X12 824 APPLICATION ADVICE FORWARDED ACKNOWLEDGMENT (X12 DEFERRED DOCUMENT
47		SUBMISSION REQUEST FROM CMS GATEWAY TO HIH) .....64
48	5.4	X12 275 – 999 BATCH SUBMISSION ACKNOWLEDGEMENT RESPONSE MESSAGE.....68



49 5.5 X12 TA1 RESPONSE (IN CASE OF INTERCHANGE OF THE FILE IS REJECTED) .....69  
50 5.6 APPENDIX F- GLOSSARY .....72  
51 5.7 APPENDIX B- ACRONYMS.....76

52

53

**List of Tables**

54 Table 1: esMD Specifications ..... 17  
55 Table 2: Loop ID & Transaction Participants ..... 19  
56 Table 3: Submission Set Metadata Elements ..... 21  
57 Table 4: Document Metadata Elements..... 26  
58 Table 4: esMD 275 Standards ..... 33  
59 Table 5: Annotated 275 Transaction Set..... 44

60

61

62

**List of Figures**

63

64 Figure 1: Interchange Control Structure ..... 33  
65 Figure 2: CAQH CORE Connectivity Rule II (Version 2.2.0) - SOAP Envelope over HTTP..... 34  
66 Figure 3: NHIN CAQH CORE X12 Deferred Document Submission (using three CAQH CORE Connectivity  
67 *Generic Batch* message interactions) Communication with Multiple SOAP over HTTP/S Connections..... 39

68

69

70



71

## 72 1 Preface

### 73 1.1 Introduction

74 For 2009 the Medicare fee-for-service (FFS) program made an estimated \$35.4 billion in  
75 improper payments. Medicare review contractors compare the claims submitted by Medicare  
76 providers against entries in medical records to measure, prevent, and correct improper payments.  
77

- 78 • **RACs identify and correct improper payments.** Recovery Audit Contractors  
79 (RACs) conduct post-payment review by comparing information from medical records to  
80 Medicare claims. The Centers for Medicaid & Medicare Services (CMS) estimates that  
81 RACs will request over 1 million medical records from providers each year.  
82
- 83 • **MACs prevent improper payments.** Medicare Administrative Contractors  
84 (MACs) conduct pre-payment and post-payment reviews of Medicare FFS claims. CMS  
85 estimates that MACs will request several thousand medical records per year.

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

92 More details about esMD data exchange can be found at <https://www.cms.gov/ESMD/> (Also see  
93 <http://exchange-specifications.wikispaces.com/CMS+esMD> and  
94 <http://wiki.siframework.org/esMD+Workgroup>).

### 95 1.2 Intended Audience

96 The primary audiences for this document include:

- 97 • Medicare review contractors that will receive medical documentation in esMD format  
98 sent by Health Information Handlers on behalf of Medicare providers,
- 99 • Developers of software that aim to assist Medicare review contractors in viewing and  
100 more efficiently processing documents received in esMD format,
- 101 • Health Information Handlers (HIHs) that will send medical documentation in esMD  
102 format to the Medicare review contractors on behalf of Medicare providers,
- 103 • Developers of Electronic Health Records (EHR) extraction software that assist HIHs  
104 more easily extract data from EHRs into the esMD format.

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



108

### 109 **1.3 Business Needs Supported**

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

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

- 115 • Communicate the data requirements necessary for EHR vendors to incorporate into the  
116 design and development of their EHR products, and
- 117 • Serve as the roadmap for HIHs such as Regional Health Information Organizations  
118 (RHIOs), Health Information Exchanges (HIEs), Release of Information (ROI) vendors,  
119 and claim clearinghouses to use on behalf of providers submitting documentation to  
120 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.”

121

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

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

### 129 **1.4 Referenced Documents and Standards**

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

#### 132 **1.4.1 Org/SDO name: HITSP**

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

135 **Version #:** v.1.1

136 **NHIN Deviations or Constraints:** None

137 **Underlying Specs:**

138 HL7 CDA – <http://www.hl7.org/implement/standards/cda.cfm>



139 CCD – <http://www.astm.org/index.shtml>  
140 CCR - <http://www.ccrstandard.com/>  
141 IHE – [http://www.ihe.net/Technical\\_Framework/index.cfm#IT](http://www.ihe.net/Technical_Framework/index.cfm#IT)  
142 HL7 – <http://www.hl7.org/Special/committees/structure/index.cfm>  
143 **Links:** <http://wiki.hitsp.org/docs/C62/C62-1.html>  
144 <http://wiki.hitsp.org/docs/T85/T85-1.html>  
145

146 **1.4.2 Org/SDO name: NHIN**  
147 **Reference # / Spec Name:** NHIN CAQH CORE X12 Document Submission  
148 **Specification**  
149 **Version #:** v.1.0 (or Current Version)  
150 **NHIN Deviations or Constraints:** None  
151 **Underlying Specs:** Phase II CORE 270: Connectivity Rule version 2.2.0  
152 **Links:** <http://exchange-specifications.wikispaces.com/CMS+esMD>  
153

154 **1.4.3 Org/SDO name: NHIN**  
155 **Reference # / Spec Name:** NHIN Authorization Framework Specification  
156 **Version #:** v.2.0/2.2  
157 **NHIN Deviations or Constraints:** None  
158 **Underlying Specs:** NHIN Authorization Framework Specification 2\_2  
159 **Links:**  
160 [http://healthit.hhs.gov/portal/server.pt/gateway/PTARGS\\_0\\_11673\\_910545\\_0\\_0\\_18/](http://healthit.hhs.gov/portal/server.pt/gateway/PTARGS_0_11673_910545_0_0_18/NHIN_Autho_rizationFrameworkProductionSpecification_v2.0.pdf)  
161 [NHIN Autho\\_rizationFrameworkProductionSpecification v2.0.pdf](http://healthit.hhs.gov/portal/server.pt/gateway/PTARGS_0_11673_910545_0_0_18/NHIN_Autho_rizationFrameworkProductionSpecification_v2.0.pdf)  
162

163 **1.4.4 Org/SDO name: ASCX12**  
164 **Reference # / Spec Name:** ASC X12N/005010X210 (275)  
165 **Reference # / Spec Name:** ASCX12/00510X231 (999)  
166 **Reference # / Spec Name:** ASCX12/00510X186 (824)  
167 **Reference # / Spec Name:** ASCX12/00510X186A1 (824 errata)  
168 **Version #:** Version 5, Release 1 (September 2007 Final)  
169 **NHIN Deviations or Constraints:** None  
170 **Underlying Specs:** ASC X12 005010



171 **Links:** <http://www.wpc-edi.com/registry>  
172 <http://store.x12.org/store/healthcare-5010-original-guides> (999)  
173 <http://store.x12.org/store/healthcare-5010-original-guides> (824)

174  
175 *\*Note: There is a fee for the 999 and 824 Implementation Guides.*

177 **1.4.5 Org/SDO name: NIST/FEDERAL INFORMATION PROCESSING STANDARDS**  
178 **(FIPS 140-2)**

179 **Reference # / Spec Name:** Security Requirements for CRYPTOGRAPHIC Modules  
180 **Version #:** FIPS PUB 140-2

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

200  
201 **Underlying Specs:** None

202 **Links:** <http://csrc.nist.gov/publications/fips/fips140-2/fips1402.pdf>

204 **1.4.6 Org/SDO name: CMS / CMS Information Security ARS - CMSR Moderate Impact**  
205 **Level Data**

206 **Reference # / Spec Name:** Appendix B - CMSR Moderate Impact Level Data  
207 **Version #:** CMS-CIO-STD-SEC01-1.0





208 **NHIN Deviations or Constraints:** All cryptographic modules used by HIHs must  
209 adhere to FIPS 140-2 Compliance criteria and utilize TLS. The FIPS 140-2 is a CMS  
210 standard that provides a benchmark for implementing the cryptographic module.

211 **Underlying Specs:** <http://csrc.nist.gov/publications/fips/fips140-2/fips1402.pdf>

212 **Links:**

213 [http://www.cms.gov/informationsecurity/downloads/ARS App B CMSR Moderate](http://www.cms.gov/informationsecurity/downloads/ARS_App_B_CMSR_Moderate)  
214 [.pdf](#) (See section Appendix B, SC13-1)

216 **1.4.7 Org/SDO name:** NHIN

217 **Reference # / Spec Name:** NHIN Messaging Platform Specification

218 **Version #:** v.2.0

219 **NHIN Deviations or Constraints:** None

220 **Underlying Specs:** None

221 **Link:**

222 [http://healthit.hhs.gov/portal/server.pt/document/910523/nhin\\_messagingplatformp](http://healthit.hhs.gov/portal/server.pt/document/910523/nhin_messagingplatformp)  
223 [roductionspecification v2 0 pdf](#)

225 **1.4.8 Org/SDO name:** CAQH CORE

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

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

228 **NHIN Deviations or Constraints:**

- 229
  - Use of TLS 1.0 as per Messaging Platform Specification
  - 230 ▪ Use of SAML Assertions as per Authorization Framework Specification

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

232 **Link:** <http://www.caqh.org/COREv5010.php>

## 234 **1.5 Relationship to other NHIN Specifications**

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

- 236
  - **Messaging Platform** – specifies a base set of messaging standards and web service  
237 protocols which must be implemented by each NHIN node and applies to all transactions.  
238 All NHIN inter-nodal messages are Simple Object Access Protocol (SOAP) messages  
239 over Hypertext Transfer Protocol (HTTP) using web services, must be encrypted and  
240 digitally signed.



- 241 • **Authorization Framework** – defines the exchange of metadata used to characterize each  
 242 NHIN request. The purpose of that exchange is to provide the responder with the  
 243 information needed to make an authorization decision for the requested function. Each  
 244 initiating message must convey information regarding end user attributes and  
 245 authentication using Security Assertion Markup Language (SAML) 2.0 assertions.  
 246 Together, the Messaging Platform and the Authorization Framework define the  
 247 foundational messaging, security, and privacy mechanisms for the NHIN.
- 248 • **Document Submission** – allows an initiating NHIN node to “push” claim-centric  
 249 Medicare supporting documents to another node. The esMD profile specifies use of this  
 250 mechanism for the submission of the medical documentation electronic transmission data  
 251 from healthcare providers to CMS.

252 **2 Profile Definition**

253  
 254 This profile defines how esMD program data may be submitted by healthcare providers to the  
 255 U.S. CMS using the NHIN. The profile also describes how feedback pertaining to these  
 256 submissions may be sent by CMS to healthcare providers.

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

- 258 • Medicare review contractors that desire to receive all data in a structured format to  
 259 facilitate the review of Medicare claims, and
- 260 • Many HIHs that still retain some patient records in an unstructured format (i.e., imaged  
 261 PDF files).

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

264  
 265 **Table 1: esMD Specifications**

Name of Specification	Purpose	Structured or Unstructured	What Section in this Document
HITSP/C62	For submitting <b>any type</b> of documentation in PDF format	Unstructured	Please see document at:  Section 1.4 – Referenced Documents and Standards
275	For submitting <b>any type</b> 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.	Unstructured	Section 3

267 **2.1 Design Principles and Assumptions**



268 The following assumptions or design principles underlie this profile:

- 269 • **The provider decides what to submit.** In both the current paper process and the new  
270 esMD process, the Medicare review contractor does not specify what the provider must  
271 send. It is up to the provider to decide which documents to send. This often includes  
272 discharge summaries, progress notes, orders, radiology reports, lab results, etc.
- 273 • **The esMD initial Phase I program will allow providers to send unstructured  
274 documents and in later Phase 1 will allow providers to send structured and  
275 unstructured documents.** (Only imaged documents in PDF format).
- 276 • **One Way Transmission: Provider-to-Review Contractor.** The esMD Phase I  
277 program will be unidirectional (provider-to-Medicare review contractor). Future phases  
278 will allow the Medicare review contractor to send the documentation request letter to the  
279 provider electronically.
- 280 • **Each package must contain documentation about a single Medicare claim.**  
281 Throughout this profile, the term “package” will be used to refer to one or more  
282 documents associated with a single Medicare claim. Each package can contain multiple  
283 documents so long as all documents are related to the same beneficiary/claim. The  
284 technical term for a package is a “SOAP message.”

## 285 2.2 Technical Pre-conditions

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

## 288 2.3 Technical Post-conditions

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

291

## 292 3 NHIN Exchange of esMD Data in 275 Format

293 This profile utilizes the NHIN Document Submission service interface specifications.

### 294 3.1 Implementation Specification for 275

295

296 The esMD will follow the ASC X12 Additional Information to Support a Health Care Claim or  
297 Encounter (275) TR3 Implementation Guide (ASC X12N/005010X210, September 2007 Final)  
298 without modification. This 275 Implementation Guide is available for purchase at  
299 <http://store.x12.org/store/healthcare-5010-original-guides>. The purpose of this  
300 implementation guide is to provide standardized data requirements and content to all users of the  
301 ASC X12 Patient Information (275) Transaction Set that focuses on the use of the 275 to send  
302 additional information about a Medicare claim or encounter. This implementation guide provides  
303 a detailed explanation of the transaction set by defining uniform data content, identifying valid  
304 code tables, and specifying values applicable for the business use of conveying Additional  
305 Information to Support a Health Care Claim or Encounter (275). This implementation guide



306 describes a solution that includes the encapsulation of a Health Level Seven (HL7) Standard  
307 within the 275 transaction to support the exchange of clinical data.

### 308 3.2 Submission Specifications

309  
310 This profile describes how to use 275 format to foster submission of medical documentation  
311 requested by the Medicare review contractor. This profile:

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

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

318  
319 **Document submission specifications shall conform to the 275 transmissions except as noted**  
320 **below.**

#### 321 The BGN Segments

322 The Beginning Segment (BGN) indicates the transaction use.

- 323
- 324
- 325
- 326 • BGN01, the Transaction Set Purpose Code must be “11” that indicates that this 275 is a  
327 response to a **277 Request for Additional Information**. In esMD, Request for Additional  
328 Information equates to the Additional Documentation Request (ADR) letter sent by the  
329 review contractor to a provider.
- 330
- 331 • A value of “02” indicating an unsolicited 275 is not supported by this profile.
- 332
- 333

334 The following is an example of the transaction header segments.

335  
336 **BGN\*11\*1\*20060724~**

337  
338 Table 2 of the 275 consists of Loop ID 1000 which is repeated four times to define the  
339 participants involved in the transaction. The transaction participants must be in the following  
340 order:

341  
342 **Table 2: Loop ID & Transaction Participants**

<u>Loop ID</u>	<u>Loop Name</u>
<u>1000A</u>	<u>Payer Name</u>
<u>1000B</u>	<u>Submitter Information</u>



<u>Loop ID</u>	<u>Loop Name</u>
1000C	<u>Provider Name Information</u>
1000D	<u>Patient Name</u>

344  
345 1. **1000A Payer Name** - This entity is the decision maker in the business transaction. In this  
346 profile, this shall be the CMS-assigned Organization ID (OID) for the RAC or MAC that  
347 is intended to receive the submission.

348  
349 2. **1000B Submitter Information** - This entity is the sender of the transaction. For this  
350 business use, this entity is the HIH. A provider may choose to act as its own HIH (i.e., be  
351 the submitter). The submitter’s email address is optional data that can be reported. If  
352 reported, the Payer Contact Information segment (PER) may be used in the 1000C  
353 Provider Name Information loop. The PER segment, if used, would be after the Provider  
354 Taxonomy Information segment (PRV) and before the Provider Secondary Identification  
355 segment (REF).

356  
357 The PER segment, data element 01, will be the value of IC with data element 02  
358 including the Provider Contact name. The PER segment, data element 03, will be the  
359 value of EM with data element 04 including the submitter’s email address.

360  
361 3. **1000C Provider Name Information** - This entity is the provider of the health care  
362 service. In this profile, the National Provider Identifier (NPI) number of the provider  
363 shall be reported in the 1000C loop in the NM109 data element.

364  
365 The following is an example of the Provider loop with the submitter’s email address  
366 segment:

367  
368 NM1\*1P\*2\*ABC Provider Group\*\*\*\*\*XX\*1599999998~  
369 PRV\*BI\*PXC\*506TY34888~  
370 PER\*IC\*Jane Smith\*EM\*ABCPROVIDER@GROUP.COM~

371  
372 4. **1000D Patient Name** - This is the person who received the services. The additional  
373 information is being sent to support the beneficiary/claim or encounter related to those  
374 services.

375  
376 The following constraints apply to the 275 attachments:

- 377  
378 a. The attached clinical information must be in .pdf format.  
379 b. At least one file must be attached to a 275.  
380 c. Multiple files may be attached to a 275. However, all documents in a 275 must relate to a  
381 single beneficiary/claim. Multiple documents can be attached by repeating the LX loop  
382 for each additional file.



- 383 d. The 275 transaction only supports sending documentation for one claim/one patient. Each
- 384 response for a claim must be sent in a separate 275 transaction. Since this is intended to
- 385 be a real time process, a separate transmission will be required for each 275 transaction.
- 386 e. Any PDF file must be binary base64 encoded.
- 387

**3.3 esMD Phase II CAQH CORE and X12 Metadata**

390 The submitter HIH shall include the following Submission Set Package level attribute metadata  
 391 (in combination with Phase II CAQH CORE & ASC X12 275 attributes) and Document  
 392 Attribute metadata (in combination with Phase II CAQH CORE, ASC X12 275 and HITSP C62  
 393 attributes) elements for transactions submitted to the CAQH CORE X12 esMD Gateway in  
 394 addition to other required elements from the ASC X12 275 TR3 Implementation Guide  
 395 X12N/005010X210 Additional Information and NHIN CAQH CORE X12 Document  
 396 Submission to Support various esMD functionality in a Health Care Claim or Encounter (275).  
 397

**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 3: Submission Set Metadata Elements**

S. No	esMD X12 SubmissionSet Metadata Slot Attribute	Definition	esMD R/R2 /O	CAQH CORE Connectivity Rule Metadata	ASC X12 275 Transaction Metadata (005010X210)- Loop and Segment
1	urn:nhin:esMD: ClaimId	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.	R		Loop 1000D Patient Name Loop REF02 (REF01 = EJ) Patient Account Number
2	urn:nhin:esMD: CaseId	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.	R2		Loop 2000A — ASSIGNED NUMBER Loop TRN02 (TRN01=2) Referenced Transaction Trace Numbers
3	Urn:nhin:esMD: MedicalRecordId	This is X12 Specific Medical Record Identifier and is optional at the phase1 and 2 of the esMD	R2		Loop 1000D Patient Name Loop REF02 (REF01 = EA) Medical Record Identification Number (R2)



S. No	esMD X12 SubmissionSet Metadata Slot Attribute	Definition	esMD R/R2 /O	CAQH CORE Connectivity Rule Metadata	ASC X12 275 Transaction Metadata (005010X210)- Loop and Segment
		<p>implementation.</p> <p>This is an additional field compared to the esMD XDR Profile.</p>			
4	IntendedRecipient	<p>Intended Recipient represents the organization(s) or person(s) for whom the Document Submission set is intended.</p> <p>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.</p>	R		<p>Loop: 1000A — Payer Name</p> <p>NM109 (NM108 = “PI” Payor Identification</p>
5	Author	<p>This is at the X12 Level.</p> <p>Note: Not at the Document level.</p> <p>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:</p> <p>authorInstitution authorPerson</p>	R		<p>Loop: 1000C — Provider Name Information</p> <p>NM109 (NM108 = “XX” CMS NPI</p>



S. No	esMD X12 SubmissionSet Metadata Slot Attribute	Definition	esMD R/R2 /O	CAQH CORE Connectivity Rule Metadata	ASC X12 275 Transaction Metadata (005010X210)- Loop and Segment
5.1	authorInstitution (sub-attribute of author)	<p>This is at the X12 Level.</p> <p>Note: Not at the Document level.</p> <p>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.</p> <p>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.</p> <p>Please note: At the SubmissionSet level either the authorInstitution or authorPerson attribute shall be used but never both.</p>	R2		<p>Loop: 1000C — Provider Name Information</p> <p>NM109 (NM108 = “XX” CMS NPI)</p>
5.2	authorPerson (sub-attribute of author)	<p>This is at the X12 Level.</p> <p>Note: Not at the Document level.</p> <p>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.</p>	R2		<p>Loop: 1000C — Provider Name Information</p> <p>NM109 (NM108 = “XX” CMS NPI)</p>





S. No	esMD X12 SubmissionSet Metadata Slot Attribute	Definition	esMD R/R2 /O	CAQH CORE Connectivity Rule Metadata	ASC X12 275 Transaction Metadata (005010X210)- Loop and Segment
		<p>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.</p> <p>Please note: At the SubmissionSet level either the authorInstitution or authorPerson attribute shall be used but never both.</p>			
6	comments	<p>Comments associated with the SubmissionSet in a free form text format.</p> <p>There is no comment in either Phase II CAQH CORE Connectivity Rule or ASC X12 275.</p>	O		
7	contentTypeCode	<p>The submission set is a response to ADR from the review contractor. The ContentTypeCode is the code that specifies this – a Response to ADR.</p>	R		BGN01 = 11
8	sourceId (aka - HII Home Community ID (OID))	<p>Globally unique identifier, in OID format, identifying the HII Gateway through which document(s) were sent to the CMS esMD Gateway.</p>	R	<SenderID>HII H OID </SenderID>	ISA06 Sender ID
9	Organization ID (OID)	<p>Metadata segment to contain the OID of any organization intermediate (broker handling) between provider and the HII, who will be submitting</p>	O	Not mapped and not identified in the X12 World.	Not mapped and not identified in the X12 World.



S. No	esMD X12 SubmissionSet Metadata Slot Attribute	Definition	esMD R/R2 /O	CAQH CORE Connectivity Rule Metadata	ASC X12 275 Transaction Metadata (005010X210)- Loop and Segment
		on behalf of the provider through the gateway. Limited in length to 64 characters, and made up of characters from the set [0-9.]. It must start with an integer, and is followed by one or more additional integer values, separated by periods. Integers are represented without leading 0 digits unless the value is zero. Example - 1.3.6.1.4.1.21367.2005.3.7			
10	submissionTime	Point in Time when the SubmissionSet was created at the HIIH CONNECT Adapter level	R	<TimeStamp> 2007-08-30T10:20:34Z </TimeStamp>	
11	title	Represents the title of the Submission Set. The esMD Title for the Document SubmissionSet shall be 'Claim Supporting Medical Documentation'.	O	Title is not identified in either CAQH CORE or ASC X12 metadata. If needed, then get the details from HITSP C62 <title> tag.	
12	Hash Key	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.	R		ST-Transaction Set Header, 2 <sup>nd</sup> Data Element (ST02) Transaction Control Number



S. No	esMD X12 SubmissionSet Metadata Slot Attribute	Definition	esMD R/R2 /O	CAQH CORE Connectivity Rule Metadata	ASC X12 275 Transaction Metadata (005010X210)- Loop and Segment
13	uniqueId	A globally unique identifier, in OID format, assigned by the HIH to the submission set in the transmission. The length of this Unique Identifier shall not exceed 128 bytes.	R	<PayloadID>f81d4fae-7dec-11d0-a765-00a0c91e6bf6</PayloadID>	

404

405 **3.3.2 Document Attribute metadata (in combination of Phase II CAQH CORE**  
 406 **Connectivity Rule Version 2.2.0, ASC X12 275 and HITSP C62 attributes) with in**  
 407 **X12 275 BIN Segment**

408

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

411

412

413

414

**Table 4: Document Metadata Elements**

S. No	esMD XDR Metadata Attribute	Definition	esMD R/R2/O	Source from ASC X12 / HITSP C62	ASC X12 275 Loop and Segment / HITSP C62
1	author authorInstitution (sub-attribute of author)	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	R2	X12 275 (005010X210)  HITSP C62	Loop 2110B BIN Segment  HITSP C62  <ClinicalDocument> <Author>  Note: The author may not necessarily be the same provider identified in the provider loop (1000C) in the 275 transaction.
1.1	authorInstitution (sub-attribute of author)	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	R2	X12 275 (005010X210)  HITSP C62	Loop 2110B BIN Segment  HITSP C62  <ClinicalDocument> <Author> <assignedAuthor>  <representedOrganization >



S. No	esMD XDR Metadata Attribute	Definition	esMD R/R2/O	Source from ASC X12 / HITSP C62	ASC X12 275 Loop and Segment / HITSP C62
		be used but never both.			<id>  Note: If a provider practices for more than one facility, the authorInstitution should be modified to required.
1.2	authorPerson (sub-attribute of author)	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.	R2	X12 275 (005010X210)  HITSP C62	Loop 2110B BIN Segment  HITSP C62  <ClinicalDocument> <Author> <assignedAuthor> <id>
2	classCode	The code that specifies the particular kind of document.	R	X12 275 (005010X210)  HITSP C62	Loop 2110B BIN Segment  HITSP C62  <ClinicalDocument> <code>  Logical Observation Identifiers Names and Codes (LOINC)  Mapped from typeCode below, see HITSP C80
3	classCode DisplayName	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.	R	X12 275 (005010X210)  HITSP C62	Loop 2110B BIN Segment  HITSP C62  <ClinicalDocument> <title>  Mapped from LOINC Display Name for classCode
4	comments	Comments associated with the Document in a free form text format.	O	X12 275 (005010X210)  HITSP C62	Loop 2110B BIN Segment  HITSP C62  <ClinicalDocument>



S. No	esMD XDR Metadata Attribute	Definition	esMD R/R2/O	Source from ASC X12 / HITSP C62	ASC X12 275 Loop and Segment / HITSP C62
					<component> <nonXMLBody> <text> <paragraph>
5	confidentialityCode	The code specifying the level of confidentiality of the Document.	R	X12 275 (005010X210)  HITSP C62	Loop 2110B BIN Segment  HITSP C62  <ClinicalDocument>  <confidentialityCode>  Confidentiality Codes found in HITSP
6	creationTime	Represents the time the HIH created the document.	R	X12 275 (005010X210)	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
7	entryUUID	A unique ID or a globally unique identifier for each document in the Submission Set.	R	X12 275 (005010X210)  HITSP C62	ISA13 Interchange Control Number GS06 Functional Group Control Number ST03 Transaction Set Control Number Loop 2110B BIN Segment  HITSP C62  <ClinicalDocument> <id>
8	formatCode	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	R	X12 275 (005010X210)	Loop 2100B CAT  Category of Patient Information Service CAT02 (HL- HL7) CAT03



S. No	esMD XDR Metadata Attribute	Definition	esMD R/R2/O	Source from ASC X12 / HITSP C62	ASC X12 275 Loop and Segment / HITSP C62
					Version Identifier
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)  HITSP C62	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)  HITSP C62	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)  HITSP C62	Loop 2110B BIN Segment HITSP C62  <ClinicalDocument> <languageCode>
13	contentType	MIME type of the document.	R	X12 275 (005010X210)  HITSP C62	Loop 2110B BIN Segment HITSP C62  (mime) Content-Type  Fixed to text/xml since C62 is always of that MIME type.



S. No	esMD XDR Metadata Attribute	Definition	esMD R/R2/O	Source from ASC X12 / HITSP C62	ASC X12 275 Loop and Segment / HITSP C62
14	patientId	<p>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:</p> <p>CMS OID.esMDClaimID</p> <p>Please, note: this value shall be the same as the one used at the Submission Set level.</p>	R	X12 275 (005010X210)	<p>Loop 1000D Patient Name Loop REF02 (REF01 = EJ) Patient Account Number REF02 (REF01 = EA) Medical Record Identification Number (R2)</p>
15	practiceSettingCode	<p>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.</p> <p>Any possible value assigned by the sender will be accepted.</p>	R	X12 275 (005010X210)  HITSP C62	<p>Loop 2110B BIN Segment  HITSP C62</p> <p>&lt;ClinicalDocument&gt; &lt;componentOf&gt; &lt;encompassingEncounter &gt; &lt;location&gt; &lt;healthCareFacility&gt; &lt;code&gt;</p>
16	practiceSettingCode DisplayName	<p>The name to be displayed for communicating to a human the meaning of the practiceSettingCode. Shall have a single value corresponding to the practiceSettingCode.</p> <p>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.</p>	R	X12 275 (005010X210)  HITSP C62	<p>Loop 2110B BIN Segment  HITSP C62</p> <p>&lt;ClinicalDocument&gt; &lt;componentOf&gt; &lt;encompassingEncounter &gt; &lt;location&gt; &lt;healthCareFacility&gt;</p>



S. No	esMD XDR Metadata Attribute	Definition	esMD R/R2/O	Source from ASC X12 / HITSP C62	ASC X12 275 Loop and Segment / HITSP C62
17	serviceStartTime	<p>Represents the start time of the provider service being documented.</p> <p>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.</p>	R	<p>X12 275 (005010X210)</p> <p>HITSP C62</p>	<p>Loop 2110B BIN Segment</p> <p>HITSP C62</p> <p>&lt;ClinicalDocument&gt; &lt;DocumentationOf&gt; &lt;ServiceEvent&gt; &lt;effectiveTime&gt;</p>
18	serviceStopTime	<p>Represents the stop time of the provider service being documented.</p> <p>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.</p>	R	<p>X12 275 (005010X210)</p> <p>HITSP C62</p>	<p>Loop 2110B BIN Segment</p> <p>HITSP C62</p> <p>&lt;ClinicalDocument&gt; &lt;DocumentationOf&gt; &lt;ServiceEvent&gt; &lt;effectiveTime&gt;</p>
19	size	<p>Size in bytes of the C62 attachment byte stream that was provided through the request.</p>	R	<p>X12 275 (005010X210)</p>	<p>Loop 2110B BIN Segment</p> <p style="text-align: right;">BIN01 Length of Binary Data</p>
20	title	<p>Represents the title of the document. Max length shall be 128 bytes in UTF-8 format.</p>	O	<p>X12 275 (005010X210)</p> <p>HITSP C62</p>	<p>Loop 2110B BIN Segment</p> <p>HITSP C62</p> <p>&lt;ClinicalDocument&gt; &lt;title&gt; le if present, otherwise it can be derived from displayName for /ClinicalDocument/code</p>
21	typeCode	<p>The code specifying the precise kind of document (e.g., Claim Document Summary, ADR, ADMC, Progress Notes, Orders, Appeal Request).</p>	R	<p>X12 275 (005010X210)</p> <p>HITSP C62</p>	<p>Loop 2110B BIN Segment</p> <p>HITSP C62</p> <p>&lt;ClinicalDocument&gt; &lt;code&gt;</p>





S. No	esMD XDR Metadata Attribute	Definition	esMD R/R2/O	Source from ASC X12 / HITSP C62	ASC X12 275 Loop and Segment / HITSP C62
22	typeCodeDisplay Name	The name to be displayed for communicating to a human the meaning of the typeCode. Shall have a single value corresponding to the typeCode.	R	X12 275 (005010X210)  HITSP C62	Loop 2110B BIN Segment  HITSP C62  <ClinicalDocument> <title>  Mapped from LOINC Display Name for STC01- 2
23	uniqueId	A globally unique identifier assigned by the HIH to each document in the submission set. The length of the Unique Identifier shall not exceed 128 bytes. The structure and format of this ID shall be consistent with the specification corresponding to the format attribute. This ID will be generated based on the UUID.	R	X12 275 (005010X210)  HITSP C62	Loop 2110B BIN Segment  HITSP C62  <ClinicalDocument> <id>  Use /ClinicalDocument/id rather than any other mechanism to derive this.

415

416 **3.4 esMD 275 Context Overview**

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

421 **The documents must be attached according to the HL7 standard within the BIN Segment.**

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

426

427 In the initial implementation, submitters and responders shall always use a C62 payload as  
 428 defined by HITSP that can be unstructured data (UTF8 such as PDF as described in the first  
 429 paragraph).

430



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**Table 4: esMD 275 Standards**

esMD 275 Standards	Description
ASC X12N/005010X210	<p>This guide provides standardized data requirements and content to all users of ANSI ASC X12 <b>Patient Information (275) Transaction Set</b> 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 <b>Additional Information to Support a Health Care Claim or Encounter (275)</b>. 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>.</p>

434

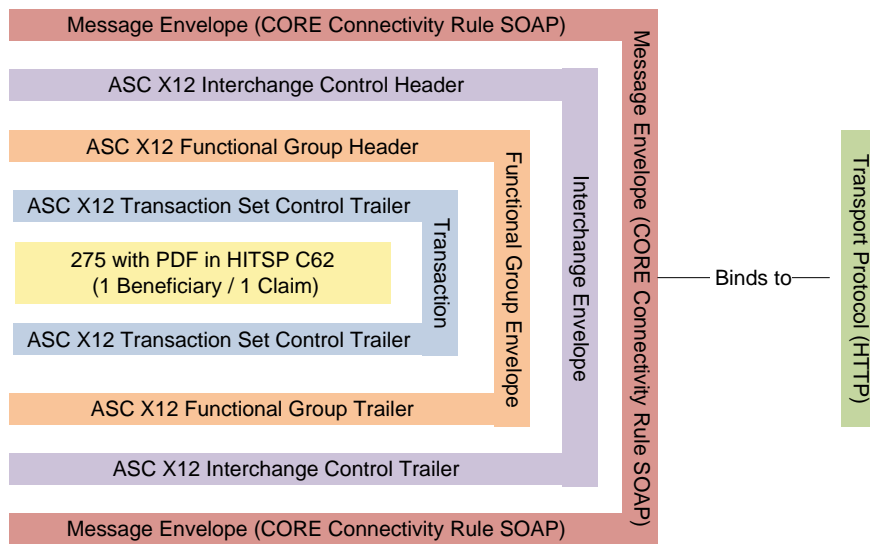
### 3.5 Acknowledgements

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436

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:

440  
441  
442

**Figure 1: Interchange Control Structure**

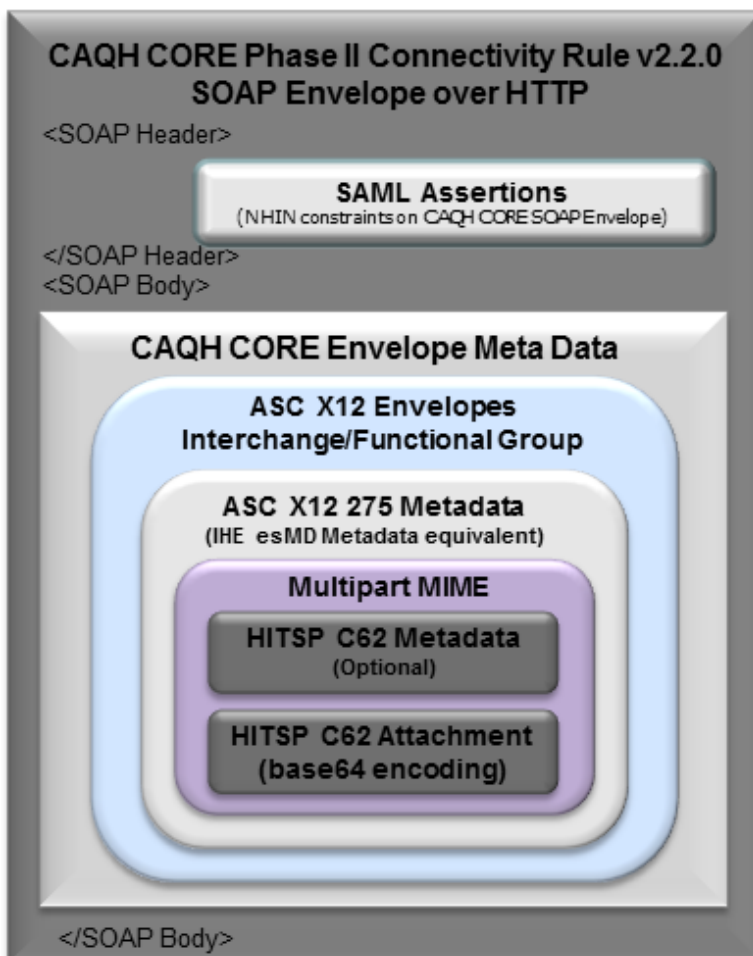


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1. HTTP Transport Protocol
2. Message Envelope (SOAP Envelope as defined within the CORE Connectivity Rule)
3. Interchange Envelope
4. Functional Group Envelope
5. Transaction Set Envelope



451  
452 **Figure 2: CAQH CORE Connectivity Rule II (Version 2.2.0) - SOAP Envelope over HTTP**  
453



454  
455  
456  
457 Level 1, Transport and Message (Envelope) is the transport protocol prescribed by the Phase II  
458 CORE 270: Connectivity Rule version 2.2.0 (<http://www.caqh.org/COREv5010.php>) which is  
459 outside the scope of the X12 275 TR3 (005010X210).  
460  
461 Level 2, 3 and 4 are all included in the X12 275 TR3 (005010X210).  
462  
463 Please see below for additional details.  
464  
465 Each of these four levels has an acknowledgment that is returned to the submitter acknowledging  
466 receipt and level of acceptance or rejection.  
467  
468 1. **Transport and Message (Envelope):** The transport protocol prescribed by the Phase II  
469 CORE 270: Connectivity Rule version 2.2.0 is HTTP/S over the public Internet. The  
470 processing and error codes for the HTTP Layer are defined as part of the HTTP



471 specifications [<http://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html>]. An exhaustive list  
472 of HTTP Status Codes and descriptions is included in the HTTP specification  
473 [<http://tools.ietf.org/html/rfc2616#section-6.1.1>]. An HTTP status code is always generated  
474 to indicate the appropriate status of the message (e.g., OK, Accepted, Bad Request,  
475 Forbidden, and Internal Server Errors). The reporting of message (envelope) processing  
476 errors required by the Phase II CORE 270: Connectivity Rule version 2.2.0 map to SOAP  
477 faults [<http://www.w3.org/TR/soap12-part1/#soapfault>]. To handle CORE-compliant  
478 envelope processing status and error codes, two fields called *ErrorCode* and *ErrorMessage*  
479 are included in the CORE-compliant Envelope. *ErrorMessage* is a free form text field that  
480 describes the error (for the purpose of troubleshooting/logging).

481  
482 2. **Interchange Envelope:** Interchange Acknowledgment (TA1) – The TA1 transaction shall  
483 only acknowledge the X12 Interchange (ISA/IEA) of the received file. The TA1 shall only be  
484 generated if the Interchange (ISA/IEA) of the file is rejected and the ISA14 value is equal to  
485 1. The TA1 is not generated if the Interchange (ISA/IEA) is accepted.

486  
487 3. **Functional Group Envelope:** Application Acknowledgment (999) – The 999 transaction  
488 shall only be generated when the received file is accepted at the TA1 level. The 999  
489 transaction will acknowledge the X12 standard syntax and X12 Implementation Guide errors.  
490 The 999 shall be generated for accepted as well as rejected files. Functional Group Envelope  
491 shall have one Transaction set with one 275 / HITSP C62.

492  
493 4. **Transaction Envelope:** Application Advice (824) – The 824 transaction shall only be  
494 generated when the received file is accepted at the TA1 and 999 levels. The 824 transaction  
495 will acknowledge any errors outside the scope of the 999 transaction and/or application  
496 system’s data content errors. The 824 will be able to acknowledge the X12 and HITSP C62  
497 pieces of the received files. The 824 shall be generated for accepted as well as rejected files.

### 498 3.5.1 Communication between HIIH and CMS esMD Gateways

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

502  
503 The Secure web service Transportation leverages *NHIN CAQH CORE X 12 Document*  
504 *Submission specification*. NHIN CAQH CORE X12 Document Submission handles the CAQH  
505 CORE Connectivity SOAP Envelope based on the *Generic Batch* message interaction pattern  
506 defined within the Phase II CORE 270: Connectivity Rule version 2.2.0. The NHIN CAQH  
507 CORE X12 Document Submission messages will be generated after successful Two-way TLS  
508 authentication (TLS Handshake) and SAML Assertion validation between the HIIH and CMS  
509 esMD Gateways. Otherwise, the SOAP Fault will be generated.

510  
511 Note: NHIN Deferred Mode Interaction can be supported using a sequence of three *Generic*  
512 *Batch* message interactions as defined within Phase II CORE 270: Connectivity Rule version  
513 2.2.0.



514 Note: Within the diagram below, there are 3 applications of CORE Connectivity Rule's *Generic*  
515 *Batch* message interaction, each consisting of a pair of request and corresponding response  
516 interactions (e.g., 1 and 1a).

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

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

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

533  
534 Following is the NHIN CAQH CORE X12 Document Submission Request with 275 X12  
535 Transaction and its Phase II CORE 270: Connectivity Rule version 2.2.0 *Generic Batch*  
536 mode Payload Type under step1:

- 537  
538
  - NHIN CAQH CORE X12 Document Submission Request - aka CAQH Generic  
539 Batch mode (Batch PayloadType= *X12\_275\_Request\_005010X210E1*)

540  
541 **1a.** The CMS esMD Gateway sends the HTTP/SOAP transport level acknowledgment  
542 response to the HIH CONNECT compatible gateway with Phase II CORE 270:  
543 Connectivity Rule version 2.2.0 service by using the same step1 secure HTTP  
544 connection.

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

- 549  
550
  - *(If no SOAP Fault) HTTP 200 Transmission/Transport Acknowledgement*  
551 *Response, with CORE Connectivity SOAP Envelope, (Batch PayloadType=X12\_*  
552 *BatchReceiptConfirmation)*
  - *(If SOAP Fault) HTTP 500 SOAP Fault Transmission / Transport*  
553 *Acknowledgement Response with CORE Connectivity SOAP Envelope (Batch*  
554 *PayloadType=CoreEnvelopeError)*



- 558           ▪ (*Payload Type=X12\_TA1\_Response in case of interchange rejected, if no*  
559           *X12\_TA1 then Payload Type= X12\_999\_Response in case of Implementation*  
560           *Guide Conformance error*)
- 561
- 562           ▪ TA1 Interchange Acknowledgment (if interchange is rejected) with  
563           PayloadType=X12\_TA1 and 999 transaction (if Implementation Guide  
564           conformance error) with PayloadType=X12\_999. Any errors that occur prior to  
565           the processing of the esMD metadata will be communicated via a SOAP fault.  
566           The SOAP action for the deferred X12 document submission request  
567           acknowledgement will be by leveraging the Phase II CORE 270: Connectivity  
568           Rule version 2.2.0 metadata elements.
- 569

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

574

575

576           **2. First Notification:** (NHIN CAQH CORE Connectivity X12 Document Submission  
577           Deferred Response using Phase II CORE 270: Connectivity Rule version 2.2.0's *Generic*  
578           *Batch* Message Interaction for esMD Gateway Processing status) - The CMS esMD  
579           Gateway establishes a new secure HTTP connection to the HIH CONNECT compatible  
580           gateway with Phase II CORE 270: Connectivity Rule version 2.2.0 service and submits  
581           the esMD X12 Document Submission deferred Response web service message (using the  
582           CAQH CORE Connectivity Rule version 2.2.0's *Generic Batch* Message Interaction).  
583           This response contains information related to Transaction 824 message for document  
584           Repository Delivery status along with its Processing of esMD metadata or Transaction  
585           999 error (if Implementation Guide conformance error or TA1 transaction error for  
586           interchange was rejected). The SOAP envelope, metadata and action for this deferred  
587           response will be determined by leveraging the Phase II CORE 270: Connectivity Rule  
588           version 2.2.0.

589

590           Based on following validations and processes, the system will generate an 824/999/TA1  
591           X12 transactions in the NHIN CAQH CORE Connectivity Rule based X12 document  
592           submission deferred (using the Phase II CORE 270: Connectivity Rule version 2.2.0's  
593           *Generic Batch* messaging interactions) response message and will be sent to the HIH  
594           CONNECT compatible gateway with Phase II CORE 270: Connectivity Rule version  
595           2.2.0 service from the CMS Gateway.

596

597           To correlate the request and response messages, the CAQH CORE Connectivity based  
598           SOAP envelope esMD response header shall have the HIH esMD application generated  
599           request unique ID for each submission, request message ID and, its esMD system  
600           generated transaction ID (in the case of successful OID validation) and processing  
601           Request Type like 'OID Authorization' or 'Delivery to ECM', and its esMD Processing  
602           status details.



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**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)*



- 647 • (If SOAP Fault) HTTP 500 SOAP Fault Transmission / Transport  
648 Acknowledgement Response (Batch PayloadType=CoreEnvelopeError)  
649
- 650 • **999** - If any conformance and validation errors related to Implementation Guide  
651 exist at the HIH gateway, then - ASC X12 EDI Response with 999 Application  
652 Acknowledgement (Batch PayloadType=X12\_999\_Response\_005010X231A1)  
653
- 654 • **TA1** - If interchange is rejected, then - TA1 Interchange Acknowledgement  
655 (Batch PayloadType = X12\_TA1\_Response\_00501X231A1)  
656  
657

658 *Note: X12 TA1 transaction Response is generated in case of interchange rejected. If no*  
659 *TA1, then X12 999 transaction Response is generated in the case of Implementation*  
660 *Guide Conformance error.*  
661

662

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

679

680 The possible NHIN CAQH CORE X12 Document Submission Requests with Phase II  
681 CORE 270: Connectivity Rule version 2.2.0 Generic Batch mode Payload Types for the  
682 second notification is same as step2:  
683  
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685 **Figure 3: NHIN CAQH CORE X12 Deferred Document Submission (using three CAQH**  
686 **CORE Connectivity *Generic Batch* message interactions) Communication with Multiple**  
687 **SOAP over HTTP/S Connections**  
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NHIN CAQH CORE Connectivity X12 Deferred Document Submission (using a sequence of CAQH CORE Connectivity *Generic Batch* Message Interactions) communication is to enable the ability to call an ASC X12 Transactions service on the server (esMD CMS Gateway) or send a message in a way that the HIH X12 esMD submitter (Client) is not blocking until the response has been given. The esMD X12 Profile implementation at CMS Gateway makes no assumption on the amount of time that may transpire and, in fact, should allow for long latency on the response. In some cases that could be hours or days. The main point here is that the X12 esMD submitter (Client) is able to move on to other things while the submission is being processed at the CMS Gateway server.

The following diagram depicts the flow and processing of the X12 acknowledgements.

### 3.6 Error Codes

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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:



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- X12 Acknowledgment For Health Care Insurance (999) Implementation Guide - ASC X12C/005010X231A1 - <http://store.x12.org/store/healthcare-5010-original-guides> Application Reporting for Insurance (824) Implementation Guide - ASC X12N/005010X186 - <http://store.x12.org/store/healthcare-5010-original-guides> Insurance Business Process Application Error Codes - All (Part of 824 Implementation Guide) - <http://store.x12.org/store/healthcare-5010-original-guides> Security and Transport Specifications for esMD 275 Documents

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.



742 **4 Appendices A – X12 HITSP C62/HL7 CDA PDF payload Messages**

743

744 **4.1 Sample esMD 275 with Truncated Encoded HL7 CDA/C62 Message**

745

746 *ISA\*00\* \*00\* \*28\*SSSSSS \*28\*PPPPP*  
747 *\*100811\*1213\*^\*00501\*100000001\*0\*P\*>~*  
748 *GS\*PI\*SSSSSS\*01001\*20100811\*1213\*100000001\*X\*005010X210~*  
749 *ST\*275\*100000001\*005010X210~*  
750 *BGN\*11\*00125\*20100811~*  
751 *NM1\*PR\*2\*HEALTH PAYER AMERICA\*\*\*\*\*PI\*PPPPP~*  
752  
753 *NM1\*41\*2\*ABBEY MEMORIAL MEDICAL CLN\*\*\*\*\*46\*SSSSSS~*  
754 *NM1\*1P\*1\*CURE\*KEN\*\*\*\*\*XX\*NNNNNNNNNN~*  
755 *NX1\*1P~*  
756 *N3\*9999A STEVE D SMITHY AVE~*  
757 *N4\*LOS ANGELES\*CA\*900332414~*  
758 *NM1\*QC\*1\*PATIENT\*SAMPLE\*H\*\*\*MI\*6910828~*  
759 *REF\*EJ\*458726-A1~*  
760 *REF\*BLT\*111~*  
761 *DTP\*472\*RD8\*20100720-20100724~*  
762 *LX\*1~*  
763 *TRN\*2\*XA728302~*  
764 *DTP\*368\*D8\*20100811~*  
765 *CAT\*AE\*MB\*CDA R2~ (IA for C62 and MB - HL7 CDA qualifier for image – Impl guide 275*  
766 *– page 90)*  
767 *EFI\*05~*  
768 *BIN\*29277\*Mime-version: 1.0*  
769 *Content-Type: multipart/mixed;*  
770 *boundary="###esMD Boundry String fro Example###"*  
771  
772 *--###esMD Boundry String fro Example###*  
773 *Content-Type: application/x-hl7-cda-level-one+xml*  
774 *Content-Transfer-Encoding: 7bit*  
775 *Content-Disposition: inline; filename=esMD\_Example.xml*  
776  
777 *<?xml version="1.0" encoding="utf-8"?>*  
778 *<ClinicalDocument classCode="DOCCLIN" moodCode="EVN" xmlns="urn:hl7-org:v3"*  
779 *xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"*  
780 *xsi:schemaLocation="urn:hl7-org:v3*  
781 *file:/D:/cd/hl7/cda/CDA\_R2\_NormativeWebEdition2005/infrastructure/cda/CDA.xsd">*  
782 *<typeId extension="POCD\_HD000040" root="2.16.840.1.113883.1.3"/>*  
783 *<id EX="XA728302" RT="2.16.840.1.113883.19.2744.1.1"/>*



```
784 <document_type_cd V="34106-5" DN="DISCHARGE SUMMARIZATION
785 NOTE"/>
786 <effectiveTime value="20100811" />
787 <author contextControlCode="OP" typeCode="AUT" >
788 <time value="20100811" />
789 <assignedAuthor classCode="ASSIGNED" >
790 <id extension="NNNNNNNNNN" root="2.16.840.1.113883.19.2744.1.3" />
791 <assignedPerson>
792 <name>
793 <given>Ken</given> <family>Cure</family> <suffix>MD</suffix>
794 </name>
795 </assignedPerson>
796 </assignedAuthor>
797 </author>
798 <recordTarget contextControlCode="OP" typeCode="RCT" >
799 <patientRole classCode="PAT" >
800 <id extension="6910828" root="2.16.840.1.113883.19.2744.1.2" />
801 <patient>
802 <name>
803 <given>Patient</given> <given>H</given> <family>Sample</family>
804 </name>
805 <administrativeGenderCode code="F" codeSystem="2.16.840.1.113883.5.1"
806 codeSystemName="AdministrativeGender" displayName="Female" />
807 <birthTime value="19320924" />
808 </patient>
809 </patientRole>
810 </recordTarget>
811 <body>
812 <nonXMLBody >
813 <text mediaType="application/pdf" representation="B64">
814 <REF
815 V="PHYSICIAN_HOSPITAL_DISCHARGE_SUMMARY_BASE64.txt"/>
816 </text>
817 </nonXMLBody>
818 </body>
819 </ClinicalDocument>
820
821 --###esMD Boundry String fro Example###
822 Content-Type: application/pdf
823 Content-Transfer-Encoding: base64
824 Content-Disposition: attachment;
825 filename=ADDITIONAL_DOCUMENTATION_REQUEST_BASE64.pdf
826
827 JVBERi0xLjQNJelLjz9MNCjYgMCBvYmoNPDwvTGluZWYyaXplZCAxL0wgMjAzNDUvTyA4L0
828 UgMTYxMDMvTiAxLlQgMjAxNzkuSCKEdhcnkuQmVhdHR5KS9DcmVhdG9yKFBTY3JpcHQ1
```



829 *LmRsbCBWZXJzaW9uIDUuMikvUHJvZHVjZXIoQWNyb2JhdCBEaXN0aWxsZXIgc0C4xLjAgXC*  
 830 *hXaW5kb3dzXCkplL01vZERhdGUoRDoyMDA4MDkw*  
 831 *--###esMD Boundry String fro Example###*  
 832 *~*  
 833 *SE\*19\*100000001~*  
 834 *GE\*1\*100000001~*  
 835 *IEA\*1\*100000001~*  
 836

**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 5: Annotated 275 Transaction Set**

X12 Segment	Annotated Data Elements
ISA*00* *00* *28*SSSSSS *28*PPPPP *100811*1213*^*00501*100000001*0*P*>~	<b>ISA</b> – Interchange Control Header Segment ID * - Data Element Separator <b>00</b> – No Authorization Information Present Qualifier <b>00</b> – No Security Information Present Qualifier <b>28</b> – Fiscal Intermediary ID Number Qualifier <b>SSSSSS</b> – Fiscal Intermediary ID Number <b>28</b> – Fiscal Intermediary ID Number Qualifier <b>PPPPP</b> – Fiscal Intermediary ID Number <b>100811</b> – Interchange Date (YYMMDD) <b>1213</b> – Interchange Time (HHMMSS) ^ - Repeating Data Element Separator <b>00501</b> – Interchange Control Version Number <b>100000001</b> – Interchange Control Number <b>0</b> – Interchange Requested Qualifier (none) <b>P</b> – Interchange Usage Indicator - Production > - Component Element Separator



X12 Segment	Annotated Data Elements
GS*PI*SSSSS*01001*20100811*1213*100000001*X*005010X210~	~ - Segment Terminator <b>GS</b> – Functional Group Header Segment ID <b>PI</b> – Functional ID Code (Patient Information) <b>SSSSSS</b> – Application Sender’s Code <b>01001</b> – Application Receiver’s Code <b>20100811</b> – Functional Group Date (CCYYMMDD) <b>1213</b> – Functional Group Time (HHMM) <b>100000001</b> – Functional Group Control Nbr <b>X</b> – Responsible Agency Code (ASC X12) <b>005010X210</b> – TR3 Identifier
ST*275*100000001*005010X210~	<b>ST</b> – Transaction Set Header Segment ID <b>275</b> – Transaction Set ID Code(Patient Info) <b>100000001</b> – Transaction Set Control Nbr <b>005010X210</b> – TR3 Identifier
BGN*11*00125*20100811~	<b>BGN</b> – Beginning Segment ID <b>11</b> – Transaction Set Purpose Code(solicited) <b>00125</b> – Transaction Set Ref Nbr <b>20100811</b> – Transaction Set Creation Date
NM1*PR*2*HEALTH PAYER AMERICA*****PI*PPPPP~	<b>NM1</b> – Individual/Org Name Segment ID <b>PR</b> – Entity ID Code(Payer) <b>2</b> – Entity Type Qual (non-person) <b>HEALTH PAYER AMERICA</b> – Payer’s Name <b>PI</b> – ID Code Qaul (Payer ID) <b>PPPPP</b> – Payer ID
NM1*41*2*ABBEY MEMORIAL MEDICAL CLN*****46*SSSSSS~	<b>NM1</b> - Individual/Org Name Segment ID <b>41</b> – Submitter Qualifier <b>2</b> – Entity Type Qual (non-person) <b>ABBEY MEMORIAL... -</b> Submitter’s Name <b>46</b> – ETIN Qualifier <b>SSSSSS</b> - ETIN
NM1*1P*1*CURE*KEN****XX*NNNNNNNNNN~	<b>NM1</b> - Individual/Org Name Segment ID <b>1P</b> – Entity ID Code(Provider) <b>1</b> – Entity Type Qual (person)



X12 Segment	Annotated Data Elements
	<b>CURE</b> – Provider Last (Org) Name <b>KEN</b> – Provider First Name <b>XX</b> – NPI Qualifier <b>NNNNNNNNNN</b> – NPI
NX1*1P~	<b>NX1</b> – Provider ID Segment ID <b>1P</b> – Entity ID Code(Provider)
N3*9999A STEVE D SMITHY AVE~	<b>N3</b> – Provider Address Segment ID <b>9999A STEVE D SMITHY AVE</b> – Provider Addr
N4*LOS ANGELES*CA*900332414~	<b>N4</b> – Provider City/ST/Zip Segment ID <b>LOS ANGELES</b> - City <b>CA</b> – State Code <b>900332414</b> – Zip + Four
NM1*QC*1*PATIENT*SAMPLE*H***MI*6910828~	<b>NM1</b> - Individual/Org Name Segment ID <b>QC</b> – Entity Type Qual (patient) <b>1</b> – Entity Type Qual (person) <b>PATIENT</b> – Last Name <b>SAMPLE</b> – First Name <b>H</b> – Middle Initial <b>MI</b> – ID Code Qualifier(Member ID Number) <b>6910828</b> – Member ID Number
REF*EJ*458726-A1~	<b>REF</b> – Reference Information Segment ID <b>EJ</b> – Ref ID Qual (Patient Account Number) <b>458726-A1</b> - Patient Account Number
REF*BLT*111~	<b>REF</b> – Reference Information Segment ID <b>BLT</b> – Ref ID Qual (Billing Type) <b>111</b> – Hospital, Inpatient
DTP*472*RD8*20100720-20100724~	<b>DTP</b> – Date/Time/Period Segment ID <b>472</b> – Service Date Qualifier <b>RD8</b> – Date format <b>CCYYMMDD-CCYYMMDD</b> <b>20100720-20100724</b> – Service Dates
LX*1~	<b>LX</b> – Transaction Set Line Nbr Segment ID <b>1</b> – Assigned Number
TRN*2*XA728302~	<b>TRN</b> – Trace Segment ID <b>2</b> – Trace Type Cd(Referenced Transaction Trace Numbers) <b>XA728302</b> - Current Trans. Trace Nbr



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

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

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

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```
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*>~
---------	------	-----------	------------	---------------------------------------





ISA	Segment ID – Interchange Control Header
00	Authorization Information Qualifier – None
spaces	Authorization Information
00	Security Information Qualifier – None
spaces	Security Information
28	Interchange Sender ID Qualifier - Fiscal Intermediary Identification Number
PPPPP	Fiscal Intermediary Identification Number
28	Interchange Sender ID Qualifier - Fiscal Intermediary Identification Number
SSSSSS	Fiscal Intermediary Identification Number
100811	Interchange Date (YYMMDD)
1600	Interchange Time (HHMM)
^	Repetition Separator
00501	Interchange Control Version Number
100000001	Interchange Control Number
1	Acknowledgment Requested: 1=Interchange Acknowledgment Requested (TA1)
P	Interchange Usage Indicator – Production Data
>	Component Element Separator
~	Segment Terminator
<b>TA1*100000001*100811*1213*A*000~</b>	
TA1	
100000001	Interchange Control Number
100811	Interchange Date
1213	Interchange Time
A	Interchange Acknowledgment Code: A =Accepted
000	Interchange Note Code: 000=No error
<b>IEA*1*100000001~</b>	
IEA	Segment ID – Interchange Control Trailer
1	Number of Included Functional Groups
100000001	Interchange Control Number
~	Segment Terminator

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**4.4 999 Transaction with X12 standard syntax and X12 Implementation Guide errors**

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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.

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```

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

```



874 SE\*4\*000000001~  
 875 GE\*1\*000000001~  
 876 IEA\*1\*100000001~  
 877

<b>ISA*00*</b>	<b>*00*</b>	<b>*28*PPPPP</b>	<b>*28*SSSSS</b>	<b>*100811*1600*^*00501*100000001*1*P*&gt;~</b>
ISA				Segment ID – Interchange Control Header
00				Authorization Information Qualifier – None
spaces				Authorization Information
00				Security Information Qualifier – None
spaces				Security Information
28				Interchange Sender ID Qualifier - Fiscal Intermediary Identification Number
PPPPP				Fiscal Intermediary Identification Number
28				Interchange Sender ID Qualifier - Fiscal Intermediary Identification Number
SSSSSS				Fiscal Intermediary Identification Number
100811				Interchange Date (YYMMDD)
1600				Interchange Time (HHMM)
^				Repetition Separator
00501				Interchange Control Version Number
100000001				Interchange Control Number
1				Acknowledgment Requested: 1=Interchange Acknowledgment Requested (TA1)
P				Interchange Usage Indicator – Production Data
>				Component Element Separator
~				Segment Terminator
<b>GS*FA*SENDERCODE*RECVRCODE*20100811*1600*000000001*X*005010X231A1~</b>				
GS				Segment ID – Functional Group Header
FA				Functional Identifier Code: FA=Functional or Implementation Acknowledgment Transaction Sets (997, 999)
SENDERCODE				Application Sender's Code
RECVRCODE				Application Receiver's Code
20100811				Functional group creation date
1600				Functional group creation time
000000001				Group Control Number
X				Responsible Agency Code: X=Accredited Standards Committee X12
005010X231A1				Version / Release / Industry Identifier Code
<b>ST*999*000000001*005010X231A1~</b>				
ST				Segment ID – Transaction Set Header
999				Transaction Set ID – 999: Implementation Acknowledgment
000000001				Transaction Set Control Number
005010X231A1				Version / Release / Industry Identifier Code
<b>AK1*PI*100000001*005010X210~</b>				
AK1				Segment ID – Functional Group Response Header
PI				Functional Identifier Code
100000001				Group Control Number
005010X210				Version / Release / Industry Identifier Code
<b>AK9*A*1*1*1~</b>				
AK9				Segment ID – Functional Group Response Trailer
A				Functional Group Acknowledge Code: A=Accept



1	Number of Transaction Sets Included
1	Number of Received Transaction Sets
1	Number of Accepted Transaction Sets
<b>SE*4*00000001~</b>	
SE	Segment ID – Transaction Set Trailer
4	Number of Included Segments
00000001	Transaction Set Control Number
<b>GE*1*1~</b>	
GE	Segment ID – Functional Group Trailer
1	Number of Transaction Sets Included
00000001	Group Control Number
<b>IEA*1*10000001~</b>	
IEA	Segment ID – Interchange Control Trailer
1	Number of Included Functional Groups
10000001	Interchange Control Number

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**4.5 824 Application Advice - Positive Acknowledgment from NHIN Gateway to HII.**

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```

ISA*00*      *00*      *28*PPPPP      *28*SSSSSS
*100811*1213*^*00501*100000001*1*P*>~
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~
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~

```

**Annotated Example:**

<b>ISA*00*      *00*      *28*PPPPP      *28*SSSSSS      *100811*1213*^*00501*100000001*1*P*&gt;~</b>	
ISA	Segment ID – Interchange Control Header
00	Authorization Information Qualifier – None
spaces	Authorization Information
00	Security Information Qualifier – None
spaces	Security Information
28	Interchange Sender ID Qualifier - Fiscal Intermediary Identification Number
PPPPP	Fiscal Intermediary Identification Number
28	Interchange Sender ID Qualifier - Fiscal Intermediary Identification Number
SSSSSS	Fiscal Intermediary Identification Number
100811	Interchange Date (YYMMDD)



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



<b>OTI*TA*TN*NA***20100811*1215*100000001*100000001*275*005010X210~</b>	
OTI	Segment ID - Original Transaction Identification
TA	Application Acknowledgment Code – TA: Transaction Set Accept 1 <sup>st</sup> Character – T: Transaction 2 <sup>nd</sup> Character – A: Accept
TN	Reference Identification Qualifier – TN: Transaction Reference Number
NA	Edit Level Reference Identifier
20100811	Functional Group Creation Date (from GS received – CCYYMMDD)
1213	Functional Group Creation Time (from GS received – HHMMssth)
100000001	Functional Group Control Number (from GS received)
100000001	Transaction Set Control Number (from ST02 received)
275	Transaction Set Identifier Code – 275: Patient Information
005010X210	Version / Release / Industry Identifier Code
<b>SE*7*824000001~</b>	
SE	Segment ID – Transaction Set Trailer
7	Number of Included Segments
824000001	Transaction Set Control Number
<b>GE*1*1~</b>	
GE	Segment ID – Functional Group Trailer
1	Number of Transaction Sets Included
1	Group Control Number
<b>IEA*1*100000001~</b>	
IEA	Segment ID – Interchange Control Trailer
1	Number of Included Functional Groups
100000001	Interchange Control Number

898

899 **4.6 824 Application Advice Forwarded Acknowledgment from NHIN Gateway to**  
 900 **HIH.**

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902

903 ISA\*00\* \*00\* \*28\*PPPPP \*28\*SSSSSS  
 904 \*100811\*1600\*^\*00501\*100000001\*1\*P\*>~  
 905 GS\*AG\*SENDER CODE\*RECEIVER CODE\*20100811\*1600\*1\*X\*005010X186~  
 906 ST\*824\*824000001\*005010X186~  
 907 BGN\*11\*INTERNAL TRACKING NBR\*20100811\*1600\*\*00125\*\*??~  
 908 N1\*41\* HEALTH PAYER AMERICA\*46\*PPPPP ~  
 909 PER\*IC\*JOHN SMITH\*TE\*8005551234\*EX\*1439~  
 910 N1\*40\* ABBEY MEMORIAL MEDICAL CLN\*46\*SSSSSS ~  
 911 OTI\*TA\*TN\*NA\*\*\*20100811\*1213\*100000001\*100000001\*275\*005010X210~  
 912 SE\*7\*824000001~  
 913 GE\*1\*1~  
 914 IEA\*1\*100000001~

915

916 **Annotated Example:**

917

<b>ISA*00* *00* *28*PPPPP *28*SSSSSS *100811*1600*^*00501*100000001*1*P*&gt;~</b>	
ISA	Segment ID – Interchange Control Header



00	Authorization Information Qualifier – None
spaces	Authorization Information
00	Security Information Qualifier – None
spaces	Security Information
28	Interchange Sender ID Qualifier - Fiscal Intermediary Identification Number
PPPPP	Fiscal Intermediary Identification Number
28	Interchange Sender ID Qualifier - Fiscal Intermediary Identification Number
SSSSSS	Fiscal Intermediary Identification Number
100811	Interchange Date (YYMMDD)
1600	Interchange Time (HHMM)
^	Repetition Separator
00501	Interchange Control Version Number
100000001	Interchange Control Number
1	Acknowledgment Requested: 1=Interchange Acknowledgment Requested (TA1)
P	Interchange Usage Indicator – Production Data
>	Component Element Separator
~	Segment Terminator
<b>GS*AG*SENDER CODE*RECEIVER CODE*20100811*1215*1*X*005010X186~</b>	
GS	Segment ID – Functional Group Header
AG	Functional Identifier Code – AG: 824 Application Advice
SENDER CODE	Application Sender’s Code
RECEIVER CODE	Application Receiver’s Code
20100811	Date (CCYYMMDD)
1600	Time (HHMMssth)
1	Group Control Number
X	Responsible Agency – X: ASC X12
005010X186	Version / Release / Industry Identifier Code
<b>ST*824*824000001*005010X186~</b>	
ST	Segment ID – Transaction Set Header
824	Transaction Set ID – 824: Application Advice
824000001	Transaction Set Control Number
005010X186	Version / Release / Industry Identifier Code
<b>BGN*11*INTERNAL TRACKING NBR*20100811*1215**00125**WQ~</b>	
BGN	Segment ID – Beginning Segment
11	Transaction Set Purpose Code – 11: Response
INTERNAL TRACKING NBR	Transaction Set Identifier Code
20100811	Transaction Set Creation Date
1215	Transaction Set Creation Time
00125	BGN02 from original 275 Transaction Set
??	Action Code – RE - Released
<b>N1*41*HEALTH PAYER AMERICA*46*PPPPP~</b>	
N1	Segment ID – Submitter Name
41	Entity Identifier Code – 41: Submitter
HEALTH PAYER AMERICA	Submitter’s Name
46	Identification Code Qualifier – 46: ETIN
PPPPP	ETIN
<b>PER*IC*JOHN SMITH*TE*8005551234*EX*1439~</b>	
PER	Segment ID – Submitter EDI Contact Information



IC	Contact Function Code – IC: Information Contact
JOHN SMITH	Submitter Contact Name
TE	Communication Number Qualifier – TE: Telephone
8005551234	Communication Number (Telephone)
EX	Communication Number Qualifier – EX: Telephone Extension
1439	Communication Number (Telephone Extension)
<b>N1*40*ABBEY MEMORIAL MEDICAL CLN*46*SSSSS~</b>	
N1	Segment ID - RECEIVER NAME
40	Entity Identifier Code – 40: Receiver
ABBEY MEMORIAL MEDICAL CLN	Receiver's Name
46	Identification Code Qualifier – 46: ETIN
SSSSS	ETIN
<b>OTI*TA*TN*NA***20100811*1215*10000001*10000001*275*005010X210~</b>	
OTI	Segment ID - Original Transaction Identification
TA	Application Acknowledgment Code – TA: Transaction Set Accept 1 <sup>st</sup> Character – T: Transaction 2 <sup>nd</sup> Character – A: Accept
TN	Reference Identification Qualifier – TN: Transaction Reference Number
NA	Edit Level Reference Identifier
20100811	Functional Group Creation Date (from GS received – CCYYMMDD)
1213	Functional Group Creation Time (from GS received – HHMMssth)
10000001	Functional Group Control Number (from GS received)
10000001	Transaction Set Control Number (from ST02 received)
275	Transaction Set Identifier Code – 275: Patient Information
005010X210	Version / Release / Industry Identifier Code
<b>SE*7*82400001~</b>	
SE	Segment ID – Transaction Set Trailer
7	Number of Included Segments
82400001	Transaction Set Control Number
<b>GE*1*1~</b>	
GE	Segment ID – Functional Group Trailer
1	Number of Transaction Sets Included
1	Group Control Number
<b>IEA*1*10000001~</b>	
IEA	Segment ID – Interchange Control Trailer
1	Number of Included Functional Groups
10000001	Interchange Control Number

918 **5 Appendix B - SOAP Envelope Samples**

919

920 **5.1 ASC X12 275 Batch Submission Message with HI7/CDA/PDF (X12 Deferred**

921 **Document Submission Request)**

922

923

924 The Batch Submission message structure shown below specifies SOAP 1.2 and also uses MTOM

925 to send the payload file. This shows the following:

926

927 1. The HTTP Headers are shown colored in blue.



- 928 2. The WS-Security, SAML, etc. (shown here with a yellow background) is added to the SOAP  
929 Header by the CONNECT or CONNECT compatible platform on which SOAP is run.
- 930 3. The portion of the SOAP envelope colored in green has the metadata that is defined as part of  
931 the CORE Phase II Connectivity Rule and esMD Specific Metadata.
- 932 4. The Batch file (MTOM attachment) is shown colored in grey.

```
933
934 POST /core/eligibilityBatch HTTP/1.1
935 Content-Type: multipart/related;
936 boundary=MIMEBoundaryurn_uuid_5117AAE1116EA8B87A1200060184614;
937 type="application/xop+xml";
938 start="0.urn:uuid:5117AAE1116EA8B87A1200060184615@apache.org";
939 start-info="application/soap+xml"; action="BatchSubmitTransaction"
940
941 --MIMEBoundaryurn_uuid_5117AAE1116EA8B87A1200060184614
942 Content-ID: <0.urn:uuid:5117AAE1116EA8B87A1200060184615@apache.org>
943 Content-Type: application/xop+xml; charset=UTF-8; type="application/soap+xml"
944 Content-Transfer-Encoding: binary
945
946 <?xml version='1.0' encoding='UTF-8'?>
947 <soapenv:Envelope xmlns:S="http://www.w3.org/2003/05/soap-envelope"
948   xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-
949   1.0.xsd"
950   xmlns:wsu="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-
951   1.0.xsd"
952   xmlns:xs="http://www.w3.org/2001/XMLSchema"
953   xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
954   xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
955   xmlns:wsse11="http://docs.oasis-open.org/wss/oasis-wss-wssecurity-secext-1.1.xsd"
956   xmlns:exc14n="http://www.w3.org/2001/10/xml-exc-c14n#">
957   <soapenv:Header>
958     <To xmlns="http://www.w3.org/2005/08/addressing"
959     >https://esmdg.cms.cmstest:443/CONNECTNhinServicesWeb/NhinService/X12BatchDeferredD
960     ocrementSubmissionRequest_Service </To>
961     <Action xmlns="http://www.w3.org/2005/08/addressing"
962     >urn:ihe:iti:xdr:2007:Deferred:X12BatchDeferredDocumentSubmissionRequestMessage </Acti
963     on>
964     <ReplyTo xmlns="http://www.w3.org/2005/08/addressing">
965       <Address>http://www.w3.org/2005/08/addressing/anonymous</Address>
966     </ReplyTo>
967     <MessageID xmlns="http://www.w3.org/2005/08/addressing"> uuid:7a580843-6871-
968     4e01-8db4-963c9912345678</MessageID>
969     <wsse:Security S:mustUnderstand="true">
```





```
972 <wsu:Timestamp
973   xmlns:ns17="http://docs.oasis-open.org/ws-sx/ws-secureconversation/200512"
974   xmlns:ns16="http://schemas.xmlsoap.org/soap/envelope/" wsu:Id="_1">
975   <wsu:Created>2011-09-12T19:27:18Z</wsu:Created>
976   <wsu:Expires>2011-09-12T19:32:18Z</wsu:Expires>
977 </wsu:Timestamp>
978 <saml2:Assertion xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
979   xmlns:exc14n="http://www.w3.org/2001/10/xml-exc-c14n#"
980   xmlns:saml2="urn:oasis:names:tc:SAML:2.0:assertion"
981   xmlns:xenc="http://www.w3.org/2001/04/xmlenc#"
982   xmlns:xs="http://www.w3.org/2001/XMLSchema"
983   ID="149fbbe8-d116-471c-91f3-5ebc01756b31" IssueInstant="2011-09-
984 12T19:27:19.094Z"
985   Version="2.0">
986   <saml2:Issuer Format="urn:oasis:names:tc:SAML:1.1:nameid-
987 format:X509SubjectName"
988     >CN=SAML
989 User,OU=QSSI,O=HITS,L=Columbia,ST=MD,C=US</saml2:Issuer>
990   <saml2:Subject>
991     <saml2:NameID Format="urn:oasis:names:tc:SAML:1.1:nameid-
992 format:X509SubjectName"
993       >UID=610</saml2:NameID>
994     <saml2:SubjectConfirmation Method="urn:oasis:names:tc:SAML:2.0:cm:holder-
995 of-key">
996       <saml2:SubjectConfirmationData>
997         <ds:KeyInfo>
998           <ds:KeyValue>
999             <ds:RSAKeyValue>
1000
1001 <ds:Modulus>vYxVZKIzVdGMSBkW4bYnV80MV/RgQKV1bf/DoMTX8laMO45P6rIEarxQiOYr
1002 gzuYp+snzz2XMOS6o3JGQtXQuzDwcwPkh55bHFwHgtOMzxG4SQ653a5Dzh04nsmJvxbncN
1003 H/XNaWfHaC0JHBEfNCMwRebYocxYM92pq/G5OGyE=</ds:Modulus>
1004           <ds:Exponent>AQAB</ds:Exponent>
1005           </ds:RSAKeyValue>
1006           </ds:KeyValue>
1007         </ds:KeyInfo>
1008       </saml2:SubjectConfirmationData>
1009     </saml2:SubjectConfirmation>
1010   </saml2:Subject>
1011   <saml2:AuthnStatement AuthnInstant="2009-04-16T13:15:39.000Z"
1012 SessionIndex="987">
1013     <saml2:SubjectLocality Address="158.147.185.168"
1014 DNSName="cs.myQSSI.net"/>
1015     <saml2:AuthnContext>
1016
```



```
1017 <saml2:AuthnContextClassRef>urn:oasis:names:tc:SAML:2.0:ac:classes:X509</saml2:AuthnC
1018 ontexClassRef>
1019     </saml2:AuthnContext>
1020 </saml2:AuthnStatement>
1021 <saml2:AttributeStatement>
1022     <saml2:Attribute Name="urn:oasis:names:tc:xspa:1.0:subject:subject-id">
1023         <saml2:AttributeValue xmlns:ns6="http://www.w3.org/2001/XMLSchema-
1024 instance"
1025             xmlns:ns7="http://www.w3.org/2001/XMLSchema"
1026 ns6:type="ns7:string">Karl
1027             S Skagerberg</saml2:AttributeValue>
1028         </saml2:Attribute>
1029     <saml2:Attribute Name="urn:oasis:names:tc:xspa:1.0:subject:organization">
1030         <saml2:AttributeValue xmlns:ns6="http://www.w3.org/2001/XMLSchema-
1031 instance"
1032             xmlns:ns7="http://www.w3.org/2001/XMLSchema"
1033 ns6:type="ns7:string">QSSI
1034             esMD OID</saml2:AttributeValue>
1035         </saml2:Attribute>
1036     <saml2:Attribute Name="urn:oasis:names:tc:xspa:1.0:subject:organization-id">
1037         <saml2:AttributeValue xmlns:ns6="http://www.w3.org/2001/XMLSchema-
1038 instance"
1039             xmlns:ns7="http://www.w3.org/2001/XMLSchema" ns6:type="ns7:string"
1040             >123.456.657.123</saml2:AttributeValue>
1041         </saml2:Attribute>
1042     <saml2:Attribute Name="urn:nhin:names:saml:homeCommunityId">
1043         <saml2:AttributeValue xmlns:ns6="http://www.w3.org/2001/XMLSchema-
1044 instance"
1045             xmlns:ns7="http://www.w3.org/2001/XMLSchema" ns6:type="ns7:string"
1046             >123.456.657.123</saml2:AttributeValue>
1047         </saml2:Attribute>
1048     <saml2:Attribute Name="urn:oasis:names:tc:xacml:2.0:subject:role">
1049         <saml2:AttributeValue>
1050             <hl7:Role xmlns:hl7="urn:hl7-org:v3"
1051                 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
1052                 code="307969004" codeSystem="2.16.840.1.113883.6.96"
1053                 codeSystemName="SNOMED_CT" displayName="Public Health"
1054                 xsi:type="hl7:CE"/>
1055             </saml2:AttributeValue>
1056         </saml2:Attribute>
1057     <saml2:Attribute Name="urn:oasis:names:tc:xspa:1.0:subject:purposeofuse">
1058         <saml2:AttributeValue>
1059             <hl7:PurposeForUse xmlns:hl7="urn:hl7-org:v3"
1060                 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
1061                 code="esMD Code" codeSystem="2.16.840.1.113883.3.18.7.1"
```



```
1062         codeSystemName="nhin-purpose" displayName="esMD Display name"
1063         xsi:type="hl7:CE"/>
1064     </saml2:AttributeValue>
1065 </saml2:Attribute>
1066 <saml2:Attribute Name="urn:oasis:names:tc:xacml:2.0:resource:resource-id">
1067     <saml2:AttributeValue xmlns:ns6="http://www.w3.org/2001/XMLSchema-
1068 instance"
1069         xmlns:ns7="http://www.w3.org/2001/XMLSchema" ns6:type="ns7:string"
1070         >urn:oid:2.16.840.1.113883.13.34.110.1.110.9</saml2:AttributeValue>
1071     </saml2:Attribute>
1072 </saml2:AttributeStatement>
1073 <saml2:AuthzDecisionStatement Decision="Permit"
1074
1075 Resource="https://esmdg.cms.cmstest:443/CONNECTNhinServicesWeb/NhinService/XDRReque
1076 st_Service">
1077     <saml2:Action Namespace="urn:oasis:names:tc:SAML:1.0:action:rwede"
1078         >Execute</saml2:Action>
1079     <saml2:Evidence>
1080         <saml2:Assertion ID="40df7c0a-ff3e-4b26-baeb-f2910f6d0mc24091165"
1081             IssueInstant="2009-04-16T13:10:39.093Z" Version="2.0">
1082             <saml2:Issuer
1083                 Format="urn:oasis:names:tc:SAML:1.1:nameid-format:X509SubjectName"
1084                 >CN=SAML
1085 User,OU=QSSI,O=HITS,L=Columbia,ST=MD,C=US</saml2:Issuer>
1086             <saml2:Conditions NotBefore="2009-04-16T13:10:39.093Z"
1087                 NotOnOrAfter="2009-12-31T12:00:00.000Z"/>
1088             <saml2:AttributeStatement>
1089                 <saml2:Attribute Name="AccessConsentPolicy"
1090                     NameFormat="http://www.hhs.gov/healthit/nhin">
1091                     <saml2:AttributeValue
1092                         xmlns:ns6="http://www.w3.org/2001/XMLSchema-instance"
1093                         xmlns:ns7="http://www.w3.org/2001/XMLSchema"
1094                         ns6:type="ns7:string">Claim-Ref-1234</saml2:AttributeValue>
1095                     </saml2:Attribute>
1096                 <saml2:Attribute Name="InstanceAccessConsentPolicy"
1097                     NameFormat="http://www.hhs.gov/healthit/nhin">
1098                     <saml2:AttributeValue
1099                         xmlns:ns6="http://www.w3.org/2001/XMLSchema-instance"
1100                         xmlns:ns7="http://www.w3.org/2001/XMLSchema"
1101                         ns6:type="ns7:string"
1102                         >Claim-Instance-1</saml2:AttributeValue>
1103                     </saml2:Attribute>
1104                 </saml2:AttributeStatement>
1105             </saml2:Assertion>
1106         </saml2:Evidence>
```



```
1107     </saml2:AuthzDecisionStatement>
1108     <ds:Signature xmlns:ds="http://www.w3.org/2000/09/xmldsig#">
1109       <ds:SignedInfo>
1110         <ds:CanonicalizationMethod
1111           Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
1112         <ds:SignatureMethod Algorithm="http://www.w3.org/2000/09/xmldsig#rsa-
1113 sha1" />
1114         <ds:Reference URI="#149fbbe8-d116-471c-91f3-5ebc01756b31">
1115           <ds:Transforms>
1116             <ds:Transform
1117               Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-signature" />
1118             <ds:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
1119           </ds:Transforms>
1120           <ds:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldsig#sha1" />
1121           <ds:DigestValue>ZBdsOn1MryEtB2U6Iizt04VIUQM=</ds:DigestValue>
1122         </ds:Reference>
1123       </ds:SignedInfo>
1124
1125       <ds:SignatureValue>WHaeJEhzDjrBpf4/EEqmtWhYjGPTjJVp7/YXhpMsVO9SQc8zUosTJoHjGl
1126 /luoA8GUvGI8T6iBV
1127
1128 n56/ahzxd8+qMcqV4KWx9jYJLdZ7iNkBr6QLiVekd5Btmxwbl2R3VI9U5zskI0AdbAsGEeEw/wu/
1129 3bW7Rov78hxPMdfALYc=</ds:SignatureValue>
1130       <ds:KeyInfo>
1131         <ds:KeyValue>
1132           <ds:RSAKeyValue>
1133
1134             <ds:Modulus>vYxVZKIzVdGMSBkW4bYnV80MV/RgQKV1bf/DoMTX8laMO45P6rlEarxQiOYr
1135 gzuYp+snzz2XM0S6
1136
1137 o3JGQtXQuzDwcwPkH55bHFwHgtOMzxG4SQ653a5Dzh04nsmJvxbncNH/XNaWfHaC0JHBE
1138 fNCMwR
1139             ebYocxYM92pq/G5OGyE=</ds:Modulus>
1140             <ds:Exponent>AQAB</ds:Exponent>
1141           </ds:RSAKeyValue>
1142         </ds:KeyValue>
1143       </ds:KeyInfo>
1144     </ds:Signature>
1145   </saml2:Assertion>
1146   <ds:Signature xmlns:ns17="http://docs.oasis-open.org/ws-sx/ws-
1147 secureconversation/200512"
1148     xmlns:ns16="http://schemas.xmlsoap.org/soap/envelope/" Id="_2">
1149     <ds:SignedInfo>
1150       <ds:CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-
1151 c14n#">
```



```
1152     <exc14n:InclusiveNamespaces PrefixList="wsse S"/>
1153   </ds:CanonicalizationMethod>
1154   <ds:SignatureMethod Algorithm="http://www.w3.org/2000/09/xmlsig#rsa-
1155 sha1"/>
1156     <ds:Reference URI="#_1">
1157       <ds:Transforms>
1158         <ds:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#">
1159           <exc14n:InclusiveNamespaces PrefixList="wsu wsse S"/>
1160         </ds:Transform>
1161       </ds:Transforms>
1162     <ds:DigestMethod Algorithm="http://www.w3.org/2000/09/xmlsig#sha1"/>
1163     <ds:DigestValue>
1164       <Include xmlns="http://www.w3.org/2004/08/xop/include"
1165 href="cid:984d42f8-3ec8-4708-9a48-
1166 53d8283db4d7@example.jaxws.sun.com"
1167 />
1168     </ds:DigestValue>
1169   </ds:Reference>
1170 </ds:SignedInfo>
1171 <ds:SignatureValue>
1172   <Include xmlns="http://www.w3.org/2004/08/xop/include"
1173 href="cid:926569ac-d833-4d0a-b6e8-d6070e11568f@example.jaxws.sun.com"/>
1174 </ds:SignatureValue>
1175 <ds:KeyInfo>
1176   <wsse:SecurityTokenReference
1177 wsse11:TokenType="http://docs.oasis-open.org/wss/oasis-wss-saml-token-
1178 profile-1.1#SAMLV2.0">
1179     <wsse:KeyIdentifier
1180 Value="http://docs.oasis-open.org/wss/oasis-wss-saml-token-profile-
1181 1.1#SAMLID"
1182 >149fbbe8-d116-471c-91f3-5ebc01756b31</wsse:KeyIdentifier>
1183   </wsse:SecurityTokenReference>
1184 </ds:KeyInfo>
1185 </ds:Signature>
1186 </wsse:Security>
1187 </soapenv:Header>
1188 <soapenv:Body>
1189   <ns1:COREEnvelopeBatchSubmission
1190 xmlns:ns1="http://www.caqh.org/SOAP/WSDL/CORERule2.2.0.xsd">
1191     <PayloadType>X12_275_Request_005010X210E1</PayloadType>
1192     <ProcessingMode>Batch</ProcessingMode>
1193     <PayloadID>f81d4fae-7dec-11d0-a765-00a0c91e6bf6</PayloadID>
1194     <PayloadLength>1551254</PayloadLength>
1195     <TimeStamp>2007-08-30T10:20:34Z</TimeStamp>
1196     <SenderID>HospitalA</SenderID>
```



```
1197 <ReceiverID>PayerB</ReceiverID>
1198 <CORERuleVersion>2.2.0</CORERuleVersion>
1199 <Checksum>43B8485AB5</Checksum>
1200 <Payload>
1201 <xop:Include
1202 href="cid:1.urn:uuid:5117AAE1116EA8B87A1200060184692@apache.org"
1203 xmlns:xop="http://www.w3.org/2004/08/xop/include"/>
1204 </Payload>
1205 </ns1:COREEnvelopeBatchSubmission>
1206 </soapenv:Body>
1207 </soapenv:Envelope>
1208
1209 --MIMEBoundaryurn_uuid_5117AAE1116EA8B87A1200060184614
1210 Content-ID: <1.urn:uuid:5117AAE1116EA8B87A1200060184692@apache.org>
1211 Content-Type: application/octet-stream
1212 Content-Transfer-Encoding: binary
1213
1214 ISA*00* *00* *28*SSSSSS *28*PPPPP
1215 *100811*1213*^*00501*100000001*0*P*>~
1216 GS*PI*SSSSSS*01001*20100811*1213*100000001*X*005010X210~
1217 ST*275*100000001*005010X210~
1218 BGN*11*00125*20100811~
1219 NMI*PR*2*HEALTH PAYER AMERICA*****PI*PPPPP~
1220 NMI*41*2*ABBEY MEMORIAL MEDICAL CLN*****46*SSSSSS~
1221 NMI*1P*1*CURE*KEN*****XX*NNNNNNNNNN~
1222 NX1*1P~
1223 N3*9999A STEVE D SMITHY AVE~
1224 N4*LOS ANGELES*CA*900332414~
1225 NMI*QC*1*PATIENT*SAMPLE*H***MI*6910828~
1226 REF*EJ*458726-A1~
1227 REF*BLT*111~
1228 DTP*472*RD8*20100720-20100724~
1229 LX*1~
1230 TRN*2*XA728302~
1231 DTP*368*D8*20100811~
1232 CAT*AE*MB*CDA R2~ (IA for C62 and MB - HL7 CDA qualifier. Details are in 275
1233 Implementation guide page 90)
1234 EFI*05~
1235 BIN*29277*Mime-version: 1.0
1236 Content-Type: multipart/mixed;
1237 boundary="###esMD Boundry String fro Example###"
1238
1239 --###esMD Boundry String fro Example###
1240 Content-Type: application/x-hl7-cda-level-one+xml
1241 Content-Transfer-Encoding: 7bit
```



```
1242 Content-Disposition: inline; filename=esMD_Example.xml
1243
1244 <?xml version="1.0" encoding="utf-8"?>
1245 <ClinicalDocument classCode="DOCCLIN" moodCode="EVN" xmlns="urn:hl7-org:v3"
1246 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
1247 xsi:schemaLocation="urn:hl7-org:v3
1248 file:/D:/cd/hl7/cda/CDA_R2_NormativeWebEdition2005/infrastructure/cda/CDA.xsd">
1249 <typeId extension="POCD_HD000040" root="2.16.840.1.113883.1.3"/>
1250 <id EX="XA728302" RT="2.16.840.1.113883.19.2744.1.1"/>
1251 <document_type_cd V="34106-5" DN="DISCHARGE SUMMARIZATION
1252 NOTE"/>
1253 <effectiveTime value="20100811" />
1254 <author contextControlCode="OP" typeCode="AUT" >
1255 <time value="20100811" />
1256 <assignedAuthor classCode="ASSIGNED" >
1257 <id extension="NNNNNNNNNN" root="2.16.840.1.113883.19.2744.1.3" />
1258 <assignedPerson>
1259 <name>
1260 <given>Ken</given> <family>Cure</family> <suffix>MD</suffix>
1261 </name>
1262 </assignedPerson>
1263 </assignedAuthor>
1264 </author>
1265 <recordTarget contextControlCode="OP" typeCode="RCT" >
1266 <patientRole classCode="PAT" >
1267 <id extension="6910828" root="2.16.840.1.113883.19.2744.1.2" />
1268 <patient>
1269 <name>
1270 <given>Patient</given> <given>H</given> <family>Sample</family>
1271 </name>
1272 <administrativeGenderCode code="F" codeSystem="2.16.840.1.113883.5.1"
1273 codeSystemName="AdministrativeGender" displayName="Female" />
1274 <birthTime value="19320924" />
1275 </patient>
1276 </patientRole>
1277 </recordTarget>
1278 <body>
1279 <nonXMLBody >
1280 <text mediaType="application/pdf" representation="B64">
1281 <REF
1282 V="ADDITIONAL_DOCUMENTATION_REQUEST_BASE64.pdf"/>
1283 </text>
1284 </nonXMLBody>
1285 </body>
1286 </ClinicalDocument>
```



```
1287
1288 --###esMD Boundry String fro Example###
1289 Content-Type: application/pdf
1290 Content-Transfer-Encoding: base64
1291 Content-Disposition: attachment; filename=
1292 ADDITIONAL_DOCUMENTATION_REQUEST_BASE64.pdf
1293
1294
1295 JVBERi0xLjQNJeLjz9MNCjYgMCBvYmoNPDwvTGluZWfyaXplZCAxL0wgMjAzNDUvTyA4L0
1296 UgMTYxMDMvTiAxLlQgMjAxNzkvSCKEdhcnkuQmVhdHR5KS9DcmVhdG9yKFBTY3JpcHQ1
1297 LmRsbCBWZXJzaW9uIDUuMikvUHJvZHVjZXIoQWNyY2JhdCBEaXN0aWxsZXIgaOC4xLjAgXC
1298 hXaW5kb3dzXCkpL01vZERhdGUoRDoyMDA4MDkw
1299 --###esMD Boundry String fro Example###
1300 ~
1301 SE*19*100000001~
1302 GE*1*100000001~
1303 IEA*1*100000001~
1304
1305
```

## 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.

```
1317
1318 HTTP/1.1 200 OK
1319 Server: Apache-Coyote/1.1
1320 Content-Type: multipart/related;
1321 boundary=MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339;
1322 type="application/xop+xml";
1323 start="0.urn:uuid:0B72121B1FEFA9BDD31200060195340@apache.org"; start-
1324 info="application/soap+xml";
1325 action="http://www.caqh.org/SOAP/WSDL/CORETransactions/BatchSubmitTransactionRespon
1326 se"
1327
1328 --MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339
```





```
1329 Content-Type: application/xop+xml; charset=UTF-8; type="application/soap+xml"
1330 Content-Transfer-Encoding: binary
1331 Content-ID: <0.urn:uuid:0B72121B1FEFA9BDD31200060195340@apache.org>
1332
1333 <?xml version='1.0' encoding='UTF-8'?>
1334 <soapenv:Envelope xmlns:S="http://www.w3.org/2003/05/soap-envelope">
1335   <soapenv:Header>
1336     <To xmlns="http://www.w3.org/2005/08/addressing"
1337       >https://esmdg.cms.cmstest:443/CONNECTNhinServicesWeb/NhinService/
1338 X12BatchDeferredDocumentSubmissionRequestAcknowledgement_Service</To>
1339     <Action xmlns="http://www.w3.org/2005/08/addressing"
1340
1341 >urn:ihe:iti:xdr:2007:Deferred:X12BatchDeferredDocumentSubmissionRequestAcknowledgeme
1342 ntMessage</Action>
1343     <MessageID xmlns="http://www.w3.org/2005/08/addressing">uuid:7a580843-6871-4e01-
1344 8db4-963c99147b85</MessageID>
1345     <RelatesTo xmlns="http://www.w3.org/2005/08/addressing">uuid:7a580843-6871-4e01-8db4-
1346 963c9912345678</RelatesTo>
1347   </soapenv:Header>
1348   <soapenv:Body>
1349     <ns1:COREEnvelopeBatchSubmissionResponse
1350 xmlns:ns1="http://www.caqh.org/SOAP/WSDL/CORERule2.2.0.xsd">
1351       <PayloadType>X12_BatchReceiptConfirmation</PayloadType>
1352       <ProcessingMode>Batch</ProcessingMode>
1353       <PayloadID>f81d4fae-7dec-11d0-a765-00a0c91e6bf6</PayloadID>
1354       <TimeStamp>2007-08-30T10:20:34Z</TimeStamp>
1355       <SenderID>PayerB</SenderID>
1356       <ReceiverID>HospitalA</ReceiverID>
1357       <CORERuleVersion>2.2.0</CORERuleVersion>
1358       <ErrorCode>Success</ErrorCode>
1359       <ErrorMessage/>
1360     </ns1:COREEnvelopeBatchSubmissionResponse>
1361   </soapenv:Body>
1362 </soapenv:Envelope>
1363
1364 --MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339--
1365
1366
```

### 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:



- 1373 1. The HTTP Headers are shown colored in blue.
- 1374 2. The WS-Security, SAML, etc. (shown here with a yellow background) is added to the SOAP
- 1375 Header by the CONNECT or CONNECT compatible platform on which SOAP is run.
- 1376 3. The portion of the SOAP envelope colored in green has the metadata that is defined as part of
- 1377 the CORE Phase II Connectivity Rule and esMD Specific Metadata.
- 1378 4. The Batch file (MTOM attachment) is shown colored in grey.

```
1380 POST /core/eligibilityBatch HTTP/1.1
1381 Content-Type: multipart/related;
1382 boundary=MIMEBoundaryurn_uuid_5117AAE1116EA8B87A1200060184614;
1383 type="application/xop+xml";
1384 start="0.urn:uuid:5117AAE1116EA8B87A1200060184615@apache.org";
1385 start-info="application/soap+xml"; action="BatchSubmitTransaction"
1386
1387 --MIMEBoundaryurn_uuid_5117AAE1116EA8B87A1200060184614
1388 Content-ID: <0.urn:uuid:5117AAE1116EA8B87A1200060184615@apache.org>
1389 Content-Type: application/xop+xml; charset=UTF-8; type="application/soap+xml"
1390 Content-Transfer-Encoding: binary
1391
1392 <?xml version='1.0' encoding='UTF-8'?>
1393 <soapenv:Envelope xmlns:S="http://www.w3.org/2003/05/soap-envelope"
1394 xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-secext-
1395 1.0.xsd"
1396 xmlns:wsu="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-
1397 1.0.xsd"
1398 xmlns:xs="http://www.w3.org/2001/XMLSchema"
1399 xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
1400 xmlns:saml="urn:oasis:names:tc:SAML:1.0:assertion"
1401 xmlns:wsse11="http://docs.oasis-open.org/wss/oasis-wss-wssecurity-secext-1.1.xsd"
1402 xmlns:exc14n="http://www.w3.org/2001/10/xml-exc-c14n#">
1403 <soapenv:Header>
1404 <To xmlns="http://www.w3.org/2005/08/addressing"
1405 >https://esmdg.cms.cmstest:443/CONNECTNhinServicesWeb/
1406 NhinService/X12BatchDeferredDocumentSubmissionResponse_Service</To>
1407 <Action xmlns="http://www.w3.org/2005/08/addressing"
1408
1409 >urn:ihe:iti:xdr:2007:Deferred:X12BatchDeferredDocumentSubmissionResponseMessage
1410 </Action>
1411 <ReplyTo xmlns="http://www.w3.org/2005/08/addressing">
1412 <Address>http://www.w3.org/2005/08/addressing/anonymous</Address>
1413 </ReplyTo>
1414 <MessageID xmlns="http://www.w3.org/2005/08/addressing"> uuid:7a580843-6871-
1415 4e01-8db4-963c9912345678</MessageID>
```



```
1416 <wsse:Security S:mustUnderstand="true">
1417   <wsu:Timestamp
1418     xmlns:ns17="http://docs.oasis-open.org/ws-sx/ws-secureconversation/200512"
1419     xmlns:ns16="http://schemas.xmlsoap.org/soap/envelope/" wsu:Id="_1">
1420     <wsu:Created>2011-09-12T19:27:18Z</wsu:Created>
1421     <wsu:Expires>2011-09-12T19:32:18Z</wsu:Expires>
1422   </wsu:Timestamp>
1423   <saml2:Assertion> ...The assertions are same as X12 275 Batch Deferred Document
1424 Submission Request... </saml2:Assertion>
1425   <ds:Signature xmlns:ns17="http://docs.oasis-open.org/ws-sx/ws-
1426 secureconversation/200512"
1427     xmlns:ns16="http://schemas.xmlsoap.org/soap/envelope/" Id="_2">
1428     <ds:SignedInfo>
1429       <ds:CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-
1430 c14n#">
1431         <exc14n:InclusiveNamespaces PrefixList="wsse S"/>
1432       </ds:CanonicalizationMethod>
1433       <ds:SignatureMethod Algorithm="http://www.w3.org/2000/09/xmldsig#rsa-
1434 sha1"/>
1435       <ds:Reference URI="#_1">
1436         <ds:Transforms>
1437           <ds:Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#">
1438             <exc14n:InclusiveNamespaces PrefixList="wsu wsse S"/>
1439           </ds:Transform>
1440         </ds:Transforms>
1441         <ds:DigestMethod Algorithm="http://www.w3.org/2000/09/xmldsig#sha1"/>
1442         <ds:DigestValue>
1443           <Include xmlns="http://www.w3.org/2004/08/xop/include"
1444             href="cid:984d42f8-3ec8-4708-9a48-
1445 53d8283db4d7@example.jaxws.sun.com"
1446           />
1447         </ds:DigestValue>
1448       </ds:Reference>
1449     </ds:SignedInfo>
1450     <ds:SignatureValue>
1451       <Include xmlns="http://www.w3.org/2004/08/xop/include"
1452         href="cid:926569ac-d833-4d0a-b6e8-d6070e11568f@example.jaxws.sun.com"/>
1453     </ds:SignatureValue>
1454     <ds:KeyInfo>
1455       <wsse:SecurityTokenReference
1456         wsse11:TokenType="http://docs.oasis-open.org/wss/oasis-wss-saml-token-
1457 profile-1.1#SAMLV2.0">
1458         <wsse:KeyIdentifier
1459           ValueType="http://docs.oasis-open.org/wss/oasis-wss-saml-token-profile-
1460 1.1#SAMLID">
```



```
1461 >149fbb8-d116-471c-91f3-5ebc01756b31</wsse:KeyIdentifier>
1462 </wsse:SecurityTokenReference>
1463 </ds:KeyInfo>
1464 </ds:Signature>
1465 </wsse:Security>
1466 </soapenv:Header>
1467 <soapenv:Body>
1468 <ns1:COREEnvelopeBatchSubmission
1469 xmlns:ns1="http://www.caqh.org/SOAP/WSDL/CORERule2.2.0.xsd">
1470 <PayloadType>X12_824_Request_005010X186</PayloadType>
1471 <ProcessingMode>Batch</ProcessingMode>
1472 <PayloadID>f81d4fae-7dec-11d0-a765-00a0c91e6bf6</PayloadID>
1473 <PayloadLength>1551254</PayloadLength>
1474 <TimeStamp>2007-08-30T10:20:34Z</TimeStamp>
1475 <SenderID>HospitalA</SenderID>
1476 <ReceiverID>PayerB</ReceiverID>
1477 <CORERuleVersion>2.2.0</CORERuleVersion>
1478 <Checksum>43B8485AB5</Checksum>
1479 <Payload>
1480 <xop:Include
1481 href="cid:1.urn:uuid:5117AAE1116EA8B87A1200060184692@apache.org"
1482 xmlns:xop="http://www.w3.org/2004/08/xop/include"/>
1483 </Payload>
1484 </ns1:COREEnvelopeBatchSubmission>
1485 </soapenv:Body>
1486 </soapenv:Envelope>
1487
1488 --MIMEBoundaryurn_uuid_5117AAE1116EA8B87A1200060184614
1489 Content-ID: <1.urn:uuid:5117AAE1116EA8B87A1200060184692@apache.org>
1490 Content-Type: application/octet-stream
1491 Content-Transfer-Encoding: binary
1492
1493 ISA*00* *00* *28*PPPPP *28*SSSSSS
1494 *100811*1600*^*00501*100000001*1*P*~
1495 GS*AG*SENDER CODE*RECEIVER CODE*20100811*1600*1*X*005010X186~
1496 ST*824*824000001*005010X186~
1497 BGN*11*INTERNAL TRACKING NBR*20100811*1600**00125**??~
1498 NI*41* HEALTH PAYER AMERICA*46*PPPPP ~
1499 PER*IC*JOHN SMITH*TE*8005551234*EX*1439~
1500 NI*40* ABBEY MEMORIAL MEDICAL CLN*46*SSSSSS ~
1501 OTI*TA*TN*NA***20100811*1213*100000001*100000001*275*005010X210~
1502 SE*7*824000001~
1503 GE*1*1~
1504 IEA*1*100000001~
```



1505 **5.4 X12 275 – 999 Batch Submission Acknowledgement Response Message**

1506  
1507 Application Acknowledgment (999) – The 999 transaction shall only be generated when the  
1508 received file is accepted at the TA1 level. The 999 transaction will acknowledge the X12  
1509 standard syntax and X12 Implementation Guide errors.

1510 The Batch Submission Acknowledgement Retrieval Response message structure shown below  
1512 specifies SOAP 1.2 and MTOM. This shows the following:

- 1513  
1514 1. The HTTP Headers are shown colored in blue.
- 1515 2. The portion of the SOAP envelope colored in green has the metadata that is defined as part of  
1516 the CORE Phase II Connectivity Rule and esMD Specific Metadata.
- 1517 3. The Batch file (MTOM attachment) is shown colored in grey.

```
1518 HTTP/1.1 200 OK  
1519 Server: Apache-Coyote/1.1  
1520 Content-Type: multipart/related;  
1521 boundary=MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339;  
1522 type="application/xop+xml";  
1523 start="0.urn:uuid:0B72121B1FEFA9BDD31200060195340@apache.org"; start-  
1524 info="application/soap+xml"; action="BatchSubmitAckRetrievalTransaction"  
1525  
1526 --MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339  
1527 Content-Type: application/xop+xml; charset=UTF-8; type="application/soap+xml"  
1528 Content-Transfer-Encoding: binary  
1529 Content-ID: <0.urn:uuid:0B72121B1FEFA9BDD31200060195340@apache.org>  
1530  
1531 <?xml version='1.0' encoding='UTF-8'?>  
1532 <soapenv:Envelope xmlns:S="http://www.w3.org/2003/05/soap-envelope">  
1533 <soapenv:Header>  
1534 <To xmlns="http://www.w3.org/2005/08/addressing"  
1535 >https://esmdg.cms.cmstest:443/CONNECTNhinServicesWeb/NhinService/X12999BatchSubmiss  
1536 ionAcknowledgementRetrievalResponse_Service</To>  
1537 <Action xmlns="http://www.w3.org/2005/08/addressing"  
1538 >urn:ihe:iti:xdr:2007:Deferred:Deferred:X12999BatchSubmissionAcknowledgementRetrievalRe  
1539 sponseMessage</Action>  
1540 <ReplyTo xmlns="http://www.w3.org/2005/08/addressing">  
1541 <Address>http://www.w3.org/2005/08/addressing/anonymous</Address>  
1542 </ReplyTo>  
1543 <MessageID xmlns="http://www.w3.org/2005/08/addressing">uuid:7a580843-6871-  
1544 4e01-8db4-963c99147avds</MessageID>  
1545 <RelatesTo xmlns="http://www.w3.org/2005/08/addressing">uuid:7a580843-6871-  
1546 4e01-8db4-963c9912345678</RelatesTo>  
1547 </soapenv:Header>
```



```
1549     <soapenv:Body>
1550         <ns1:COREEnvelopeBatchSubmissionAckRetrievalResponse
1551             xmlns:ns1="http://www.caqh.org/SOAP/WSDL/CORERule2.2.0.xsd">
1552             <PayloadType>X12_999_Response_005010X231A1</PayloadType>
1553             <ProcessingMode>Batch</ProcessingMode>
1554             <PayloadID>f81d4fae-7dec-11d0-a765-00a0c91e6bf6</PayloadID>
1555             <PayloadLength>1551254</PayloadLength>
1556             <TimeStamp>2007-08-30T10:20:34Z</TimeStamp>
1557             <SenderID>PayerB</SenderID>
1558             <ReceiverID>HospitalA</ReceiverID>
1559             <CORERuleVersion>2.2.0</CORERuleVersion>
1560             <Checksum>43B8485AB5</Checksum>
1561             <Payload>
1562                 <xop:Include
1563                     href="cid:1.urn:uuid:5117AAE1116EA8B87A1200060184692@apache.org"
1564                     xmlns:xop="http://www.w3.org/2004/08/xop/include"/>
1565                 </Payload>
1566             <ErrorCode>Success</ErrorCode>
1567             <ErrorMessage/>
1568         </ns1:COREEnvelopeBatchSubmissionAckRetrievalResponse>
1569     </soapenv:Body>
1570 </soapenv:Envelope>
1571
1572 --MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339
1573 Content-Type: application/pdf
1574 Content-Transfer-Encoding: binary
1575 Content-ID: <1.urn:uuid:5117AAE1116EA8B87A1200060184692@apache.org>
1576
1577 ISA*00*      *00*      *28*PPPPP      *28*SSSSSS
1578 *100811*1600*^*00501*100000001*1*P*>~
1579 GS*FA*SENDERCODE*RECVRCODE*20100811*1600*000000001*X*005010X231A1~
1580 ST*999*000000001*005010X231A1~
1581 AK1*PI*100000001*005010X210~
1582 AK9*A*1*1*1~
1583 SE*4*000000001~
1584 GE*1*000000001~
1585 IEA*1*100000001~
1586
1587 --MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339--
1588
1589
```

### 5.5 X12 TA1 Response (In Case of Interchange of the file is Rejected)

```
1590
1591
1592
```



1593 The TA1 shall only be generated if the Interchange (ISA/IEA) of the file is rejected, and the  
1594 ISA14 value is equal to 1.

1595

1596 The Batch Submission Acknowledgement Retrieval Response message structure shown below  
1597 specifies SOAP 1.2 and MTOM. This shows the following:

1598

1599 1. The HTTP Headers are shown colored in blue.

1600 2. The portion of the SOAP envelope colored in green has the metadata that is defined as part of  
1601 the CORE Phase II Connectivity Rule and esMD Specific Metadata.

1602 3. The Batch file (MTOM attachment) is shown colored in grey.

1603

1604 *HTTP/1.1 200 OK*

1605 *Server: Apache-Coyote/1.1*

1606 *Content-Type: multipart/related;*

1607 *boundary=MIMEBoundaryurn\_uuid\_0B72121B1FEFA9BDD31200060195339;*

1608 *type="application/xop+xml";*

1609 *start="0.urn:uuid:0B72121B1FEFA9BDD31200060195340@apache.org"; start-*

1610 *info="application/soap+xml"; action="BatchSubmitAckRetrievalTransaction"*

1611

1612 *--MIMEBoundaryurn\_uuid\_0B72121B1FEFA9BDD31200060195339*

1613 *Content-Type: application/xop+xml; charset=UTF-8; type="application/soap+xml"*

1614 *Content-Transfer-Encoding: binary*

1615 *Content-ID: <0.urn:uuid:0B72121B1FEFA9BDD31200060195340@apache.org>*

1616

1617 *<?xml version='1.0' encoding='UTF-8'?>*

1618 *<soapenv:Envelope xmlns:S="http://www.w3.org/2003/05/soap-envelope">*

1619 *<soapenv:Header>*

1620 *<To xmlns="http://www.w3.org/2005/08/addressing"*

1621 *>https://esmdg.cms.cmstest:443/CONNECTNhinServicesWeb/NhinService/X12999BatchSubmiss*  
1622 *ionAcknowledgementRetrievalResponse\_Service</To>*

1623 *<Action xmlns="http://www.w3.org/2005/08/addressing"*

1624 *>urn:ihe:iti:xdr:2007:Deferred:Deferred:X12999BatchSubmissionAcknowledgementRetrievalRe*  
1625 *sponseMessage</Action>*

1626 *<ReplyTo xmlns="http://www.w3.org/2005/08/addressing">*

1627 *<Address>http://www.w3.org/2005/08/addressing/anonymous</Address>*

1628 *</ReplyTo>*

1629 *<MessageID xmlns="http://www.w3.org/2005/08/addressing">uuid:7a580843-6871-*  
1630 *4e01-8db4-963c99147avds</MessageID>*

1631 *<RelatesTo xmlns="http://www.w3.org/2005/08/addressing">uuid:7a580843-6871-*  
1632 *4e01-8db4-963c9912345678</RelatesTo>*

1633 *</soapenv:Header>*

1634 *<soapenv:Body>*

1635 *<ns1:COREEnvelopeBatchSubmissionAckRetrievalResponse*

1636 *xmlns:ns1="http://www.caqh.org/SOAP/WSDL/CORERule2.2.0.xsd">*



```
1637 <PayloadType>X12_TA1_Response_00501X231A1</PayloadType>
1638 <ProcessingMode>Batch</ProcessingMode>
1639 <PayloadID>f81d4fae-7dec-11d0-a765-00a0c91e6bf6</PayloadID>
1640 <PayloadLength>1551254</PayloadLength>
1641 <TimeStamp>2007-08-30T10:20:34Z</TimeStamp>
1642 <SenderID>PayerB</SenderID>
1643 <ReceiverID>HospitalA</ReceiverID>
1644 <CORERuleVersion>2.2.0</CORERuleVersion>
1645 <Checksum>43B8485AB5</Checksum>
1646 <Payload>
1647 <xop:Include
1648 href="cid:1.urn:uuid:5117AAE1116EA8B87A1200060184692@apache.org"
1649 xmlns:xop="http://www.w3.org/2004/08/xop/include"/>
1650 </Payload>
1651 <ErrorCode>Success</ErrorCode>
1652 <ErrorMessage/>
1653 </ns1:COREEnvelopeBatchSubmissionAckRetrievalResponse>
1654 </soapenv:Body>
1655 </soapenv:Envelope>
1656
1657 --MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339
1658 Content-Type: application/pdf
1659 Content-Transfer-Encoding: binary
1660 Content-ID: <1.urn:uuid:5117AAE1116EA8B87A1200060184692@apache.org>
1661
1662
1663 ISA*00* *00* *28*PPPPP *28*SSSSSS
1664 *100811*1600*^*00501*100000001*1*P*>~
1665 TA1*100000001*100811*1213*A*000~
1666 IEA*1*100000001~
1667
1668 --MIMEBoundaryurn_uuid_0B72121B1FEFA9BDD31200060195339--
1669
1670
1671
1672
1673
1674
1675
1676
1677
1678
1679
1680
1681
```





1682 **5.6 Appendix F- Glossary**

1683

1684 **Accredited Standards Committee (ASC) X12**

1685

1686 The Accredited Standards Committee (ASC) X12, chartered by the American National Standards  
1687 Institute in 1979, develops electronic data interchange (EDI) standards and related documents for  
1688 national and global markets. X12 EDI standards and a growing collection of X12 XML schemas,  
1689 ASC X12 enhances business processes, reduces costs and expands organizational reach.

1690

1691 **Acknowledgement (ACK)**

1692

1693 Message (such as one used in 'handshaking' process between two systems) that indicates the  
1694 status of communications received. It is commonly written as *ACK*.

1695

1696 **Deferred and CAQH CORE Connectivity *Generic Batch* Message Interaction**

1697

1698 NHIN Deferred Response message interaction can be supported using the Phase II CORE 270:  
1699 Connectivity Rule version 2.2.0's *Generic Batch* message interaction. In particular, a sequence  
1700 of 3 Generic Batch message interactions are used to provide the same functionality as the NHIN  
1701 Deferred Response Message Interaction, namely, (1) submission of the initial X12 275 Batch and  
1702 the corresponding synchronous response, (2) delayed notification using the X12 824 notification  
1703 and the corresponding synchronous response, and (3) delayed notification about the pickup of the  
1704 PDF using a second X12 824 notification and the corresponding synchronous response.

1705

1706 **Health Information Handler (HIH)**

1707

1708 A Health Information Handler (HIH) is defined as an organization that oversees and governs the  
1709 exchange of health-related information from the health care provider to the CMS esMD Gateway  
1710 according to nationally recognized standards.<sup>1</sup> Health information handlers come in many forms.  
1711 The following list, though not all-inclusive, shows some of the types of HIHs that CMS has  
1712 become aware of:

1713

- HIE

1714

- RHIO

1715

- ROI vendor

1716

- claim clearinghouse

1717

- EHR vendor

1718

1719 **HTTPS**

1720

1721 A set of rules for speedy retrieval and transmission of electronic documents written in HTML  
1722 over a secure connection. HTTPS addresses differentiate from HTTP ones because they encrypt

---

<sup>1</sup> 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



1723 and decrypt user pages to prevent unauthorized access to sensitive data. Online credit card  
1724 processing and banking websites use HTTPS addresses to ensure privacy and provide secure  
1725 processing for users

1726  
1727 **Interoperability**

1728  
1729 Interoperability is the ability of health information systems to work together, within and across  
1730 organizational boundaries, in order to advance the effective delivery of health care for  
1731 individuals and communities.

1732  
1733 **Nationwide Health Information Network (NHIN)**

1734 The Nationwide Health Information Network (NHIN) is a set of standards, protocols, legal  
1735 agreements, and specifications that a consortium of health information organizations have agreed  
1736 are necessary for secure and private exchange of health information over the internet. The NHIN  
1737 is overseen by the Office of the National Coordinator for Health IT (ONC).

1738 **NHIN Exchange**

1739 The NHIN Exchange is designed to connect a diverse set of federal agencies and private  
1740 organizations to securely exchange electronic health information. CMS believes the NHIN  
1741 Exchange holds promise and intends to use it during the esMD program. More information on  
1742 NHIN Exchange can be found at  
1743 [http://healthit.hhs.gov/portal/server.pt?open=512&objID=1407&parentname=Community](http://healthit.hhs.gov/portal/server.pt?open=512&objID=1407&parentname=CommunityPage&parentid=7&mode=2&in_hi_userid=10741&cached=true)  
1744 [Page&parentid=7&mode=2&in\\_hi\\_userid=10741&cached=true](http://healthit.hhs.gov/portal/server.pt?open=512&objID=1407&parentname=CommunityPage&parentid=7&mode=2&in_hi_userid=10741&cached=true).

1745  
1746 **Privacy**

1747  
1748 An individual's interest in protecting his or her individually identifiable health information and  
1749 the corresponding obligation of those persons and entities that participate in a network for the  
1750 purposes of electronic exchange of such information, to respect interests through fair information  
1751 practices.

1752  
1753 **Security**

1754  
1755 The physical, technological, and administrative safeguards used to protect individually  
1756 identifiable health information.

1757  
1758 **TLS**

1759  
1760 Transport Layer Security (TLS) and its predecessor, Secure Sockets Layer (SSL), are  
1761 cryptographic protocols that "provide communications security over the Internet". TLS and SSL  
1762 encrypt the segments of network connections above the Transport Layer, using symmetric  
1763 cryptography for privacy and a keyed message authentication code for message reliability. TLS



1764 is an IETF standards track protocol, last updated in RFC 5246, and is based on the earlier SSL  
1765 specifications developed by Netscape Corporation.

1766  
1767 The TLS protocol allows client/server applications to communicate across a network in a way  
1768 designed to prevent eavesdropping and tampering. A TLS client and server negotiate a stateful  
1769 connection by using a handshaking procedure. During this handshake, the client and server agree  
1770 on various parameters used to establish the connection's security.

- 1771
- 1772 • The handshake begins when a client connects to a TLS-enabled server requesting a  
1773 secure connection, and presents a list of supported CipherSuites (ciphers and hash  
1774 functions).
  - 1775 • From this list, the server picks the strongest cipher and hash function that it also supports  
1776 and notifies the client of the decision.
  - 1777 • The server sends back its identification in the form of a digital certificate. The certificate  
1778 usually contains the server name, the trusted certificate authority (CA), and the server's  
1779 public encryption key.
  - 1780 • The client may contact the server that issued the certificate (the trusted CA as above) and  
1781 confirm that the certificate is valid before proceeding.
  - 1782 • In order to generate the session keys used for the secure connection, the client encrypts a  
1783 random number (RN) with the server's public key (PbK), and sends the result to the  
1784 server. Only the server should be able to decrypt it (with its private key (PvK): this is the  
1785 one fact that makes the keys hidden from third parties, since only the server and the client  
1786 have access to this data. The client knows PbK and RN, and the server knows PvK and  
1787 (after decryption of the client's message) RN. A third party is only able to know RN if  
1788 PvK has been compromised.
  - 1789 • From the random number, both parties generate key material for encryption and  
1790 decryption.
  - 1791 • This concludes the handshake and begins the secured connection, which is encrypted and  
1792 decrypted with the key material until the connection closes.

1793  
1794 If any one of the above steps fails, the TLS handshake fails, and the connection is not created.

## 1795 **SAML**

1796  
1797  
1798 Security Assertion Markup Language used for message authentication.

## 1799 **Interface**

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1802 A well-defined boundary where direct contact between two different environments, systems, etc.,  
1803 occurs, and where information is exchanged.

## 1804 **SOAP**

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1806  
1807 Simple Object Access Protocol is a message exchange format for web services.



1808 **Transaction**

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1810 Event or process (such as an input message) initiated or invoked by a user or system, regarded as  
1811 a single unit of work and requiring a record to be generated for processing in a database.

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1853**5.7 Appendix B- Acronyms**

Acronym	
ADR	Additional Documentation Request
ASC X12	Accredited Standards Committee (ASC) X12
BGN	Beginning Segment
BIN	Binary Data segment
CA	Certificate Authority
CAQH	Council for Affordable Quality Healthcare
CMS	Centers for Medicare & Medicaid Services
CMVP	Cryptographic Module Validation Program
ECM	Enterprise Content Management
EDI	Electronic Data Interchange
EHR	Electronic Health Record
EMC	Electromagnetic Compatibility
EMI	Electromagnetic Interference
esMD	Electronic Submission of Medical Documentation
FFS	Fee-For-Service
FIPS	Federal Information Processing Standard
HIH	Health Information Handler
HIE	Health Information Exchange
HL7	Health Level 7
HIPAA	Health Information Portability and Accountability Act
HIT	Health Information Technology
HITSP	Health Information Technology Standards Panel
HTTP	Hypertext Transfer Protocol
HTTPs	Hypertext Transfer Protocol Secured
IETF	Internet Engineering Task Force
ISO	International Organization for Standardization
MAC	Medicare Administrative Contractor
NHIN	Nationwide Health Information Network



Acronym	
NPI	National Provider Identifier
OASIS	Outcome Assessment Information Set
OID	Organizational Identifier
ONC	Office of National Coordinator for Health IT
PbK	Public Key
PDF	Portable Document Format
PvK	Private Key
RAC	Recovery Audit Contractor
RHIO	Regional Health Information Organization
RN	Random Number
ROI	Release of Information
SAML	Security Assertion Markup Language
SOAP	Simple Object Access Protocol
SSL	Secure Sockets Layer
TIFF	Tag Image File Format
TLS	Transport Layer Security
UUID	Universally Unique Identifier
XML	Extensible Markup Language