Attachments

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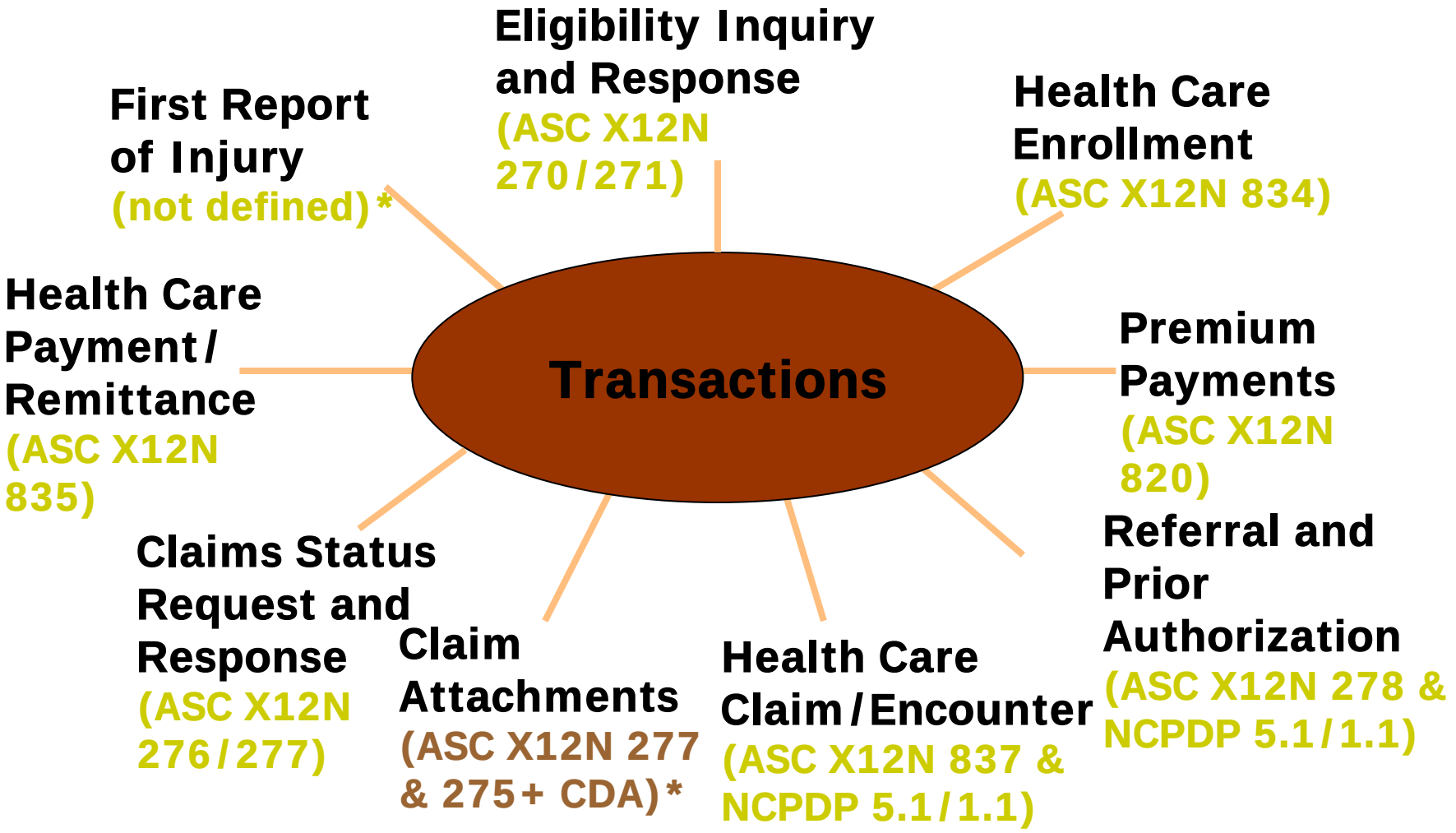
Overview

- High Level Attachment Overview
- More Technical Overview
- References/reading list[s] for the brave
- AHCCCS Implementation

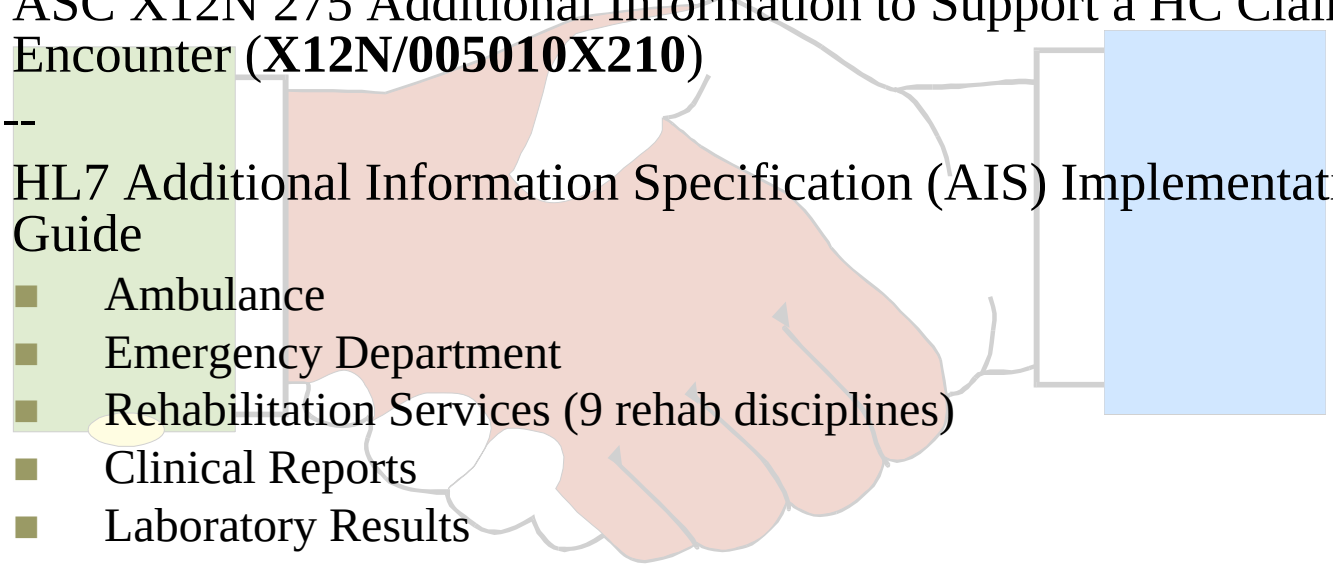
HIPAA Mandated Transactions



Standards – Claims Attachments

- ASC X12N 277 Request for Additional Information (**X12N/005010X213, X12N/005010X213E1, X12N/005010X213E2**)
- ASC X12N 275 Additional Information to Support a HC Claim or Encounter (**X12N/005010X210**)

- HL7 Additional Information Specification (AIS) Implementation Guide
  - Ambulance
  - Emergency Department
  - Rehabilitation Services (9 rehab disciplines)
  - Clinical Reports
  - Laboratory Results
  - Medications
- HL7 Modifiers



Standards – PA Attachments

- ASC X12N 278 Health Care Services Review — Request for Review and Response (**X12N/005010X217, X12N/005010X217E1, X12N/005010X217E2**)
- ASC X 12N 275 Additional Information to Support a Health Care Services Review (**X2N/005010X210**)
- May be used in conjunction with HL7 claims attachments documents already developed
- Developing unique PA attachments for some attachment types (e.g. Home Health & DME)

X12 + HL7 = Claims Attachment

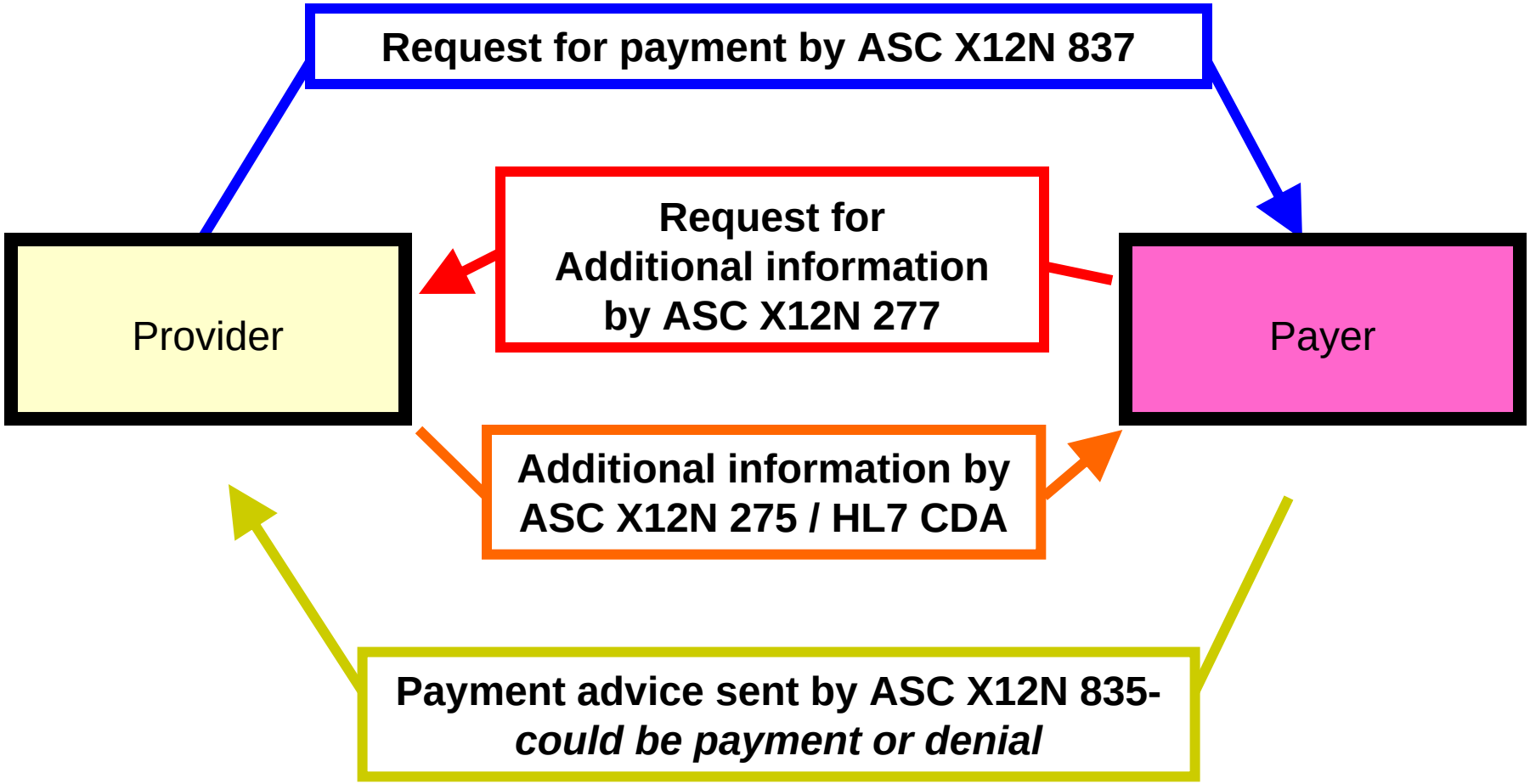
- X12 (SDO)
  - X12N Insurance
    - TG2 Healthcare
      - WG 5 & 9
- HL7 (SDO)
  - (HL7)
    - Orders TC
      - ASIG

- Transaction Sets
  - 275
    - segments
      - fields
- CDA Documents
  - Attachment Type
    - Header
      - Containers
    - Body
      - Containers

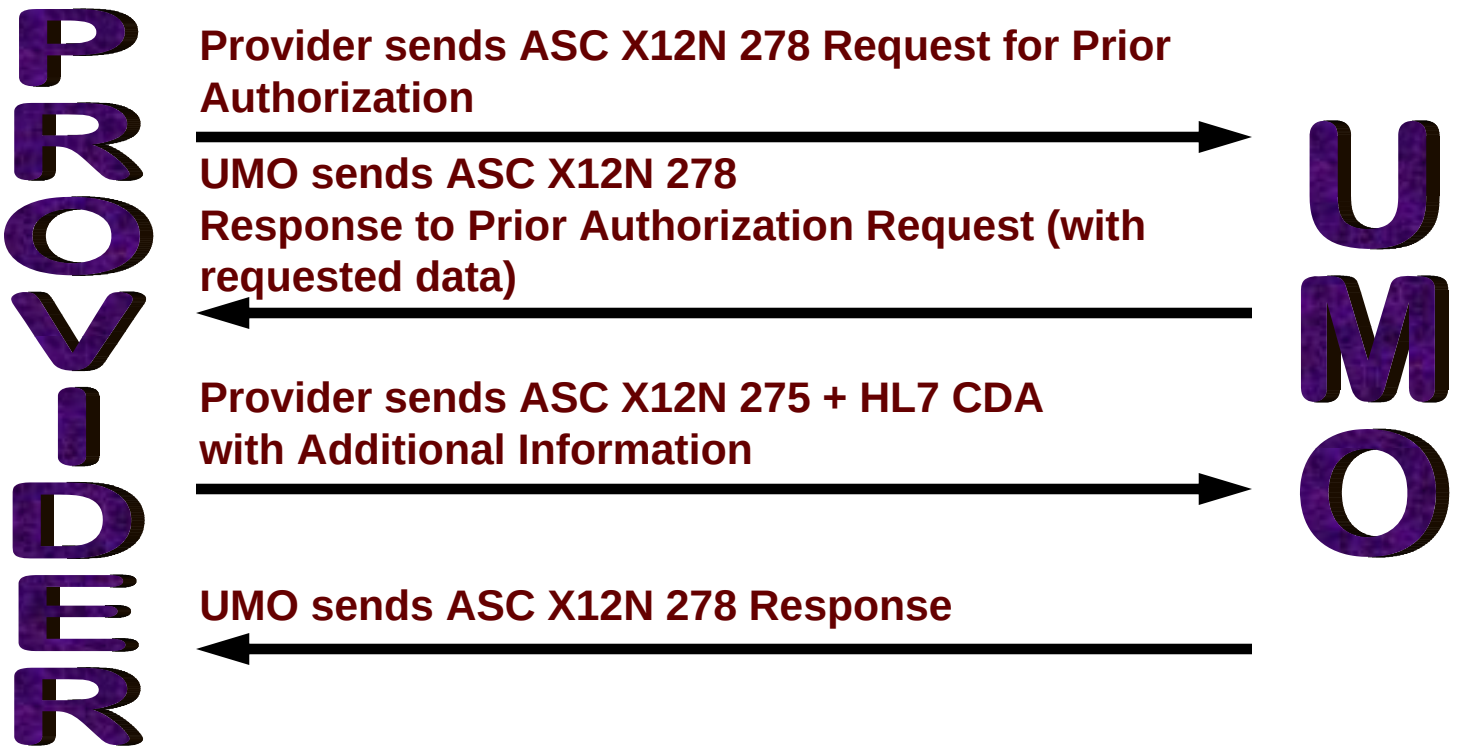
Solicited and Unsolicited Requests

- **Solicited Attachment Request** – The claim is sent and the payer is electronically requesting additional information (ANSI 277) The provider returns the additional information in an electronic attachment (ANSI 275).
- **Unsolicited Attachment** – The electronic attachment is sent in the same X12 envelope as the electronic claim. The provider knows the payer needs the additional information.

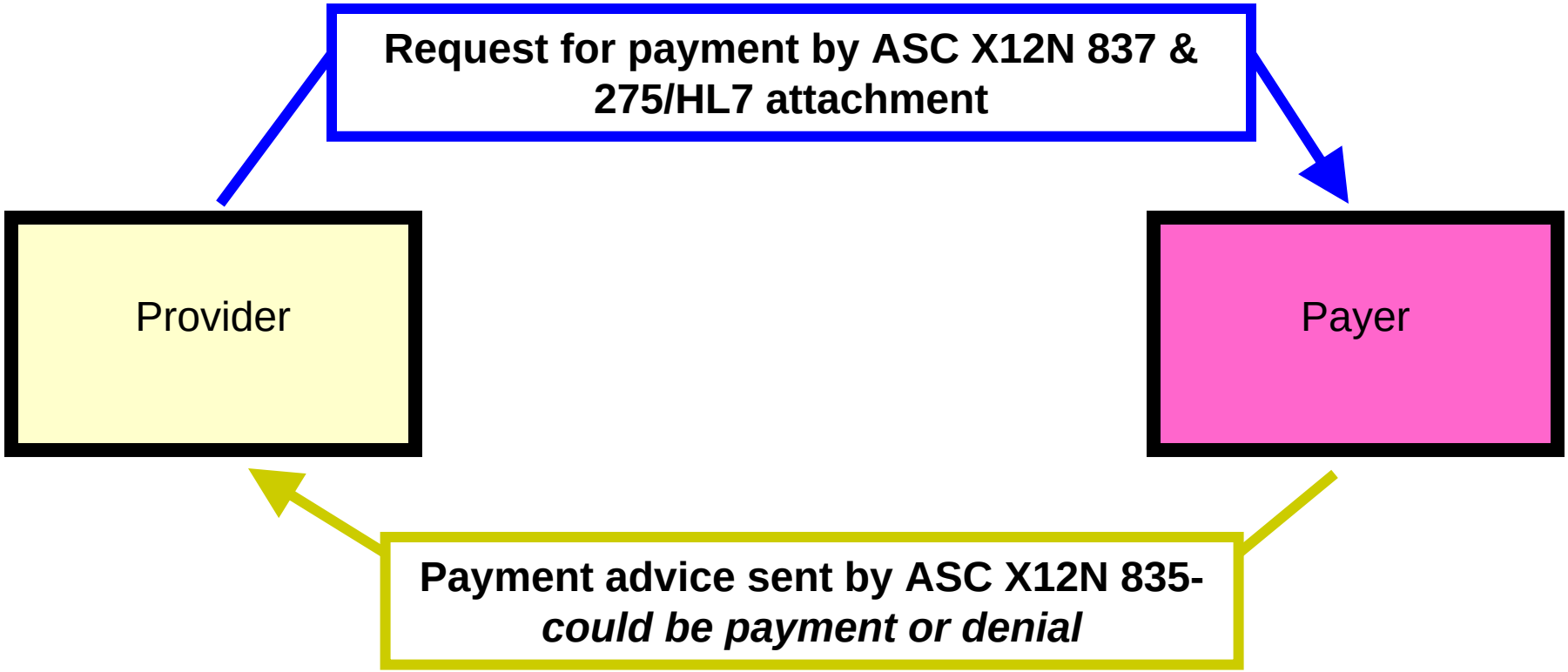
Solicited Claim Attachment



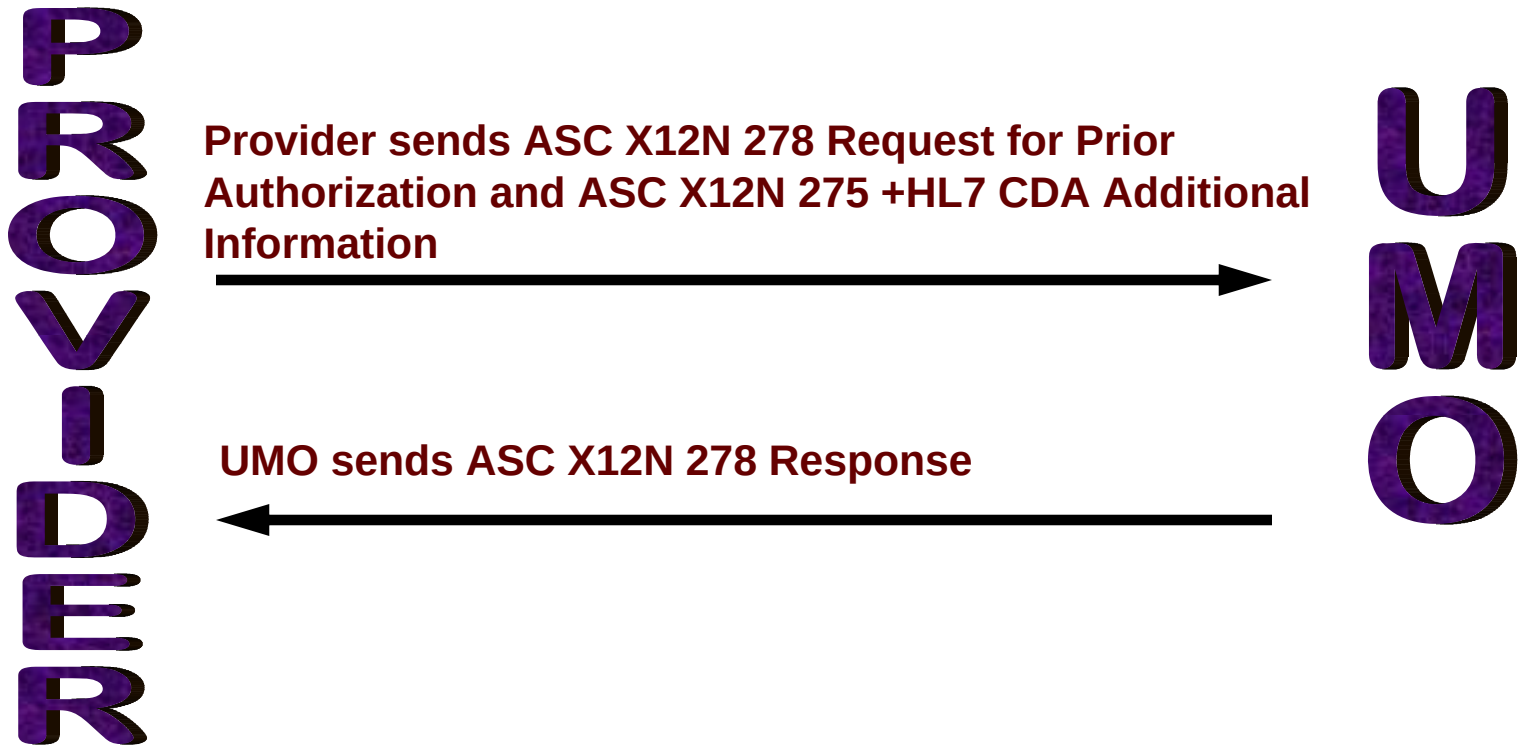
Solicited PA Attachments



Unsolicited Claim Attachment



Unsolicited PA Attachments



Initial Attachment Types

Additional Information Specifications (AIS)

- Ambulance
- Rehabilitative Services
- Laboratory Results
- Medications
- **Clinical Reports/Notes**
- *Emergency Department*

Key Definitions

- ***Attachment Information*** means the supplemental health information needed to support a specific health care claim.
- ***Ambulance Services*** means health care services provided by land, water, or air transport and the procedures and supplies used during the trip by the transport personnel to assess, treat or monitor the individual until arrival at the [receiving facility]…
- ***Clinical Reports*** means reports, studies, or notes, including tests, procedures, and other clinical results, used to analyze and/or document an individual's medical condition.

Key Definitions (continued)

- ***Emergency Department*** means a health care facility or department of a hospital that provide acute medical and surgical care and services on an ambulatory basis to individuals who require immediate care primarily in critical or life-threatening situations.
- ***Laboratory Results*** means the clinical information resulting from tests conducted by entities furnishing biological, microbiological, serological, chemical, immunohematological, hemotological, biophysical, cytological, pathology, or examinations of materials from the human body.

Key Definitions (continued)

- ***Medications*** means those drugs and biologics that the individual is already taking, that are ordered for the individual during the course of treatment, or that are ordered for an individual after treatment has been furnished.
- ***Rehabilitation Services*** means those therapy services provided for the primary purpose of assisting in an individual's rehabilitation program of evaluation and services. These services are: Cardiac rehab, medical social services, occupational therapy, physical therapy, respiratory therapy, skilled nursing, speech therapy, psychiatric rehabilitation, and alcohol and substance abuse rehabilitation.

Other Attachments Under Development by HL7 Attachments Special Interest Group

- Children's Preventive Health Services
- Patient Information Unspecified Content
- Home Health (Claims and Prior Authorization)
- Periodontal Charting (with ADA SCDI)
- Consent Forms
- Durable Medical Equipment (22 types)
- ePrescribing Pharmacy for Prior Authorization
- Employee Assistance Program (EAP)

Types of Data

- Computer Decision Variant
- Human Decision Variant

Computer Decision Variant

- Fully structured and codified data using LOINC
- Each attachment component and answer part(s) is defined as discreet data with a LOINC
- Can be parsed and read by a machine for potential auto-adjudication
- Can also be rendered for human readability and viewing by an XSL stylesheet

Human Decision Variant

- Human readable
- Not required to have structured codified data
  - Send text or scanned information to be reviewed by person
- Uses a single LOINC value in the CDA Header to identify the attachment type
- May be text contained within XML tags or image documents
- XML text can be rendered using XSL to an internet browser for viewing

Why Both?

- The two variants do not differ in functional content
- To provide flexibility for lower and higher levels of implementation
- To achieve higher participation in electronic attachments
- To build for today and plan for the future without having to change standards

Types of Images

The non-XML body is used when an external file contains all of the information to be transmitted as the attachment.

1) ***Permissible File Types.*** *The non_xml/@MT element should contain one of the file types listed in Table 4.*

Table 4. Acceptable File Types for <non_xml>

File Type	File Name Suffix	MT Value
Plain text	.TXT	text/plain
HTML	.HTM, .HTML	text/html
Joint Photographic Experts Group image	.JPG, .JPEG	image/jpeg
Portable Document Format	.PDF	application/pdf
Portable Network Graphics image	.PNG	image/png
Graphics Interchange Format	.GIF	image/gif
Rich Text Format	.RTF	text/rtf
Tag Image File Format[4]	.TIF	image/tiff

All receivers shall be able to render all of the file types listed in Table 5. Except for TIFF these file types are handled by most browser software. TIFF requires a plug-in. TIFF is included because it is far more compressed for "fax quality" copies of pages than the other formats. The TIFF images must be a monochrome image scanned at 200 bits per inch in the format of a TIFF file with the CCITT Group 4 subtype as defined by TIFF ™ Revision 6.0 Final, June 3, 1992. This is equivalent to a facsimile transmission with "fine" resolution.

Other file types, such as DICOM and other variations of TIFF, may be used through trading partner agreements. File sizes may be limited by trading partner agreement.

When viewing files in a revisable format (such as RTF) receivers are encouraged to use software that is designed for viewing but does not permit revisions to be created.

What is LOINC©?

Logical
Observation
Identifiers
Names and
Codes

LOINC

- Provides sets of universal names and ID codes for identifying lab and clinical test results and other units of information meaningful to attachments
  - Code, observed component, property, time, source of observation, type of scale, method, class.
  - Can also identify sets of information
  - Must be transmitted without leading zeroes and with a hyphen before the check digit.

LOINCS in Attachments

- Used to identify requests for:
  - Entire attachment
  - One or more components of an attachment and their answer parts
  - Category of clinical report
  - Parts of a clinical report
  - Category of lab results
  - Category of medication information
  - Modifiers to the request for information

Table 1.1 from ASIG

Table 1.1 Relationship of LOINC Codes, X12N Transactions, and HL7 CDA Documents

Purpose of Attachment	*X12N 277* *Request for additional information to support a health care claim*	*X12N 275* *Additional information to support a health care claim or encounter*	*HL7 CDA* *Provide controlled content for X12N 275 BIN segment*
LOINC Modifier Codes	Used in the STC segment to limit the scope or time frame of a request for information. e.g., ▪ *Send only abnormal results* ▪ *Send results for up to 90 days before the related encounter*	Reiterated in the STC segment	Not used in the CDA document
LOINC Attachment Identifier	Used in the STC segment to request an attachment in its entirety, e.g., ▪ *Send the emergency department attachment*	Reiterated in the STC segment	Used in the <document_type_cd> element of the header
LOINC Attachment Component	Used in the STC segment to request a specific attachment component or part of a clinical report, .e.g., ▪ *Send the first blood pressure*	Reiterated in the STC segment	Used in the computer-decision CDA variant in the <caption_cd> element of a <section> to identify the attachment component being provided, e.g., *This is the first blood pressure (composite data)*
LOINC Attachment Component Answer Part	Not used in the 277	Not used in the 275 except within the CDA instance document in the BIN segment.	Used in the computer-decision CDA variant in the <caption_cd> element of a <paragraph>, an <item> element within a <list> or a <td> element within a <table> to identify the answer part of an attachment component being provided, e.g., *this is the diastolic or systolic component part of the first blood pressure*

Example of LOINC Usage in Attachments

- 277 asks for
  - Attachments or Components
- 275 sends
  - Component(s) consisting of Answer Part(s)

Electronic 277 Request

Uses STC segment to request LOINC values:

18584-3 Body Weight

15511-9 Origination Site Info

15512-7 Destination Site Info

Electronic 275 Response

Uses HL7 CDA within 275 BIN to send Answer Part(s) with LOINC values:

3142-7 Body Weight, Stated

18580-1 Orig Site Name

18581-9 Orig Site Address

18582-7 Dest Site Name

18583-5 Dest Site Address

LOINC Modifiers

- Used to modify the scope of the request for additional information
- Used in conjunction with the LOINC
  - **Time Window** –describes the time range of the requested data in relationship to the claim
    - Example: 18803-7 = Include all data of the selected type that represents observations made 30 days or fewer before the starting date of service for the claim)
  - **Item Selection** – provides specific criteria for selecting specific items within the time specified
    - Example: 18796-3 = Send *all abnormals* within the time window (e.g., if the request is for hematology results, send only the ones that were abnormal, including repeated administration of the same test in the time window)

Additional **I**nformation **S**pecifications (AIS)

Cardinality

- The number of times a component may or must repeat
- 1st # = Minimum, 2nd # = Maximum
  - 1,1 Required, one iteration
  - 0,1 Optional, one iteration
  - 1,n Required, multiple iterations
  - 0,n Optional, multiple iterations

Value Table (Section 3)

This component has a multiple choice answer part. Each answer part has it's own LOINC. One must be chosen.

Optional. If used, one selection must be chosen.

LOINC Code / Component	Answer Part	Value	Data Type	Card	Response Code / Numeric Units
18584-3		**EMS TRANSPORT, BODY WEIGHT AT TRANSPORT (COMPOSITE)**		**0,1**	
		Must choose one response.			
	3141-9	BODY WEIGHT (MEASURED) or	NM	0,1	iso+
	3142-7	BODY WEIGHT (STATED) or	NM	0,1	iso+
	8335-2	BODY WEIGHT (ESTIMATED)	NM	0,1	iso+
		Weight will be reported in iso+ units of either kilograms (KG) or pounds (LB).			
15517-6		**EMS TRANSPORT, TRANSPORT DIRECTION**		**1,1**	
	15517-6	I Initial trip	CE	1,1	HL79007
		R Return trip			
		T Transfer trip			
		X Round trip			

This is the answer part of the component. In this case, one must be chosen.

This is the data type (numeric) for this element.

This denotes how the units are reflected.

Value Table (Section 3) continued

LOINC Code Component	Answer Part	Value	Data Type	Card	Response Code / Numeric Units
15511-9		**EMS TRANSPORT, ORIGINATION SITE INFORMATION (COMPOSITE)**		**1,1**	
	18580-1	EMS TRANSPORT, ORIGINATION SITE NAME A name describing the place from which the patient was transported; may be "home" or "office".	ST	0,1	
	18581-9	EMS TRANSPORT, ORIGINATION SITE ADDRESS	XAD	1,1	
15512-7		**EMS TRANSPORT, DESTINATION SITE INFORMATION (COMPOSITE)**		**1,1**	
	18582-7	EMS TRANSPORT, DESTINATION SITE NAME A name describing the place to which a patient was transported; may be "home"	ST	0,1	
	18583-5	EMS TRANSPORT, DESTINATION SITE ADDRESS	XAD	1,1	

Component with multiple answer parts.

Data types are string and address

Cardinality for component is required. Site Name answer part is optional and Site Address answer part is required.

Value Table (Section 3) – Response Code Sets

LOINC code Component	Answer Part	Value	Data Type	Card	Response Code / Numeric Units
18699-9		**PROVIDER, ED PRACTITIONER (COMPOSITE)**		**1,1**	
	18602-3	PROVIDER, ED PRACTITIONER IDENTIFIER (DEEDS 2.08) Unique identifier for the professional who provides the emergency care. At some point use of the National Provider Identifier (NPI) will be mandated, until such time other identifiers such as UPIN or state license number are allowed. Note: The @S attribute will indicate the authority assigning the identifier; for example, NPI, UPIN, or XX, where XX is the two-letter US Postal Service abbreviation for the state of the licensing authority.	CE	1,1	See note at left.
	18700-5	PROVIDER, ED PRACTITIONER NAME (DEEDS Supplement)	PN	1,1	
	18701-3	PROVIDER, ED PRACTITIONER PROFESSION (DEEDS 2.09) Health Care Provider Taxonomy	CE	0,1	PTX
	18702-1	PROVIDER, ED PRACTITIONER ROLE (DE… valid codes.	CE	1,1	DEEDS2.10

References external code set – Provider Taxonomy

References code set list maintained by HL7 – (See section 5)

Response Code Set Example

5.1 DEEDS2.10: Code for ED Practitioner Role

The OID for this table is 2.16.840.1.113883.6.102.2.10. See DEEDS data element 2.10

Table 5.1 DEEDS2.10: Code for ED Practitioner Role

Code	DEEDS code for ED Practitioner Role
100	ED attending or staff physician
110	ED resident (includes interns, house staff at all postgraduate levels, and fellows)
120	Non-ED-based attending or staff physician (includes primary care physicians and other attending or staff physicians called to the ED once the patient arrives)
130	Non-ED-based resident (includes interns, house staff at all postgraduate levels, and fellows working on the service of a non- ED-based attending or staff physician)
200	Registered nurse
210	Nurse practitioner
220	Attending nurse practitioner
230	Other advanced practice nurse (clinical nurse specialist, nurse anesthetist, or nurse midwife)
240	Licensed practical nurse or licensed vocational nurse
300	Physician assistant
400	Respiratory therapist
500	Nurse's aide
510	ED technician
520	Phlebotomy technician
530	ECG technician

Other Things to Know…

- If you send the attachment unsolicited, you must send the entire attachment based on the rules of cardinality
- If you respond to a request for additional information, you only need to respond the specific components being requested
- The HL7 IG identifies rules for compliance

WARNING….

- It may begin to look “technical”…

275 Structure

- X12
  - BIN

    [BIN01 = Byte Count]

    [Standard 64MB limit]

    - CDA
    - MIME
- X12

```
ST*275*592100008*005010X210~
BGN*02*591910008*20090729~

BIN*118660*Message-ID:
        <31544005.1.1242244588954.JavaMail.csam@fcdev17>
MIME-Version: 1.0
:Content-Type: multipart/related; \ref\namespaceboundary="----
        =_Part_0_23163273.1242244588907"

------=_Part_0_23163273.1242244588907
Content-Type: text/xml; charset=iso-8859-1
Content-Transfer-Encoding: 7bit
<?xml version="1.0" encoding="UTF-8"?>

<ClinicalDocument>
 <typeID extension="POCD_HD000040" root="2.16.840.1.113883.1.3"/>
 <id extension="IMASUBMITTER" root="2.16.840.1.113883.19.2744.1.1"/>
    <title>Patient Information Unspecified Content</title>

SUkqAGJUAQCAMMhkR/rEYjJ/qoVCl/q8Xi6Gi8WRGJrEYCt/q0WCZ/rAYCeC
        jESP9aDISyQZCJ/rMYiGVjIPv9ajSYrUbSdYjOQLEai1/rIbRNZDiMLE

SE*21*592100008~
GE*1*592100008~
IEA*1*592100008~
```

275 – X12

ST*275*592100008*005010X210~
BGN*02*591910008*20090729~
NM1*PR*2*AHCCCS*****PI*866004791~
NM1*41*2*IMASUBMITTER*****46*12319~
NM1*1P*2*AHOSPITALINTOWN*****XX*1235212721~
NX1*1P~
N3*1301 SOUTH CRISMON ROAD~
N4*MESA*AZ*852093767~
NM1*QC*1*SAM*CAVITY****MI*123456789~
REF*EJ*987654321~
REF*BLT*111~
REF*EA*RECNO~
REF*D9*CHILD~
DTP*472*RD8*20090901-20090903~
LX*1~
TRN*1*PWKID~
DTP*368*D8*20090908~
CAT*AE*MB~
EFI*05~

275 - BIN

```
BIN*118660*Message-ID: <31544005.1.1242244588954.JavaMail.csam@fcdev17>
MIME-Version: 1.0
:Content-Type: multipart/related; \ref\namespaceboundary="----=_Part_0_23163273.1242244588907"

------=_Part_0_23163273.1242244588907
Content-Type: text/xml; charset=iso-8859-1
Content-Transfer-Encoding: 7bit
<?xml version="1.0" encoding="UTF-8"?>

<ClinicalDocument>
 <typeID extension="POCD_HD000040" root="2.16.840.1.113883.1.3"/>
 <id extension="IMASUBMITTER" root="2.16.840.1.113883.19.2744.1.1"/>
    <title>Patient Information Unspecified Content</title>
    <confidentialityCode Display="Normal" code="N" codeSystem="2.16.840.1.113883.5.25" codeSystemName="Confidentiality"/>
    <effectiveTime value="20090513"/>
    <recordTarget conextControlCode="OP" typeCode="RCT">
    <patientRole classCode="PAT">
    <patient>
       <name>
          <given>Cavity</given>
          <given/>
          <family>Sam</family>
       </name>
       <administrativeGenderCode/>
       <birthTime/>
    </patient>
    </patientRole>
  </recordTarget>
```

275 – BIN, 2

```
<author conextControlCode="OP" typeCode="AUT">
    <assignedAuthor classCode="ASSIGNED">
    <assignedPerson>
    <name>
       <given/>
       <given/>
       <family>_TI_</family>
    </name>
    </assignedPerson>
    </assignedAuthor>
</author>
<custodian typeCode="CST">
    <assignedCustodian classCode="ASSIGNED">
    <representedCustodianOrganization classCode="ORG">
    <name>
       <given/>
       <given/>
       <family>_TI_</family>
    </name>
    </representedCustodianOrganization>
    </assignedCustodian>
</custodian>
<inFulfillmentOf>
    <order>
       <id extension="1" root="2.16.840.1.113883.19.2744.1.1"/>
    </order>
</inFulfillmentOf>
<body>
    <text mediaType="image/jpg"/>
    <nonXMLBody>
      <reference value=CavitySam.jpg />
    </nonXMLBody>
</body>
</ClinicalDocument>
```

MIME

------=_Part_0_23163273.1242244588907
Content-Type: application/octet-stream; name=CavitySam.jpg
Content-Transfer-Encoding: base64
Content-Disposition: attachment; filename=CavitySam.jpg
Content-ID: CavitySam.jpg

SUkqAGJUAQCAMMhkR/rEYjJ/qoVCl/q8Xi6Gi8WRGJrEYCt/q0WCZ/rAYCeCjESP9aDISyQZCJ/rMYiGVjIPv9ajSYrUbSdYjOQLEai1/rIbRNZDiMLE
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dYYpzLMbY9bDV/uhcQh0LoYP90ruEPRgkLFrHFN1VDR/5MfP92LgkY9aEF/uFYDrbzzbrCfOJZwx0LWOOtcxx3riQO5cSN2LSnOZZB7Frbq
ORczFzriVOZbSNzrKRuZYyd1LKGc+GORX052LkUY9cCB/thXW5qK8Ev9ur27G8YK3GmXICPqXIDtuYKtnEX6QG0WiMGwWDKm+Wwg
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TIM8VBJxnClBmP8Zoo0YCcDCP8YAiRDI7EgJ8f41xQwcGKJUQLBwyv0EkGcHpPxDhaH+KAPCLBJhtKuNAViGhri0JGM8Vimhvi6TQOIX
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QGGjg/MW4kgjgHQF8TQHYF4LsHYFsYAHqFmLEHwdcNuD+LsE4naF4BweIGuCMQ6RGLyFSAkzaAUlcAgkQCkCmR+EOM+F0D0KcF2
D2KcGIEIKQGKEMIYGMz+H+GUEU7WEUI5N8JiGOEQ4YESJjOIOoGXCSGYEaTuGeEgJiGgEoTuGcEmVeGcEsfEGaEuLsGZPDOGEoW
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FkEiOoFpPSPqFuTuG8F2K+++/

~

275 – X12

SE*21*592100008~

GE*1*592100008~

IEA*1*592100008~

The Clinical Document Architecture (CDA)

This is more than business ……

CDA - Facts

- Release 1 ANSI accredited in 2000
- Designed to accommodate the electronic exchange of clinical documents
- Release 2.0 retains the simplicity of rendering and clear definition of clinical documents formulated in R1, it provides state-of-the-art interoperability for machine-readable coded semantics.
  - Based on the HL7 Clinical Statement model - fully RIM-compliant
  - capable of driving decision support
  - retains the simple rendering of legally-authenticated narrative
- Not all features of the CDA are germane to attachments

Why the CDA?

- Preserve the notion of predictable content
- Low impact option of providers and payers
- Suitable for EDI and Web-based approaches
- Based on newer technology
- Provides flexibility to implement at multiple levels

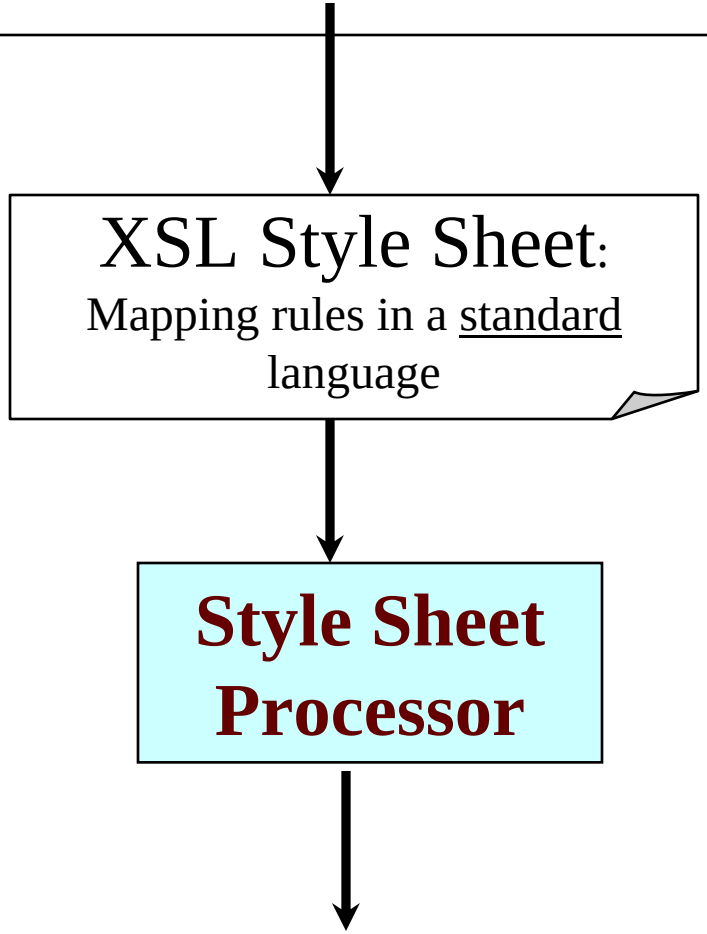
Flexibility of the CDA

- The two variants [CDV/HDV] do not differ in functional content
- Provides for lower and higher levels of implementation
- Goal is to achieve higher participation in electronic attachments
- To build for today and plan for the future without having to change standards

Use of XSL Stylesheets

- Stylesheet takes data from both HDV and CDV and “renders” it to an internet browser screen for human viewing
- A non-normative stylesheet is provided by HL7 and works with all attachment types – not mandated for use

Stylesheet Translation



Human Readable Data

Birthdate: September 24, 1932

History of Present Illness

Henry Levin, the 7th is a 67 year old male referred for further asth
his teens. He was hospitalized twice last year, and already twice th
weaned off steroids for the past several months.

Past Medical History

- Asthma

CDA Structure - Header

- Header
  - Patient
  - Event
  - Attachment Control Number (linkage)
  - Other Administrative Data
  - Always defined in discreet XML elements

CDA Structure – Header Example (Part I)

```
<clinical_document_header>
    <id EX="a123" RT="2.16.840.1.113883.3.933"/>
    <document_type_cd V="18682-5" DN="AMBULANCE SERVICE CLAIMS ATTACHMENT "/>
    <origination_dttm V="2000-08-12"/>
    <originating_organization>
        <originating_organization.type_cd V="CST"/>
            <organization>
                <id EX="2983795672" RT="2.16.840.1.113883.4.6"/>
                <id EX="jkf12542f" RT="2.16.840.1.113883.1.1"/>
                <organization.nm V="ABC Emergency Medical Services"/>
            </organization>
     </originating_organization>
```

CDA Structure - Header Example (Part II)

```
    <patient>
        <patient.type_cd V="PATSBJ"/>
        <person>
            <id EX="184569" RT="2.16.840.1.113883.3.933"/>
            <person_name>
                <nm>
                    <v3dt:GIV V="Jon"/>
                    <v3dt:FAM V="Jay"/>
                    <v3dt:MID V="J"/>
                </nm>
            </person_name>
        </person>
        <is_known_by>
            <id EX="184569" RT="2.16.840.1.1138863.19.1.4"/>
            <is_known_to>
                <id EX="9854687254" RT="2.16.840.1.113883.19.1.2"/>
            </is_known_to>
        </is_known_by>
    </patient>
    <local_header descriptor="Att_ACN">
        <local_attr name="attachment_control_number" value="XA728302"/>
    </local_header>
</clinical_document_header>
```

Form vs. Non-Form Based Attachments

- Form Based
  - Typically based on existing paper forms
  - Attachment content is static
  - Similar to X12 IG with internal code set
- Non-Form Based
  - No paper precursor
  - Content not static
  - Similar to X12 IG with external code set
  - References LOINC database

CDA Body

- Body
  - Single <non_xml> element that contains a reference to an external file (text documents or scanned images)
  - One or more section elements that defines the attachment content

CDA Structure – Body Example (HDV – non-XML)

```
<body>
    <non_xml MT=”image/gif”>
        <v3dt :REF V= »prescription-glasses.gif »/>
        </non_xml>
</body>
</levelone>
```

CDA Structure – Body Example (HDV non-XML) MIME

```
--192.168.0.132.1.111780.1044168570.525.24086
Content-Type: image/gif
Content-Transfer-Encoding: base64
Content-Disposition: attachment; filename=prescription-glasses.gif

R0lGODlhAAJ9AfAAAP///wAAACwAAAAAAAJ9AUAC/wQShrqcb06SrNITm57bTvqB0dWRUMal
nmqubkuib0lDyHIrYz2zPPzDZUbEou5oJNpiuVPDIXngptIqkIP5aFesq2eIDGLDPhksiU47
nsVbiOqeotjtnPp+f8a17FAFTrez95Yid6FkZ4e24cdocSiIJzlJWWl5WekWNVjot9kUZ8YZ
tfmpF/q5VmWFmRl4xBkrO6topNmKm6u7y9vr+/u7J+k5WVure5wJlhTafKuICrwGBkhrfS2c
   (Editor’s note: 149 lines have been suppressed for readability.)
SmW6Sr0UTL2M5ut4yN5k7soG7vici6fc6QHbTh+khPZMrOHMrvfaCpkaUNm0rvTUBcSEJ6cQ
o+wwjU0oJrAQ74fqZ+jewudY7N5KEOPm6rVEcMoOqbVaD/1ubkQyba+eiRj0TwZ/LteWkAmt
Yf8QcMwmRGuCkAajRZjSYm+ojQq30FL6zu24EAzrJ8XCkAzl4fTKEA3TUA3XkA3b0A3fEA7j
0C0IAAUAOw==
--192.168.0.132.1.111780.1044168570.525.24086
```

Rendered HDV Non-XML Example (Part I)

Vision Prescription Attachment

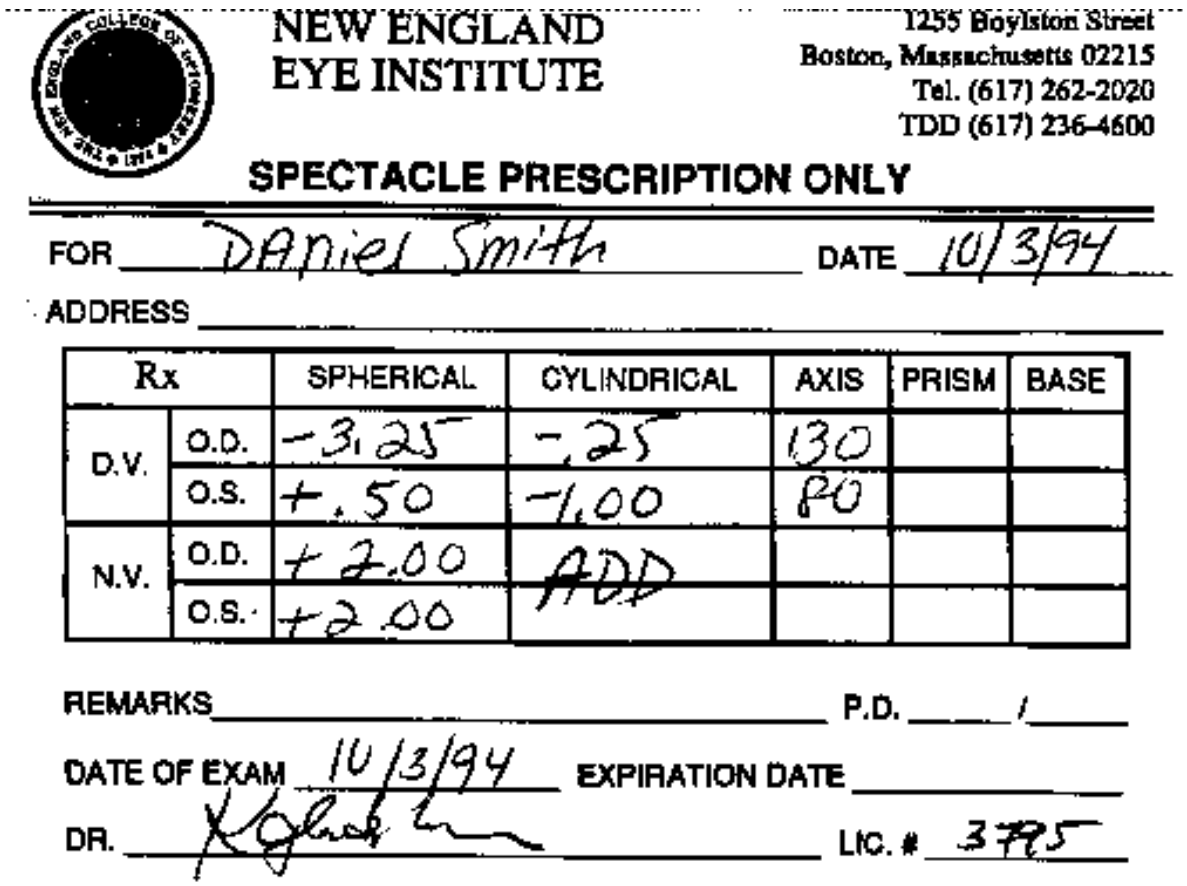
Provider: K Jackson, MD

Patient: Daniel Smith **Patient ID:** 63548429

Attachment Control Number: AB165487

Click here to view report.

Rendered HDV Non-XML Example (Part II)



NEW ENGLAND EYE INSTITUTE

1255 Boylston Street
Boston, Massachusetts 02215
Tel. (617) 262-2020
TDD (617) 236-4600

SPECTACLE PRESCRIPTION ONLY

FOR Daniel Smith DATE 10/3/94

ADDRESS

Rx		SPHERICAL	CYLINDRICAL	AXIS	PRISM	BASE
D.V.	O.D.	-3.25	-.25	130		
	O.S.	+.50	-1.00	80		
N.V.	O.D.	+2.00	ADD			
	O.S.	+2.00				

REMARKS P.D. /

DATE OF EXAM 10/3/94 EXPIRATION DATE

DR. K Glick LIC. # 3795

CDA Structure – Body Example (HDV – Text)

```
<body>
    <section>
        <caption>Body Weight (estimated)</caption>
        <paragraph>
            <caption>Body Weight (estimated)</caption>
            <content>275 lb</content>
        </paragraph>
    </section>
    <section>
        <caption>Transport Direction</caption>
        <paragraph>
            <caption>Transport Direction</caption>
            <content>Initial trip</content>
        </paragraph>
    </section>
```

Rendered HDV Text Example

ABC Emergency Medical Services (2983795672)
AMBULANCE SERVICE CLAIMS ATTACHMENT

Patient: **Patient ID:** 184569

Attachment Control Number: XA728302

Body Weight (estimated)

Body Weight (estimated). 275 lb

Transport Direction

Transport Direction. Initial trip

CDA Structure – Body Example (CDV)

```
<body>
    <section>
        <caption><caption_cd V="18584-3" S="2.16.840.1.113883.6.1"/>
            Body Weight at Transport</caption>
        <paragraph>
            <caption><caption_cd V="8335-2" S="2.16.840.1.113883.6.1"/>
                    Body Weight (estimated)</caption>
            <content>275 lb
                <local_markup descriptor="dt_nm" ignore="all">275
                    <coded_entry>
                        <coded_entry.value V="lb" S="2.16.840.1.113883.5.141"/>
                    </coded_entry>
                </local_markup>
            </content>
        </paragraph>
    </section>
    <section>
        <caption><caption_cd V="15517-6" S="2.16.840.1.113883.6.1"/>
            Transport Direction</caption>
        <paragraph>
            <caption>    <caption_cd V="15517-6" S="2.16.840.1.113883.6.1"/>
                    Transport Direction</caption>
            <content>Initial trip
                <coded_entry>
                    <coded_entry.value V="I" S="2.16.840.1.113883.12.9008" SN="HL79007"/>
                </coded_entry>
            </content>
        </paragraph>
    </section>
```

Rendered CDV Example

ABC Emergency Medical Services (2983795672)
AMBULANCE SERVICE CLAIMS ATTACHMENT

Patient: **Patient ID:** 184569

Attachment Control Number: XA728302

Body Weight (estimated)

Body Weight (estimated). 275 lb

Transport Direction

Transport Direction. Initial trip

XML Stylesheet (XSL)

- Stylesheet takes data from both HDV and CDV and “renders” it to an internet browser screen for human viewing
- A non-normative stylesheet is provided by HL7 and works with all attachment types – not mandated for use

Example of XML - Header

```
ne xmlns="urn:hl7-org:v3/cda" xmlns:v3dt="urn:hl7-org:v3/v3dt" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xsi:schemaLocation="urn:hl7-org:v3/cda levelone_1.0.attachments.xsd">
        <clinical_document_header>
                <id EX="a123" RT="2.16.840.1.113883.3.933"/>
                <document_type_cd V="18682-5" DN="AMBULANCE SERVICE CLAIMS ATTACHMENT "/>
                <origination_dttm V="2000-08-12"/>
                <originating_organization>
                        <originating_organization.type_cd V="CST"/>
                                <organization>
                                        <id EX="298379"/>
                                        <organization.nm V="ABC Emergency Medical Services"/>
                                </organization>
                </originating_organization>
                <patient>
                        <patient.type_cd V="PATSBJ"/>
                        <person>
                                <id EX="184569" RT="2.16.840.1.113883.3.933"/>
                                <person_name>
                                        <nm>
                                                <v3dt:GIV V="Jon"/>
                                                <v3dt:FAM V="Jay"/>
                                                <v3dt:MID V="J"/>
                                        </nm>
                                </person_name>
                        </person>
                </patient>
                <local_header descriptor="Att_ACN">
                        <local_attr name="attachment_control_number" value="XA728302"/>
                </local_header>
        </clinical_document_header>
```

Example of XML - Body

```
<body>
    <section>
        <caption>Body Weight (estimated)</caption>
        <paragraph>
            <caption>Body Weight (estimated)</caption>
            <content>275 lb</content>
        </paragraph>
    </section>
    <section>
        <caption>Transport Direction</caption>
        <paragraph>
            <caption>Transport Direction</caption>
            <content>Initial trip</content>
        </paragraph>
    </section>
    <section>
        <caption>Rationale for Choice of Destination</caption>
        <paragraph>
            <caption>Rationale for Choice of Destination</caption>
            <content>Patient was transported to nearest facility for care of symptoms, complaints or both.</content>
        </paragraph>
    </section>
    <section>
        <caption>EMS TRANSPORT, DISTANCE TRANSPORTED</caption>
        <paragraph>
        <caption>EMS TRANSPORT, DISTANCE TRANSPORTED</caption>
            <content>7 mi</content>
        </paragraph>
</section>

</body>
</levelone>
```

Example of XSL Stylesheet

ABC Emergency Medical Services (298379)
AMBULANCE SERVICE CLAIMS ATTACHMENT

Patient: **Provider's Pt ID:** 184569

Attachment Control Number: XA728302

Body Weight (estimated)

Body Weight (estimated). 275 lb

Transport Direction

Transport Direction. Initial trip

Rationale for Choice of Destination

Rationale for Choice of Destination. Patient was transported to nearest facility for care of symptoms, complaints or both.

EMS Transport, Distance Transported

EMS Transport, Distance Transported. 7 mi

ems transport, origination site

EMS Transport, Origination Site Name. HOME

EMS Transport, Origination Site ADDRESS. 124 Elm St; Elmo, UT 85912

EMS Transport, Destination Site Information

EMS Transport Destination Site Name. Alfred Newman Neurological Institute

EMS Transport, Destination Site Address. 25 Centscheap Ave; Whatmeworry, UT 85912

EMS Transport, Admitted At Destination Facility On Transfer

EMS Transport, Admitted At Destination Facility On Transfer. Yes

Data Types and Attributes

- Specified in the value table for each AIS
- CDA for attachments uses the <local_markup> element to send structured data or PCDATA in the body
  - XAD – Address
  - CE – Coded
  - CX – Extended ID
  - DT – Date
  - NM – Numeric
  - PN – Person Name
  - ST – String
  - TQ – Time and Quantity
  - TS – Time Stamp
  - TX - Text

“No Information” Indicator

- If an answer part cannot be sent, the “no information” indicator is sent in natural language (HDV) or local markup (CDV)
- Values are:
  - NASK – not asked
  - ASKU – asked but unknown
  - OTH – other, may be where observation was made but result could not be determined

Reading List … 1

CDAR1AIS0000R021, HL7 Additional Information Specification, Implementation Guide (This specification replaces *Additional Information Message Implementation Guide* 11 December 2001) Release 2.1 **Based on HL7 CDA Standard Release 1.0** *May 2004*

"The proposed use of the attachment transactions can be better understood by reading the following documents, in this sequence:

- ASC X12N 277 (**004050**X150) *Health Care Claim Request for Additional Information* Implementation Guide; a product of the insurance subcommittee (X12N) of Accredited Standards Committee X12.
- ASC X12N 275 (004050X151) *Additional Information to Support a Health Care Claim or Encounter* Implementation Guide; a product of the insurance subcommittee (X12N) of Accredited Standards Committee X12.
- Health Level Seven (HL7) Additional Information Specification Implementation Guide, Release 2.1.
- Six HL7 additional information specifications (AIS) containing the LOINC code tables specific to requests for additional information. These specifications may be read in any order.
- Health Level Seven (HL7) Clinical Document Architecture, Release 1.0, October 2000 (ANS HL7 CDA R1.0-2000).
- The HL7 publication: *LOINC® Modifier Codes (For use with ASC X12N 277 Implementation Guides when Requesting Additional Information to support a Health Care Claim)."*

Reading List … 2

- HIPAA and ClaimsAttachments, *Preparing for Regulation*, May 2004. Written by the Attachments Special Interest Group (ASIG) at Health Level Seven (HL7). © Copyright 2003-2004 Health Level Seven, Inc. All rights reserved.
- ***Quick* Start Guide, HL7 Implementation Guide: For Simple CDA Release 2 Documents,** Version 1.5, November 15, 2007, www.alschulerassociates.com
- Health Level Seven (HL7) Clinical Document Architecture (CDA), Release 2.0, April 2005 (ANSI/HL7 CDA R2-2005)
- Health Level Seven (HL7) Reference Information Model, Release 1.0, December 2003 (ANSI/HL7 RIM R1-2003)
- Health Level Seven (HL7) Data Types, Release 1.0, December 2003 (ANSI/HL7 DT R1-2003)

Reading List … 3:

- Health Level Seven (HL7) Implementation Technology Specification, Release 1.0, April 2004 (ANSI/HL7 XMLITSDT R1-2004).
- Health Level Seven (HL7) Vocabulary Domains, March 2006
- The Unified Code for Units of Measure (UCUM), available from http://aurora.regenstrief.org/ucum
- Compliance statements that refer to elements of a CDA document here are identified using the notation defined in *XML Path Language (XPath)*, which is available at http://www.w3.org/TR/XPath. XPath expressions are also used in the AIS Value Tables to show how each ***Attachment Component*** or ***Attachment Component Answer Part*** can be located within the clinical document.

  - This may or may not be all the information needed!!!

Successive Approximations

Claim Attachments at AHCCCS

Electronic Attachment Numbers

Abrazo Health	2521
Carondelet	471
Artisan Prosthetics	44
FMC-NA	88
GRHC	328
Iasis Healthcare	28
Globe CRNA	33
MIHS	1228
Phoenix Childrens	34

Submission Month	Count
9/1/2009	3
10/1/2009	529
11/1/2009	374
12/1/2009	675
1/1/2010	2214
2/1/2010	978
	4773

Approximate # of Pages

The paper info is based on Kofax scanned detail and Electronic from EDI # of bytes in the transmission report, using 60KB per page.

Sept 09 info is based on 9/24 to 9/30.

Supplemental Documents		
	Paper	Electronic
09/2009	49,089	212
10/2009	241,754	35,475
11/2009	205,150	19,292
12/2009	165,530	71,728
01/2010	210,449	117,654

Implementation Goals:

- Successive Approximations
  - Moving in the direction of the standard
  - Introducing the concepts to staff and providers
  - Growing in-house understanding of the transaction
  - Building the Infrastructure for future iterations of the transaction and coming HIE/HIT messages

Implementation Goals:

- Evolution, not Revolution
  - Small steps, tolerated by our environment
  - A standard needs to be standard: not restrictive but not configured individually for each trading partner
  - Need to be sensitive to other trading partners in our market
  - Be conscious of “ripple effects” of one payer decisions

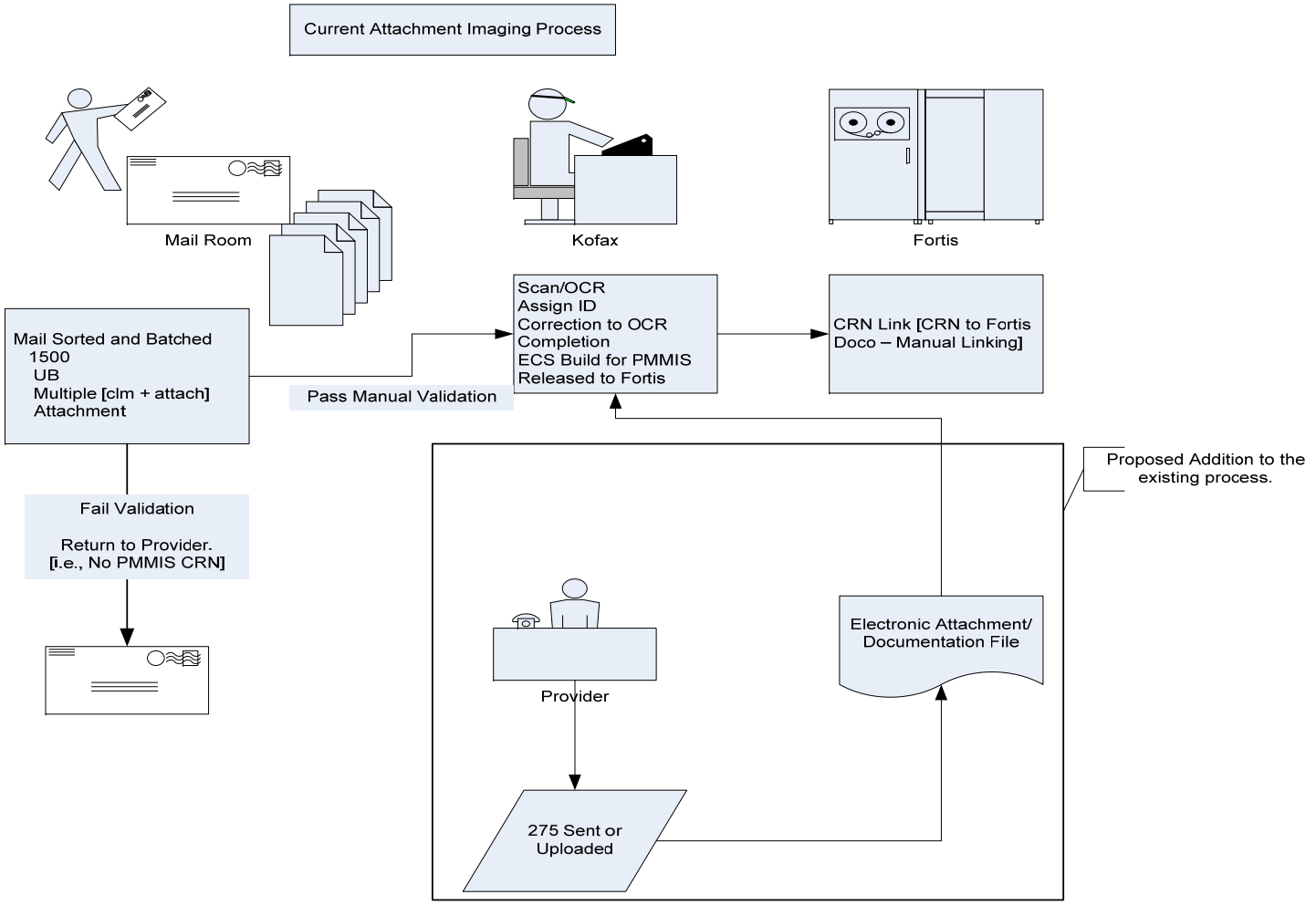
Goals of Completed Project:

- Reduce paper claim attachments and associated costs for agency and providers
- Implementation of **ASC X12N/005010X210 Additional Information to Support a Health Care Claim or Encounter (275)** transaction
  - Image files in allowed formats
  - Upload from web by providers

Scope of Completed Project

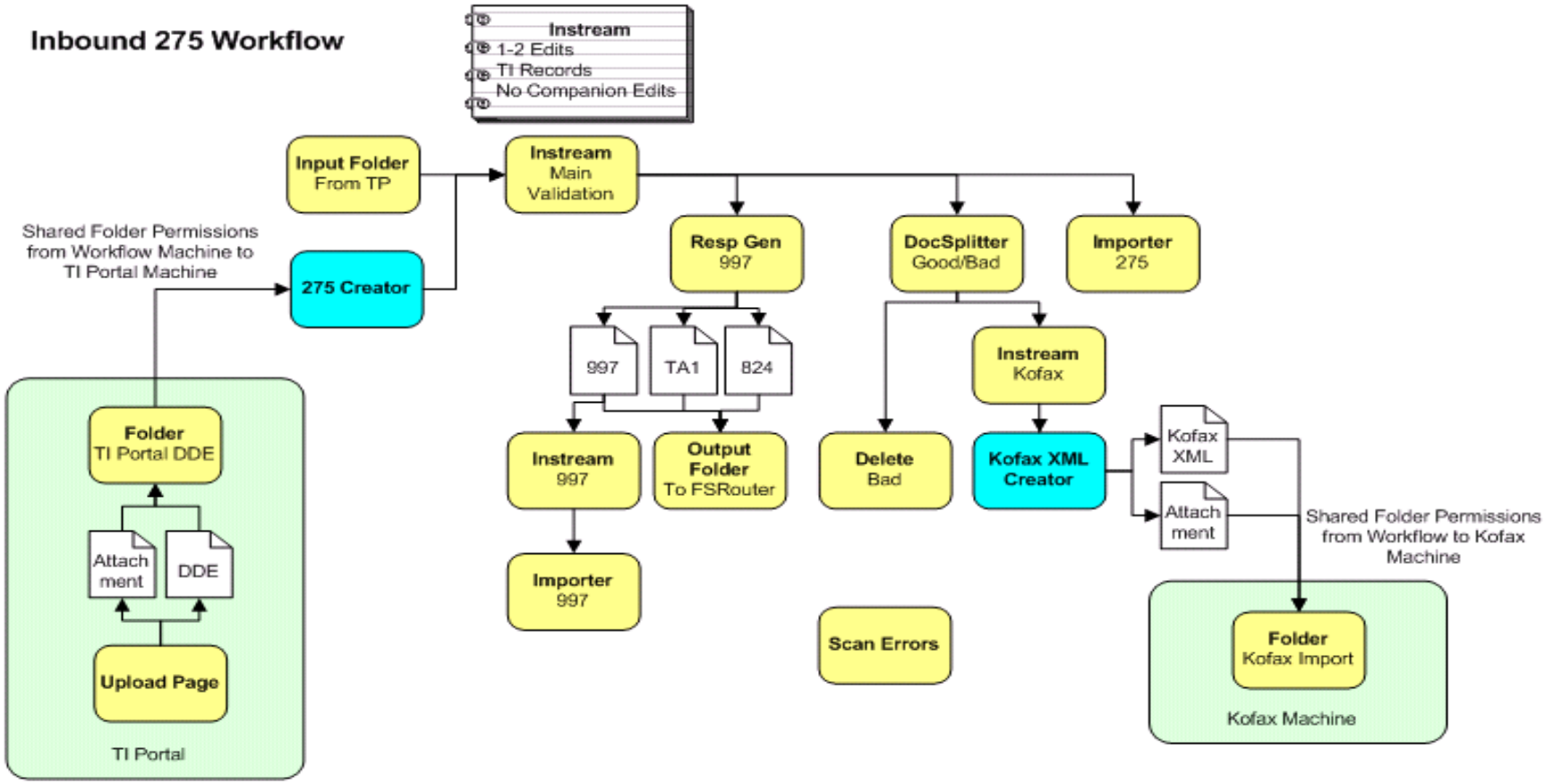
- Redesign of claim attachments process, enabling providers to submit these documents electronically.
- Automate matching attachments to the claims they support
- Ability to upload attachment images via web portal as an alternative to submitting a 275 transaction
- Creation of companion document for the 275
- Creation of user documentation for the web upload
- End user training specific to electronic claim attachments for both agency and trading partner resources.

Current/Future Imaging Process

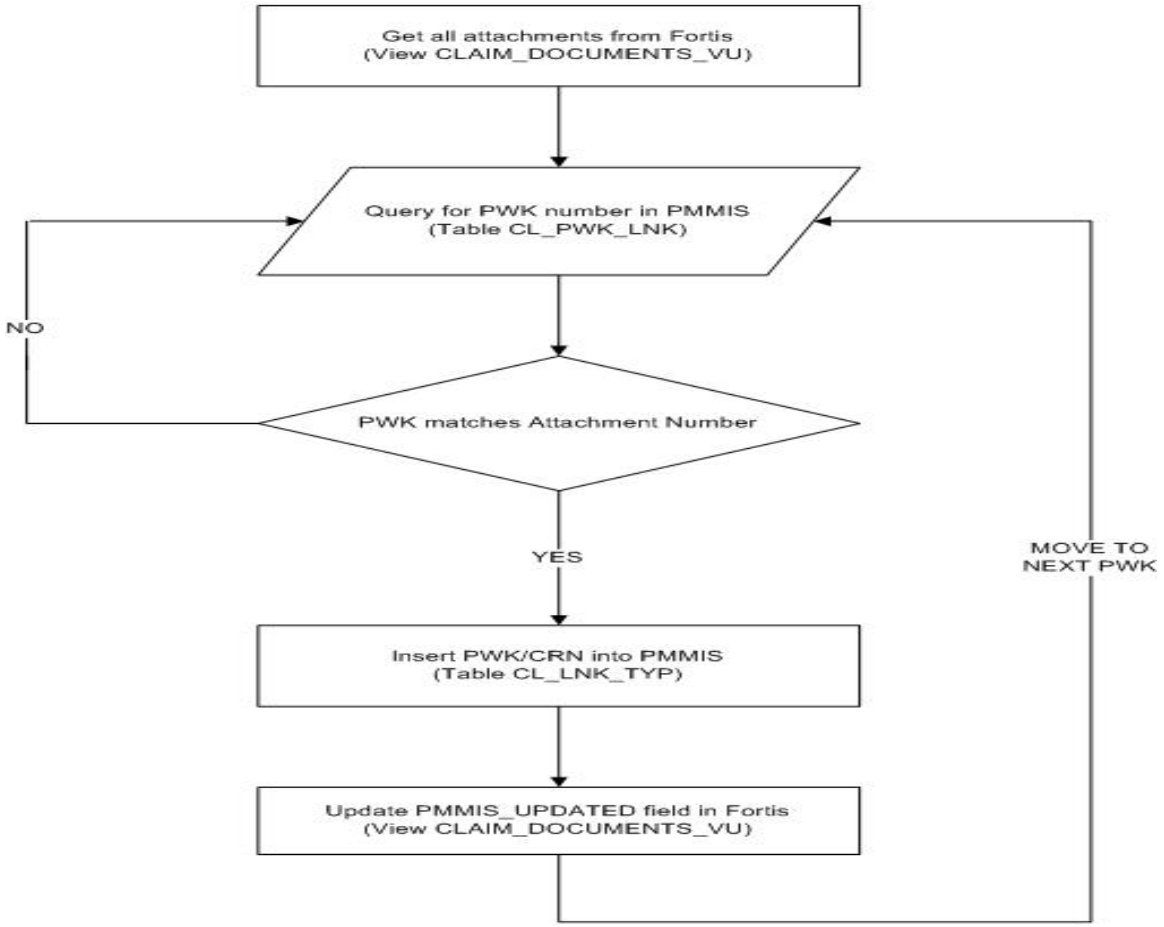


One attachment

Changes to Validation Process



Matching Process



Engaging providers:

- Identify a common pain point
- Understand desired outcome
- Do your homework!!
- Articulate the value proposition for THEM
- Recognize their reality

Provider Reality…

- “Attachments are a billing issue.”
- Today we click on each tab on our screen and print it for you, what will we have to do now?
- What’s a .tiff, .gif, … extension?
- How big is 64MB?
- Does this mean we have to make changes to our 837s?

Internal Development Reality

- X12 and who? What's an HL7?
- So what's this stuff in the middle of an X12 transaction?
- Human Decision Variant [HDV]/Computer Decision Variant [CDV]?
- CDA who?
- XML? Umm, we're the EDI Team…
- OID? …root, tree, branch, huh????

Mime

- MIME?

  Isn’t that the guy with the painted face in the imaginary box?

EDI vs. XML

- EDI staff are traditionalists…
  - X12 transactions because they're mandated
  - CMS requires flat file positional layouts
  - Proprietary file formats
  - Batch is a beautiful thing
- XML developers are in a completely different area… that web stuff…
  - Batch XML? Why would you want to do that?
  - What kind of service will you need?

What do you need?

- Can’t assume everyone understands the resource and industry/standard knowledge needed to begin to develop attachments
- X12 & HL7
  - Attachment Booklets Currently only available in CDA R1
    - Where to find attachment information?
    - What do these things really look like?
  - CDA R1 Standard

Challenges:

- 4010 837 / 5010 275
- “Unique Attachment Number”
  - Unique is really unique
  - Length:
    - 4010 837 = 80
    - 5010 275 CLM Attachment = 50
    - 5010 837 = 50
- X12 Validation, CDA Schema, Schematrons, Conformance?
- CDA R1, CDA R2
  - **CDAR1AIS0000R021, HL7 Additional Information Specification Implementation Guide,** Release 2.1
  - Based on HL7 CDA Standard Release 1.0
- Adjunctive vs. Embedded vs. Secure Website location

Challenges:

- Trading Partners may not be X12 and/or HL7 members
  - "In addition, the folder "CDAR1" contains the narrative describing the CDA Release 1 Standard, and its subsequent adaptation using the XML Schema Standard. These documents are work products of the HL7 Structured Documents -and- HL7 XML committees. Additional information is available in the HL7 Bookstore at www.HL7.org."
- Incomplete documentation
  - "Disclaimer: The schema and stylesheet files that are provided are not part of the balloted content of the standard. Their use by implementers of the standard is entirely optional. HL7 intends to issue improvements to these documents from time to time without changing the official balloted recommendation."
  - "I tried to do the table formatting with CSS2 rules, but Netscape doesn't seem to handle the table rules well (or at all:-(so I just gave up"
- Schema Challenge

Challenges:

- Small widely dispersed population of experts
  - Guy in NZ with the MIME creator
- Acknowledgements

Tips and Tricks

- 10 PWKs on 837s
- Create a way to relate “64MB” to billing clerk’s world
- Test from within your network and from outside your network [use a variety of browsers…]
- Provider Communication and Over-communication
- Yellow/Orange Highlighter on a document saved as a .tif will “uncompress” the .tif and blow up!

Tips and Tricks

- Pictures from MaryKay's old cell phone blow up too!
- No spaces in the file name within the CDA
- Don't give up – you are NOT nuts, it will come together, humble is good
- Recognize every small success [you'll need it…]
- Flowers and cookies to the helpful pilot folks

Questions?