Lantana
CONSULTING GROUP

HATA Educational Webinar:

Slaying the Fax Machine

Liora Alschuler, CEO; Rick Geimer, CIO
Lantana Consulting Group

Outline

Introduction

- Liora Alschuler and Rick Geimer
- Lantana

Background

Standards/Industry Consensus

Moving to Implementation

Discussion and Questions

Liora Alschuler

- Liora is a developer of standards for the exchange of electronic healthcare information, and a consultant in their application for interoperability, analysis, and data reporting.
- In 1997, she led the project that designed the first XML-based exchange specification for healthcare – the Health Level Seven (HL7) Clinical Document Architecture (CDA).
- In 2005, she founded Lantana Consulting Group.
- In 2007, she co-founded the Health Story Project and later served on its executive committee for HIMSS.
- She served two terms on the HL7 Board of Directors and years as an HL7 co-chair.
- Contact her at Liora.Alschuler@lantanagroup.com or www.lantanagroup.com

Rick Geimer

- Lantana Chief Innovation Officer
- Co-chair HL7 FHIR Infrastructure (FHIR-I) Workgroup
- Member of the HL7 Structured Documents and Attachments Work Groups and on the CDA Management Group
- Co-author of many CDA Implementation Guides such as Consolidated CDA (C-CDA)
- Lead of the C-CDA on FHIR Project and several implementation guides (IG) under the Da Vinci Project

Introductions: Lantana

Our Mission

- Improve healthcare through health information technology (IT)
- Lead the industry through our consulting and volunteer practice

Our Value Proposition

- Interoperability for care coordination, system integration, health information exchange
- Data reuse for measurement and reporting, decision support, and improvement

Our Services

- Strategic planning
- Implementation
- Software development
- Specification development and testing
- Program management
- Education and training

- www.lantanagroup.com

Outline

Introduction

Background

- Mandates
- Status Quo
- Empire & Mayo Clinic "pilots"

Standards/Industry Consensus

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Discussion and Questions

Regulation

Mandate

- Health Insurance Portability and Accountability Act (HIPAA) 1996

Notice of Proposed Rule Making: 2005

Mandate

- Affordable Care Act (ACA) 2010

Notice of Great Expectations: 2016

Notice of Not Dead: 2017

HHS Unified Agenda announced release of Attachment NPRM for August 2018

What we know today: NCVHS 2016

- Testimony
- Letter

https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=201710&RIN=0938-AT38

Meeting with CMS, Division of National Standards

- "These transactions will bring significant return on investment through simplified administrative processes, clinical data exchange improvements, and fraud prevention opportunities."
- "Efficiencies associated with electronic attachments will also directly result in improved flow of clinical information and enhancement of the patient care delivery process."
- "The implementation of these standards will result in substantial cost savings, not only to providers and commercial health plans, but also to government health programs." [3]

Letter to Secretary Price, July 2017, signed American Dental Association, Availity, Blue Cross and Blue Shield of Alabama, Cerner, Change Healthcare, Epic, eSolutions, Humana, Jopari Solutions, Medical Group Management Association, Office Ally, Optum, The Cooperative Exchange, The National Clearinghouse Association, UnitedHealthcare, Workgroup for Electronic Data Interchange, Zirmed

Cooperative Exchange: National Clearinghouse Association

- February 16, 2016 survey, presented to National Center for Vital Health Statistics
- 2/3 of membership represented

49,000,000 Electronic Attachments/year

- 55% Property & Casualty
- 15% Dental
- 15% Commercial
- 15% Government

Transport Methods

- 53% Web portal (single, batch)
- 27% X12 275
- 14% SFTP encrypted
- 5% Secure email, other non-standard

http://www.cooperativeexchange.org

Current Usage: Healthcare Claims

Use Case

- 83% Claims/reimbursement
- 3% Prior authorization
- 3% Referral
- 11% Post adjudication (appeal)

Attachment Format

- 95% Unstructured (PDF, TIF…)
- 5% Structured (C-CDA)

Provider ROI on *Claims Attachments*

	Ave. Savings per Transaction	Transactions /Month	Monthly Savings
Physician Office	$3.73 (*)	500	$1,865
Medical/dental provider	$4.08 (**)	500	$2,040

* Milliman, Inc., 2006

** CAQH 2016 Index

Findings:

- Savings are significant
- Industry-wide data needed

Electronic Attachments: Why We Need Them

"The cost of inefficient healthcare claims processes, payment, and reconciliation is estimated to be between $21 billion and $210 billion, eating up 10% to 14% of physician practice revenue, according to the American Medical Association (AMA)."

—K. Bonvissuto

Empire Medicare & Montefiore, Memorial Sloan Kettering, and NextGen Providers "Pilot"

Implemented 2005-2007

- Payer: Empire Medicare, now part of National Government Services (NGS)
- Providers: Montefiore, Memorial Sloan Kettering, others using NextGen PMS
- Vendor support: Claredi

Standards

- X12 277, X12 275 v4050
- Unstructured CDA Release 1

Thanks to Mary Lynn Bushman for this information

Findings

- Challenge: Lack of HL7 CDA knowledge and experience
- Successes:
  - The providers were able to receive and interpret the 277 request for information.
  - Empire was able to receive and process the 275 & CDA.
- No data on ROI

Mayo/NGS: The Pilot that Never Stopped

Initially, Mayo piloted with a different national payer

- It went so well, they never turned it off
- Became a requirement when NGS took over in 2014
- Unsolicited

Simple CDA (XML body, no coded clinical data)

Over SFTP

Operative Reports

~ 3,000 per year

Thanks to Laurie Darst, Calvine Beebe, other informants

Mayo/NGS: The Pilot that Never Stopped

Mayo migrating to new EHR

- Will start sending coded C-CDA R2.1
- Will go live initially from Rochester campus
- Expanding beyond the Rochester campus

Findings

- Satisfied provider
  - Provider reimbursed 30 days sooner
  - Appeals decreased
  - Fewer mailed requests (easier to match unsolicited attachment when sent with claim)
- Satisfied payer
  - Decreased appeals, denials, and call volume

Outline

Introduction

Background

Standards/Industry Consensus

- HL7 Attachment IG: CDA + X12
- Use Cases & Orchestration
  - Basic
  - Detailed Example

Moving to Implementation

Discussion and Questions

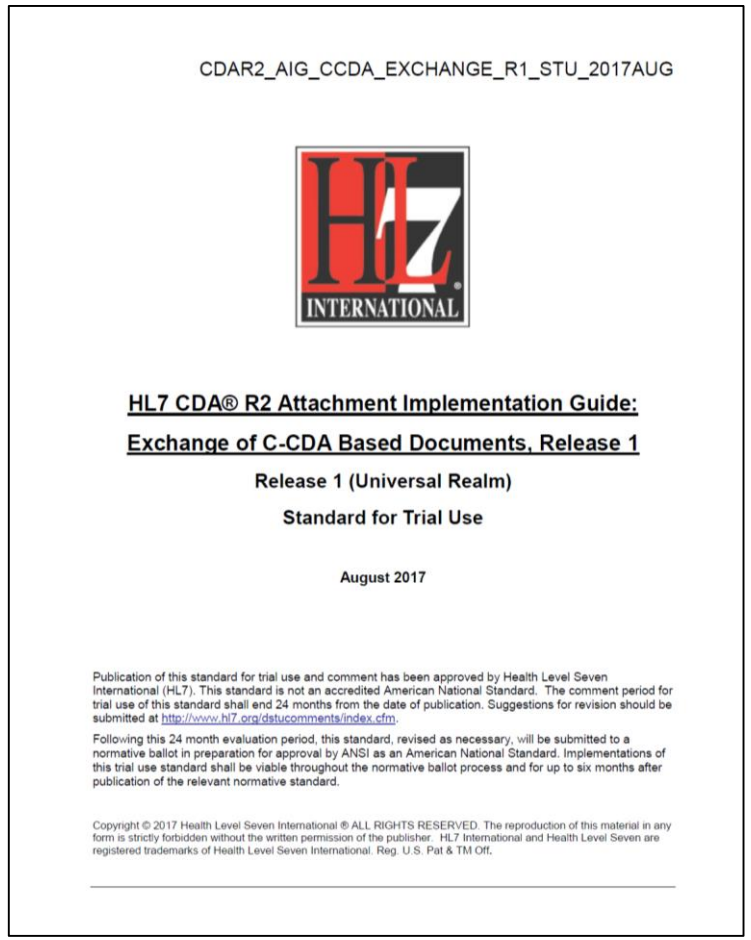
HL7 Attachments Implementation Guide

HL7 CDA Attachment Implementation Guide (IG):

- Exchange of C-CDA Based Documents, Release 1 (Universal Realm)
- Standard for Trial Use
- ***Released August 2017***

The IG Documents:

- Approach
- Background
  - Structured/unstructured
  - ISO Object Identifiers (OIDs)
  - Base64 Encoding
  - Document Succession
- Classification using LOINC
- Business requirements
- Rules (conformance requirements)



CDAR2_AIG_CCDA_EXCHANGE_R1_STU_2017AUG

HL7 INTERNATIONAL

HL7 CDA® R2 Attachment Implementation Guide:

Exchange of C-CDA Based Documents, Release 1

Release 1 (Universal Realm)

Standard for Trial Use

August 2017

Publication of this standard for trial use and comment has been approved by Health Level Seven International (HL7). This standard is not an accredited American National Standard. The comment period for trial use of this standard shall end 24 months from the date of publication. Suggestions for revision should be submitted at http://www.hl7.org/dstucomments/index.cfm.

Following this 24 month evaluation period, this standard, revised as necessary, will be submitted to a normative ballot in preparation for approval by ANSI as an American National Standard. Implementations of this trial use standard shall be viable throughout the normative ballot process and for up to six months after publication of the relevant normative standard.

HL7 CDA® R2 Attachment Implementation Guide: Exchange of C-CDA Based Documents, Release 1
http://www.hl7.org/implement/standards/product_brief.cfm?product_id=464

Letter to Secretary: July, 2016

- **Adopt standards** for Attachments Request, Response, Electronic Clinical Document, and Acknowledgments
- Utilize **incremental adoption** and implementation approach
- **Ensure alignment** with:
  - Electronic Health Record (EHR) Incentive Program
  - Medicare Access CHIP Reauthorization Act of 2015 (MACRA)/Merit-Bases Incentive Payment System (MIPS)

Base Standards

- X12 277 Health Care Information Status Notification
- X12 275 Patient Information
- X12 278 Health Care Services Review Information

Implementation Guides

- ASC X12N 277 Health Care Claim Request for Additional Information
- ASC X12N 275 Additional Information to Support a Health Care Claim or Encounter
- ASC X12N 278 Health Care Services Review – Request for Review and Response
- ASC X12N 275 Additional Information to Support a Health Care Services Review

Emerging Standards

- HL7 FHIR (Fast Health Interoperability Resources) being tested as an alternative for X12 transactions
- FHIR documents being tested as an alternative to CDA

HL7

- HL7 is the name of the organization, not the standards it creates
- Domain: clinical interoperability

Most widely implemented standard

- “HL7 Version 2” messaging
- HL7-specific syntax (close to X12)
- Intra-enterprise
- Admission/discharge/transfer, lab most heavily implemented
- Ubiquitous in US hospitals since 1990s

XML-generation standards

“Version 3” messaging

- Complex
- Largely defunct

CDA

- Took simple approach to V3 model +XML
- Different use case: persistent documents

New generation standards

- Fast Health Interoperability Resources (FHIR) (XML or JSON)
- Supports messaging, documents, and RESTful APIs

Message & Attachment

Message is considered the envelope:

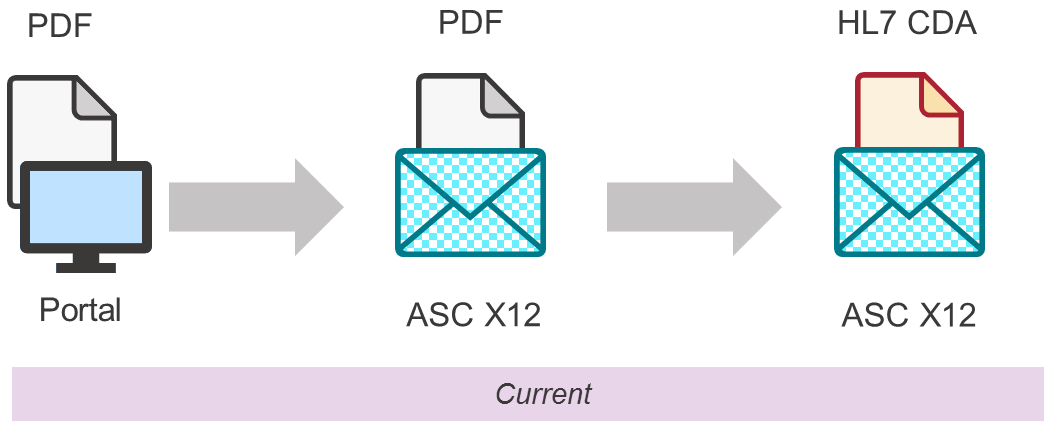
Clinical content is considered the letter:

- ASC X12 message with PDF

- ASC X12 message with HL7 CDA

25

Attachment Standards



Attachment: Message + Document Payload

- Payload standards represent the clinical content of an attachment (the actual clinical report)
- Messaging standards contain the attachment, as well as metadata for associating the attachment with a claim, etc.

Message & Payload Evolve Independently

- Here, using X12 message, HL7 CDA payload
- Future possibilities include using FHIR RESTful APIs as the transport mechanism, the payload could be PDF, CDA, or FHIR.

How X12 and CDA Work Together

X12 275 is the envelope

- Ties attachment to:
  - Patient
  - Claim
  - Attachment request (solicited scenario)

CDA Contains

- Detailed demographics
- Author/Attester information
- Detailed clinical information
  - Structured (coded data) or unstructured (embedded PDF, etc.)

Payload in 275 envelope

- Base64 encoded
- Binary Data Segment (BDS)

Base 64 Encoded CDA Document

```
TWFuIGlzIGRpc3Rpbmd1aXNoZWQsIG5vdCBvbmx5IGJ5IGhpcyByZWFzb24sIGJ1dCBieSB0aGlzIHN
pbmd1bGFyIHBhc3Npb24gZnJvbSBvdGhlciBhbmltYWxzLCB3aGljaCBpcyBhIGx1c3Qgb2YgdGhlIG
1pbmQsIHRoYXQgYnkgYSBwZXJzZXZlcmFuY2Ugb2YgZGVsaWdodCBpbiB0aGUgY29udGludWVkIGFuZ
CBpbmRlZmF0aWdhYmxlIGdlbmVyYXRpb24gb2Yga25vd2xlZGdlLCBleGNlZWRzIHRoZSBzaG9ydCB2
ZWhlbWVuY2Ugb2YgYW55IGNhcm5hbCBwbGVhc3VyZS4=
.....
```

X1

```
ST*275*1001*006020X314~
BGN*11*0001*20120110~
NM1*PR*2*ABC INSURANCE CO*****PI*1234~
NM1*41*2*XYZ SERVICES*****46*A222216~
NM1*1P*HOLY HILLS HOSP*****XX1666666666~
NX1*1P~
N3*2345 WINTER BLVD~
N4*MIAMI*FL*33132~
NM1*QC*1*JACKSON*JACK*J***MI*987654320~
REF*EJ*JACKSON123~
REF*EA*STHHL12345~
DTP*472*D8*20111229~
LX*1~
TRN*2*1822634840~
STC*R4:11490-0:20120103:LOI*20120103~
DTP*368*D8*20120110~
CAT*AE*MB~
OOI*1*47*ATTACHMENT~
BDS*ASC*6289*..... <BASE 64 ENCODED CDA GOES HERE>
SE*27*1001~
```

Unencoded CDA XML Document

```
<ClinicalDocument xmlns="urn:hl7-org:v3">
     <realmCode code="US"/>
     <typeId extension="POCD_HD000040" root="2.16.840.1.113883.1.3"/>
     <templateId root="2.16.840.1.113883.10.20.22.1.2" extension="2015-08-01"/>
     <templateId root="2.16.840.1.113883.10.20.22.1.2"/>
     <templateId root="2.16.840.1.113883.10.20.22.1.1"/>
     <id extension="TT988" root="2.16.840.1.113883.19.5.99999.1"/>
     <code code="34133-9" displayName="Summarization of Episode Note"
      codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
     <title>Patient Chart Summary</title>
     <effectiveTime value="201308151030-0800"/>
     <confidentialityCode code="N" displayName="normal"
      codeSystem="2.16.840.1.113883.5.25"
      codeSystemName="Confidentiality"/>
     <languageCode code="en-US"/>
     ...
</ClinicalDocument>
```

Enveloping Metadata

Required:

- Payer (Requestor) – Name & Plan ID
- Receiver – Name & ETIN
- Provider of Service – Name & NPI
- Patient – Name & ID
- Payer Claim Control Number (re-association key)
- LOINC code – Information Requested & Date Requested
- Response Due Date
- Payer Contact Info
- Date of Service

Situational:

- Patient Control Number assigned by Provider on claim
- Medical Record Number assigned by Provider on claim
- Institutional Bill Type
- Property and Casualty claim number

Solicited vs. Unsolicited

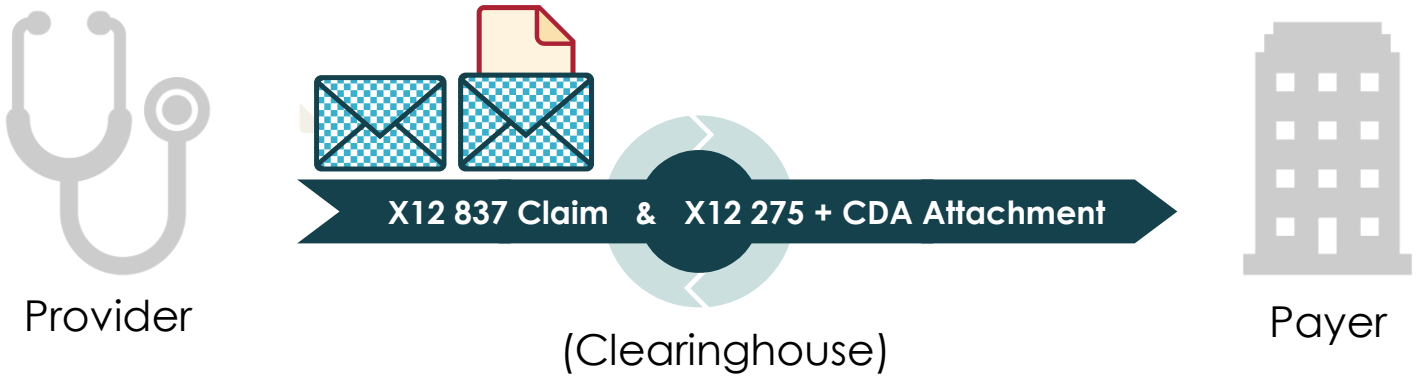
Solicited: Payer Initiates Attachment Control Number (ACN)

The entity creating the request for additional information assigns an ACN to associate the Attachment response to the Attachment request. This ACN must be returned with the Attachment response message.

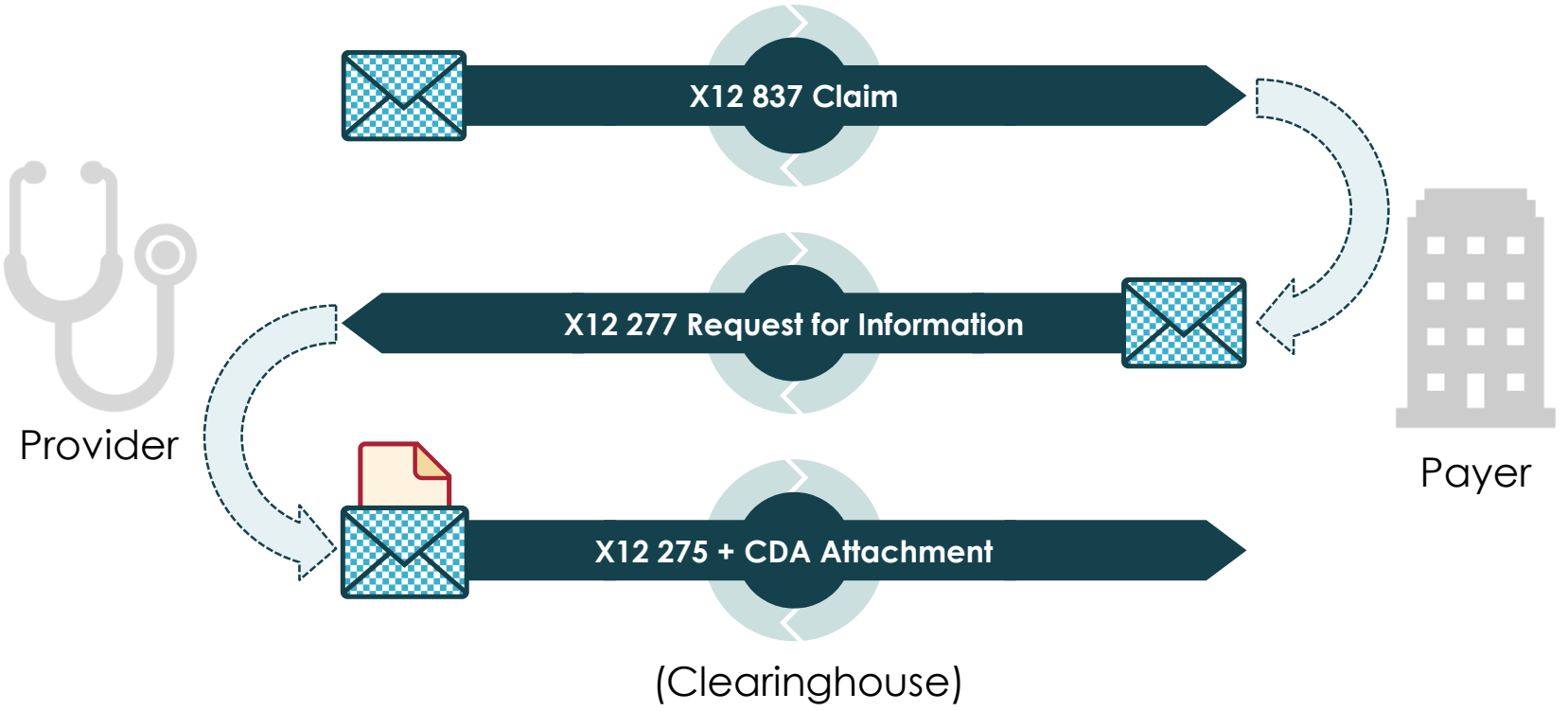
Unsolicited: Provider Initiates ACN

The provider assigns an ACN. This identifier must be provided with the Attachment to associate it with the healthcare administrative activity.

Idealized Orchestration: Unsolicited Claims Attachment



Idealized Orchestration: Solicited Claims Attachment



Outline

Introduction

Background

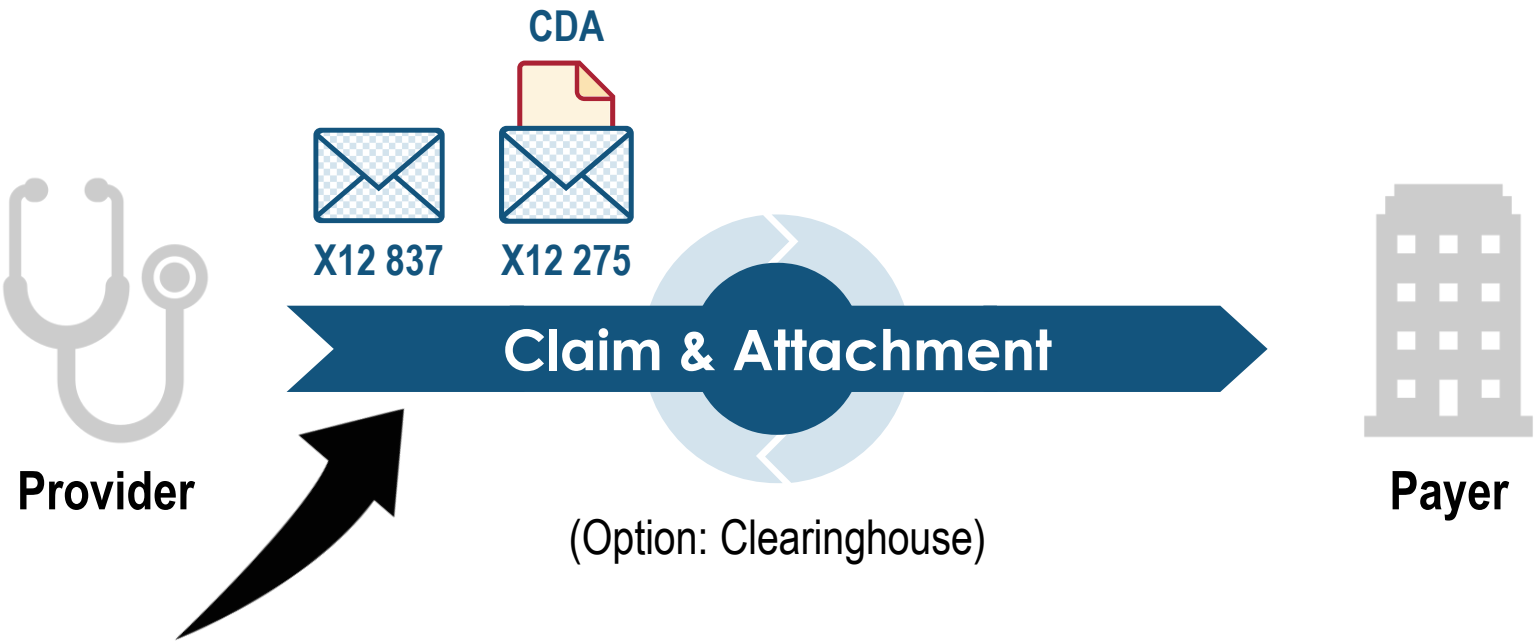
Standards/Industry Consensus

Moving to Implementation

- Challenges and Opportunities
- Connecting the Claim and the Clinical Record

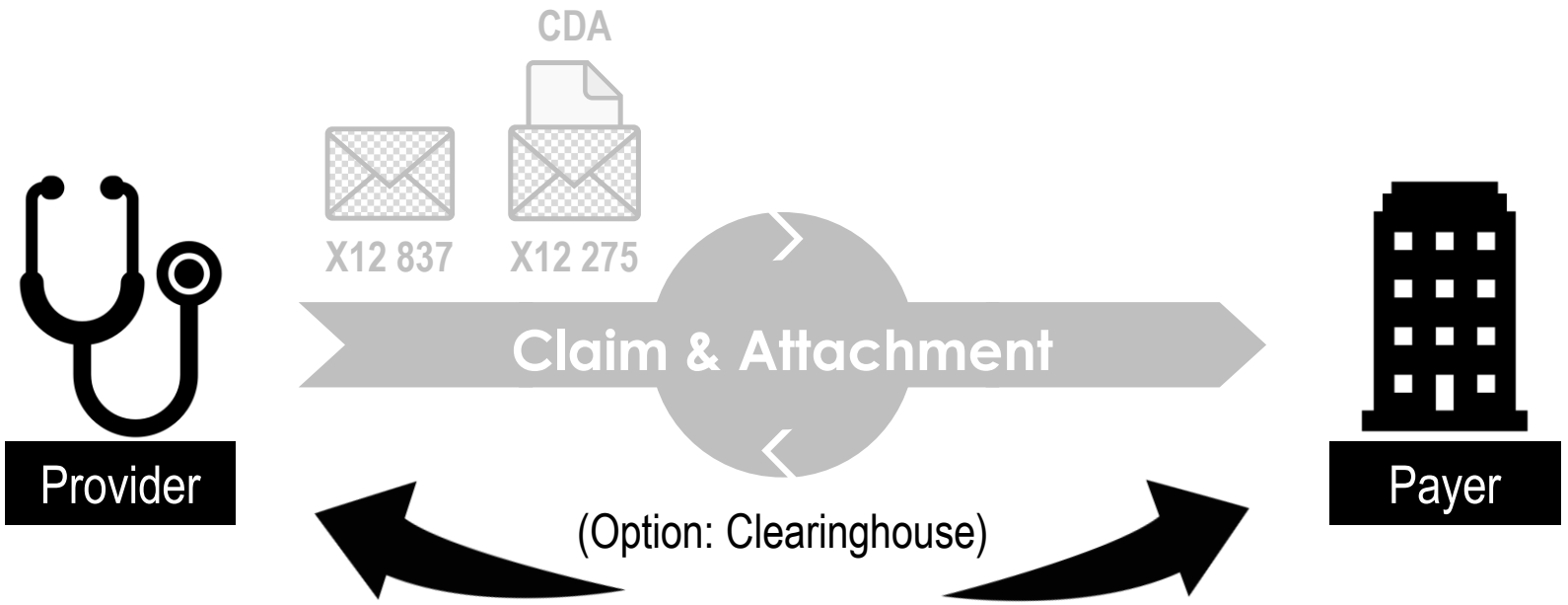
Discussion and Questions

Over 20 years to develop



What if standards were the easy part?

What happens now?



PROVIDER CHALLENGES

CHALLENGE #1:

- Comprehensive
- Indexed
- Integrated

Where does clinical information reside?

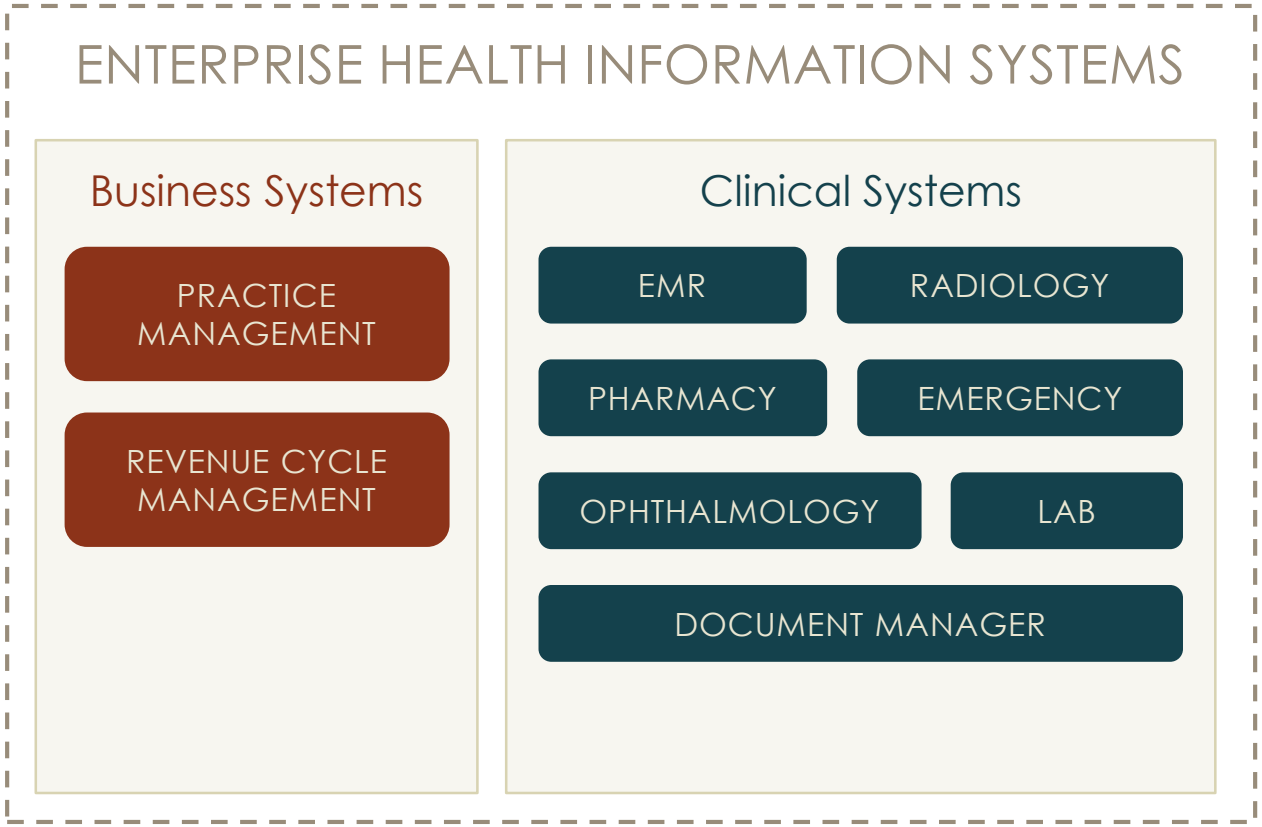
- Electronic Medical Records (EMR)
  - Outpatient
  - Inpatient
- Lab
- Clinical notes (generated outside EMR)
  - Dictated/transcribed
  - Scanned
  - Imported (text, PDF, etc.)
- Specialty systems (examples)
  - Pharmacy
  - Emergency
  - Ophthalmology
  - Radiology

Comprehensive, indexed record

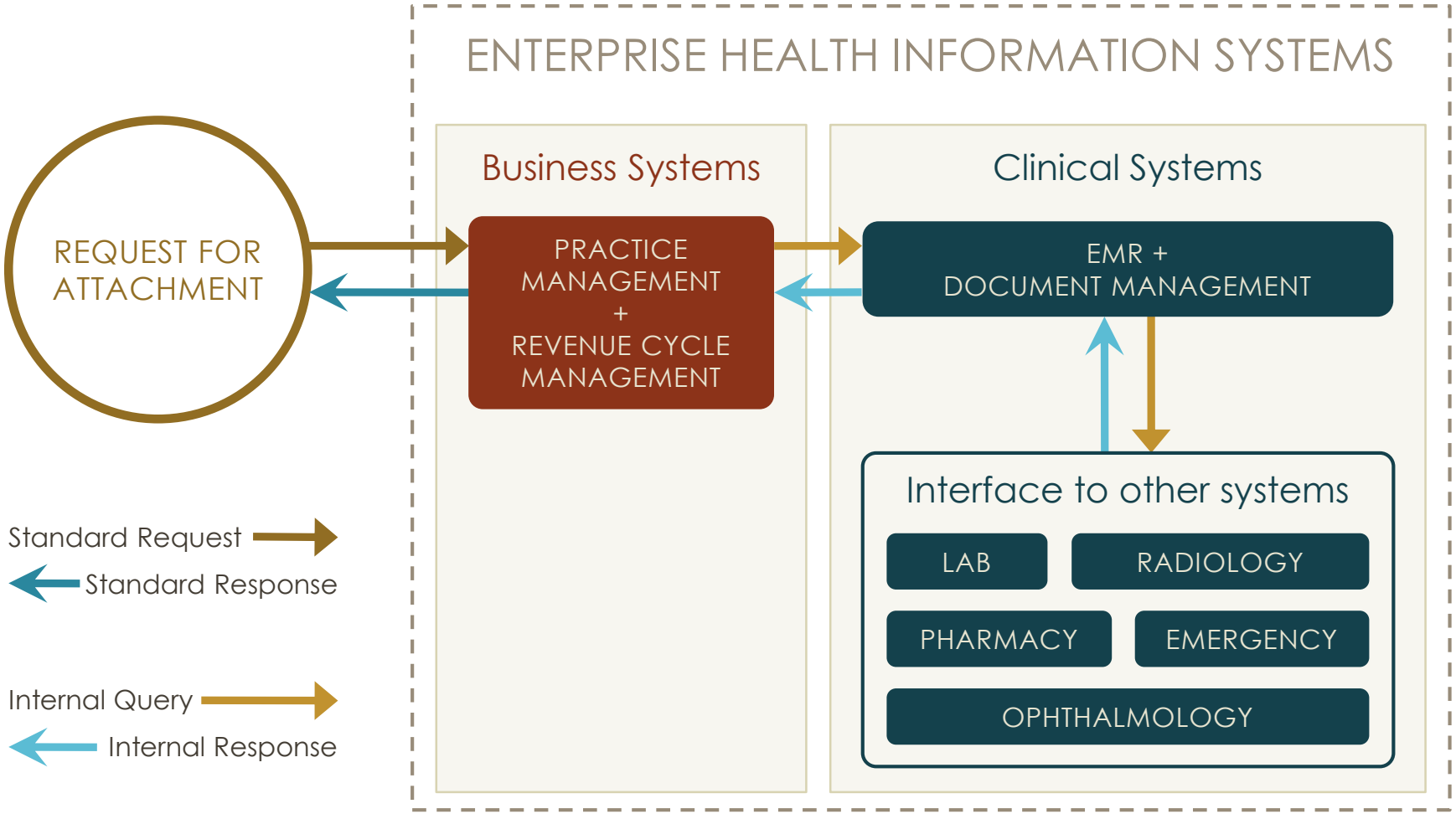
- Role of the EMR
- Enterprise document management
- Role of health information exchanges

Everyone does it differently

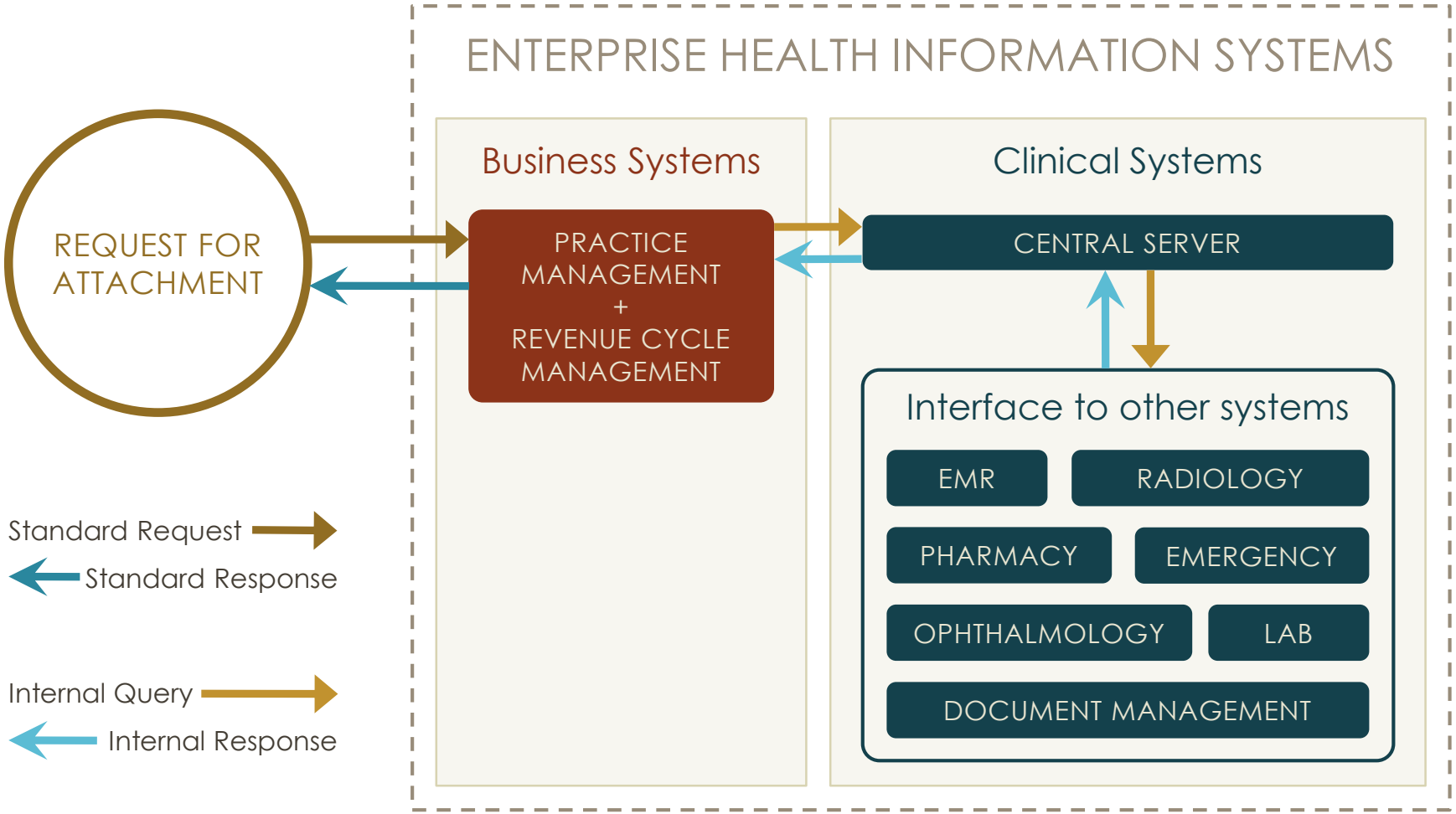
(and then there is paper)



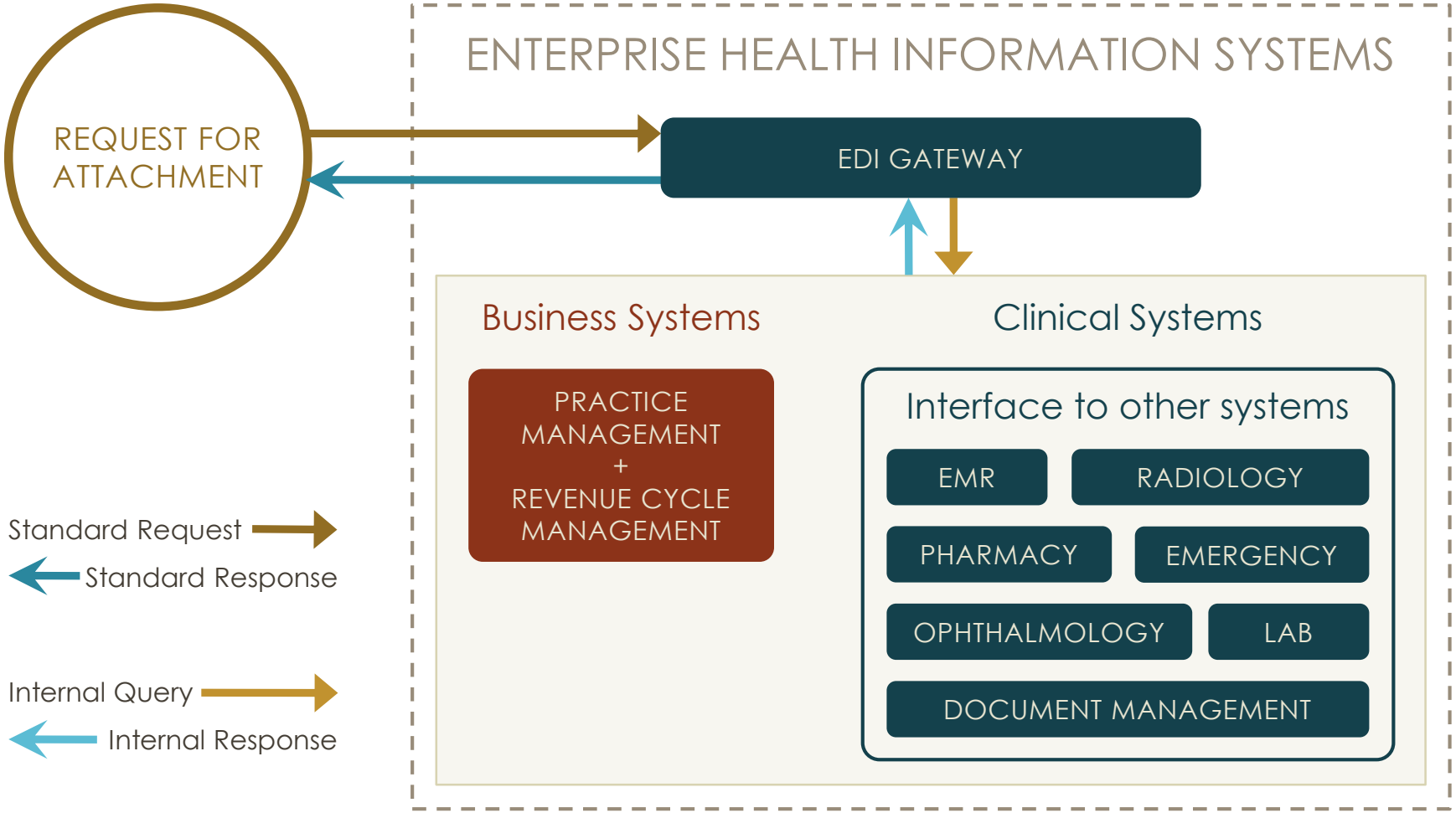
Challenges


ENTERPRISE HEALTH INFORMATION SYSTEMS
REQUEST FOR ATTACHMENT
Business Systems
PRACTICE MANAGEMENT + REVENUE CYCLE MANAGEMENT
Clinical Systems
EMR + DOCUMENT MANAGEMENT
Interface to other systems
LAB
RADIOLOGY
PHARMACY
EMERGENCY
OPHTHALMOLOGY
Standard Request
Standard Response
Internal Query
Internal Response

Challenges


ENTERPRISE HEALTH INFORMATION SYSTEMS
REQUEST FOR ATTACHMENT
Business Systems
PRACTICE MANAGEMENT + REVENUE CYCLE MANAGEMENT
Clinical Systems
CENTRAL SERVER
Interface to other systems
EMR
RADIOLOGY
PHARMACY
EMERGENCY
OPHTHALMOLOGY
LAB
DOCUMENT MANAGEMENT
Standard Request
Standard Response
Internal Query
Internal Response

Challenges


REQUEST FOR ATTACHMENT
ENTERPRISE HEALTH INFORMATION SYSTEMS
EDI GATEWAY
Business Systems
Clinical Systems
PRACTICE MANAGEMENT + REVENUE CYCLE MANAGEMENT
Interface to other systems
EMR
RADIOLOGY
PHARMACY
EMERGENCY
OPHTHALMOLOGY
LAB
DOCUMENT MANAGEMENT
Standard Request
Standard Response
Internal Query
Internal Response

PROVIDER INFORMATION CHALLENGES

CHALLENGE #1:

- Comprehensive
- Indexed
- Integrated

CHALLENGE #2

- So, you want it structured & coded, using whose schema and codes?

80% of clinical information is unstructured.

"Eighty percent of clinical data is locked away in unstructured physician notes that can't be read by an EHR…"
Peter Embi, MD, President & CEO Regenstrief Institute

28 BUSINESS

www.HealthcareITNews.com | Healthcare IT News | April 2017

Health Catalyst, Regenstrief partner to commercialize natural language processing technology

The companies say they intend to put the artificial intelligence-powered text analytics technology to work accelerating advances in patient care.

BERNIE MONEGAIN, *Editor-at-Large*

HEALTH CATALYST and t he Regenstrief Institute are working together to commercialize nDepth, Regenstrief's natural language processing technology.

nDepth is an acronym for NLP Data Extraction Providing Targeted Healthcare. Indianapolis-based Regenstrief developed the technology to harness unstructured data.

Salt-Lake City-based Health Catalyst, a data warehousing and analytics company, has been in the business of extracting data to boost care quality since it launched in 2008.

Regenstrief's nDepth is artificial intelligence-powered text analytics technology. It was developed within the Indiana Health Information Exchange, the largest and oldest HIE in the country.

Regenstrief fine-tuned nDepth through extensive and repeated use, searching more than 230 million text records from more than 17 million patients.

The goal of the partnership is to speed improvements in patient care by unlocking the unstructured data within electronic health records.

Health Catalyst will incorporate nDepth into its data analytics platform in use by health systems that together serve 85 million patients across the country.

"Eighty percent of clinical data is locked away in unstructured physician notes that can't be read by an EHR and so can't be accessed by advanced decision support and quality improvement applications," Peter Embi, MD, president and CEO of Regenstrief Institute, said in a statement. "We will help millions of patients benefit from the untapped potential hidden within unstructured data."

Memorial Hospital at Gulfport, in Gulfport, Miss., served as the co-development partner and first deployment site for Health Catalyst's integration of nDepth. The 445-bed not-for-profit health system deployed the Health Catalyst data and analytics platform in 2014.

nDepth analyzes any document type to mine the unstructured data for insights for clinicians and quality improvement professionals. The technology employs Natural Language Processing – a combination of linguistics, pattern recognition, and machine learning – to derive meaning from text.

nDepth enhances these foundational technologies with clinical domain expertise and phenotype libraries built and curated by clinicians.

Some recent applications of nDepth include finding patients with metastatic melanoma, identifying pre-diabetic patients for clinical trials, and capturing hypoglycemic events.

Health Catalyst and Regenstrief announced the partnership at HIMSS17 in February in Orlando. ▪

Regenstrief CEO Peter Embi, MD

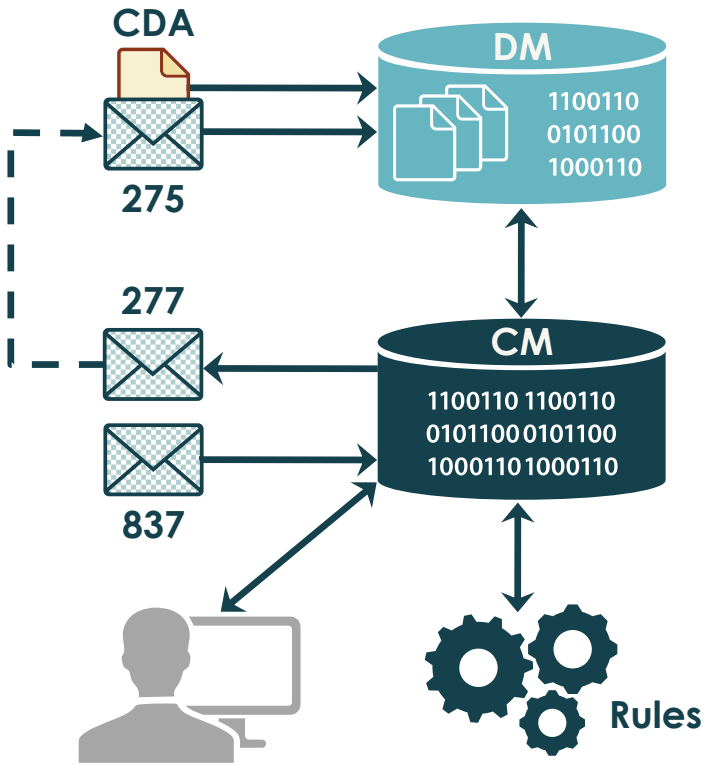
Six Degrees of Structure in a CDA Attachment:

- **Imaged body** – readable but not searchable, would require optical character recognition
- **Text** – supports basic text search (txt, PDF, DOC files)
- **Minimally structured** – Extensible Markup Language (XML) delineate sections, lists, tables increasing efficiency of text processing
- **Structured text with coded sections** – standard codes identify sections (<Family History>, <Allergies>, etc.) providing reliable context to narrative
- **Structured text with minimal coded data** – encoding of key data elements (discrete problems, allergies, medications) (MU1, 2)
- **Structured & coded to industry standard** – Continuity of Care Document (CCD), Consult Note, Operative Note, etc.

Payer Challenge: Implementation

Legend:

- DM = Document Management System
- CM = Claims Management System
- ACN = Attachment Control Number



Input 275 + CDA + 837

1. 837 to CM
2. 275+CDA to DM
3. DM sends ACN to CM

Review

1. CM flags need for review
2. CM queries DM for CDA
3. DM returns CDA
4. Adjustor/rules engine reviews CDA
5. Approve/reject claim

Alternatives

1. CM has XML parser, rules
2. Rules processor has XML parser, queries CDA in CM

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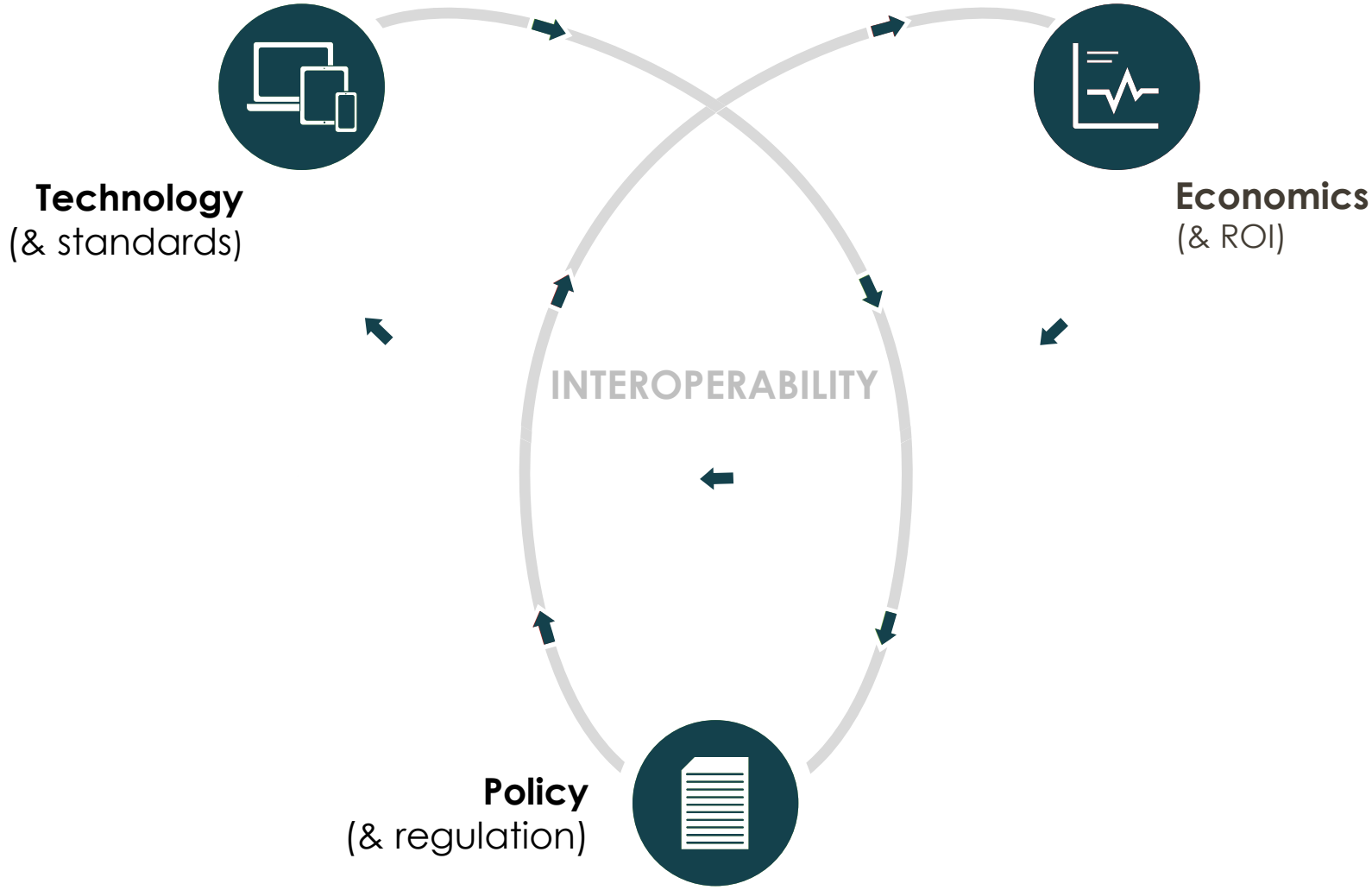
Moving to Implementation

Conclusion

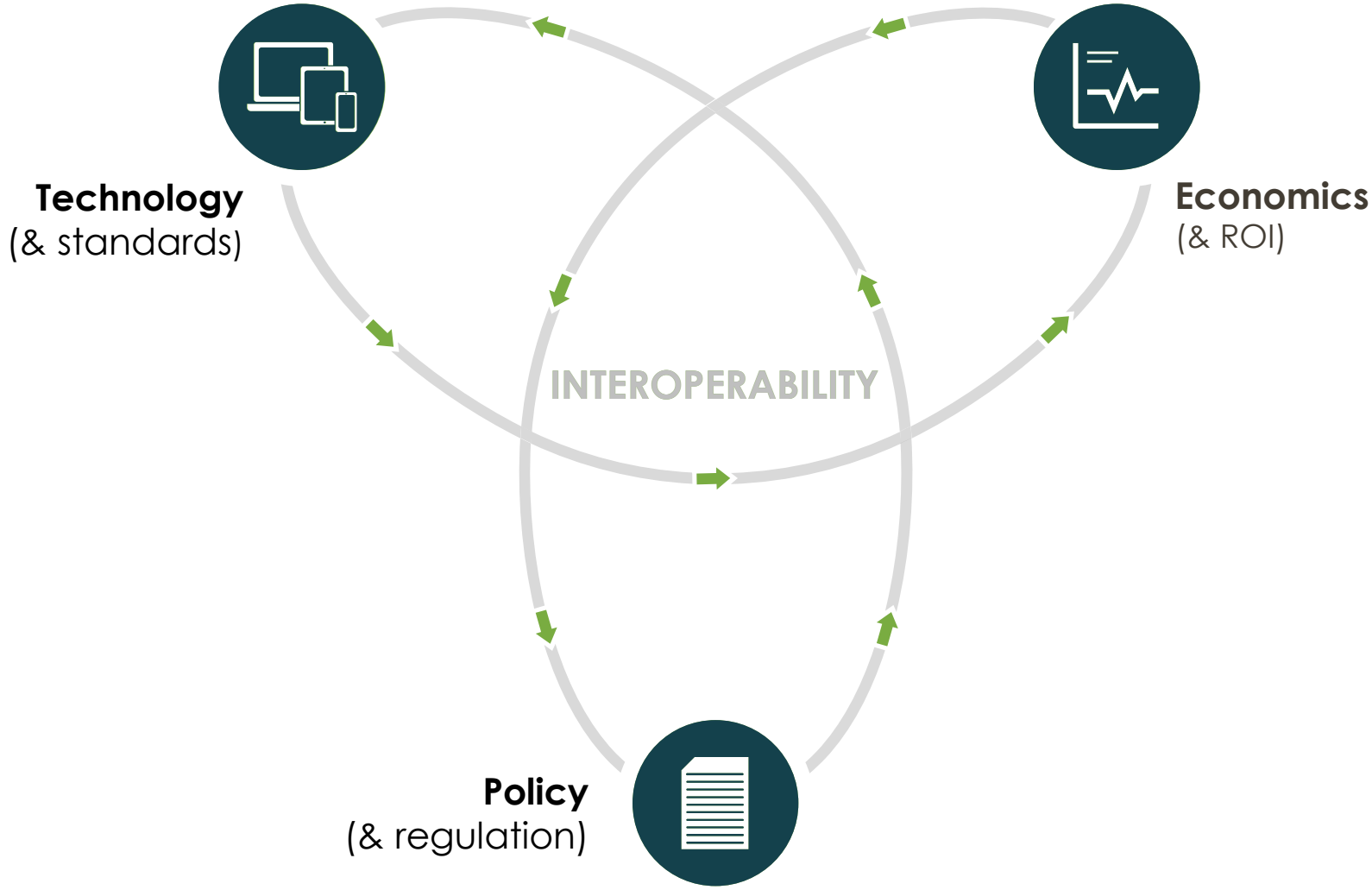
- Why Now?
- Opportunities to Get Started

Discussion and Questions

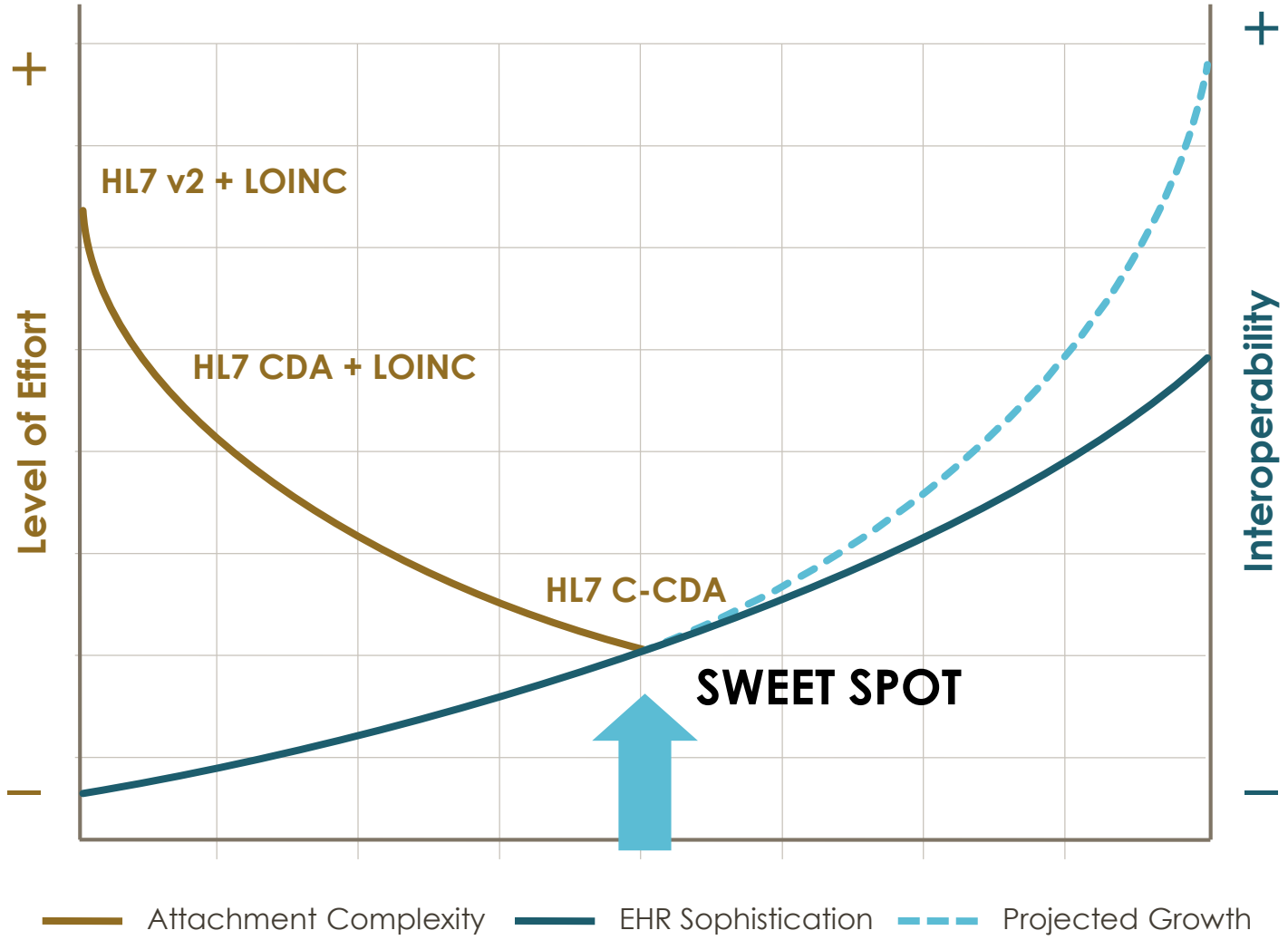
Interoperability



Interoperability



Why Attachments, Why Now?



Cost Savings

Turn-around

- Reduced time to payment
- Reduced number of claim denials

Materials

- Physical storage (e.g., secure rooms, file cabinets, boxes)
- Materials (e.g., paper, envelopers, postage)
- Scanner/Fax machines usage

Labor

- Locate and submit information
- Coordinate mail room
- Monitor claims status
- Train for manual processing

Unsolicited Use Case

- PMS creates X12 837 claim, with **attachment control number (ACN)**
- PMS creates **X12 275** additional information message with ACN
- PMS **populates 275**
  - ***Associates clinical note/additional information with claim***
  - **Inserts CDA** with document type code ("what kind of document is this")
  - **Includes ACN**
- PMS sends **X12 837 & X12 275** with CDA attachment concurrently

"

Solicited Use Case

- PMS creates X12 837 claim~~, with attachment control number (ACN)~~
- Payer returns **X12 277 Request for Information**
  - **With ACN**
  - **With document type code** corresponding to the requested information
- PMS **parses the 277 RFI**
- PMS creates X12 275 additional information message
- PMS populates 275
  - Associates clinical note/additional information with claim
  - Inserts CDA with document type code ("what kind of document is this")
  - Includes ACN
- PMS sends ~~X12 837 &~~ X12 275 with CDA attachment ~~concurrently~~

Solicited Use Case with Clearinghouse

- PMS creates X12 837 claim and submits through Clearinghouse
- Payer returns X12 277 Request for Information to Clearinghouse
  - With ACN
  - With document type code corresponding to the requested information
- ***Clearinghouse queries provider*** *for requested documentation, method is dependent on the business relationship (proprietary, FHIR, other).*
- ***Provider returns requested information*** *(CDA, PDF, Word, etc.)*
- Clearinghouse creates X12 275 additional information message
- Clearinghouse populates 275
  - Associates clinical note/additional information with claim
  - CDA with document type code ("what kind of document is this")
  - ACN
- Clearinghouse sends 275 to Payer

Where Does The CDA Come From?

- Certified EMRs can create a Summarization of Episode Note or Continuity of Care Document (CCD)
- Certified EMRs may also create CDA Discharge Summaries, Consult Notes, etc.
- Some transcription vendors can also create CDA notes
- Off the shelf solutions can "scan-to-CDA"
- Other systems (like a PMS) can be modified to create minimally structured or unstructured CDA documents form existing content

How does the PMS Associate the note with the claim?

All use cases require association of the right information with the claim or the request for more information

Low-tech:

- PMS displays request:
  - Patient name
  - Date of encounter
  - Type of information (summary, consult note, etc.)
- Staff locates information (transcribed, in EMR, lab report, etc.)
  - Prints
  - Scans to PMS to be inserted into CDA

How does the PMS Associate the note with the claim?

All use cases require association of the right information with the claim or the request for more information

Higher-tech:

- PMS conveys request/query to EMR:
  - Patient name
  - Date of encounter
  - Type of information (summary, consult note, etc.)
- EMR returns requested information or a “not found”

How does the PMS Associate the note with the claim?

All use cases require association of the right information with the claim or the request for more information

Highest-tech:

- PMS conveys request/query to document management/medical record locator:
  - Patient name
  - Date of encounter
  - Type of information (summary, consult note, etc.)
- Record locator
  - Searches indexed information from EMR, lab, Medical Records (transcription), etc.
  - Returns requested information or a “not found”

Assumptions

- Strong ROI across stakeholders for:
  - Claims
  - Prior authorization
  - Referral
- Audit use case requirements differ
  - Patient-centricity
  - Authentication/non-repudiation
- Orchestrating and implementing claims
  - Simpler
  - Builds basis for prior authorization and referral

Unknowns

Cost to implement – providers

- Provider infrastructure varies
- EHR capacity to manage notes varies
- Most providers lack central index to longitudinal record

Cost to implement – payers

- Unstructured
- Structured

ROI data – positive, but spotty

FHIR Connectathons

Live software coding events where FHIR applications and the FHIR standard itself are tested.

The Attachments track demonstrated using FHIR RESTful web services and FHIR resources vs. X12 to request and send attachments

FHIR attachment demonstrations have also been preformed at WEDI events

Education

- HL7 Tutorials on CDA, FHIR
- CAQH Webinars on attachments (2017-2018)
- WEDI conferences

Proof of Concept Connectathons

- HL7, 3x/year, CDA and FHIR
- Ad hoc payer connectathons, future, possibly Da Vinci

Pilots (to production)

- Interest in the payer & clearinghouse communities
- What is the level of interest within HATA, among PMS vendors?

Discussion & Questions