CORE Phase II Connectivity Rule: Narrowing the Communication Gap in Healthcare Data Exchange

A CAQH and WEDI Audiocast Wednesday, July 16th, 2008 2:00 pm – 3:30 pm ET

Mitch Icenhower
Director, HDX

Siemens
mitchell.icenhower@siemens.com

John Kelly
Director of IT Operations

Harvard Pilgrim HealthCare
John_Kelly@hphc.org

Discussion Topics

- Overview CAQH and CORE
- Connectivity Today
  - Challenges
  - General Scope and Purpose of CORE's Connectivity Phases
    - Phase I
    - Phase II
- CORE Phase I Connectivity Rule
  - Overview
  - Benefits
  - Challenges
- CORE Phase II Connectivity Rule
  - Development and Roadmap
  - Phase II Rule Conformance Requirements and Rationale
- Examples of forthcoming Phase II Connectivity Implementations
  - Health Plan: Harvard Pilgrim
  - Clearinghouse: Siemens
- Coordinating with Industry-Wide Initiatives
- CORE Phase III Connectivity Priorities

An Introduction to CAQH

CAQH, an unprecedented nonprofit alliance of health plans and trade associations, is a catalyst for industry collaboration on initiatives that simplify healthcare administration for health plans and providers, resulting in a better care experience for patients and caregivers.

CAQH solutions:

- Help promote quality interactions between plans, providers and other stakeholders
- Reduce costs and frustrations associated with healthcare administration
- Facilitate administrative healthcare information exchange
- Encourage administrative and clinical data integration

CORE™

Committee on Operating Rules for Information Exchange

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CORE Mission

To build consensus among the essential healthcare industry stakeholders on a set of operating rules that facilitate administrative interoperability between health plans and providers

- Build on any applicable HIPAA transaction requirements or other appropriate standards such as HTTPS
- Enable providers to submit transactions from the system of their choice and quickly receive a standardized response from any participating stakeholder
- Enable stakeholders to implement CORE phases as their systems allow
- Facilitate stakeholder commitment to and compliance with CORE's long-term vision
- Facilitate administrative and clinical data integration

Key things CORE will not do:

- Build a database
- Replicate the work being done by standard setting bodies like X12 or HL7

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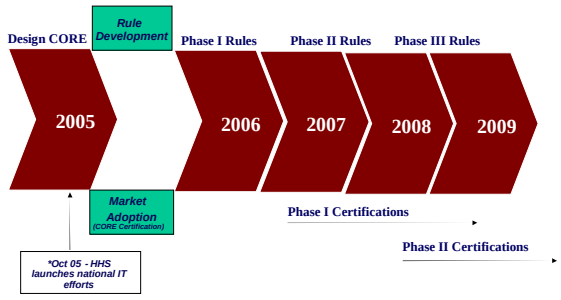
Phased Approach



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Current Participants

- CORE participants maintain eligibility/benefits data for over 130 million lives, or more than 75 percent of the commercially insured plus Medicare and state-based Medicaid beneficiaries
- Over 100 organizations representing all aspects of the industry:
  - 19 health plans
  - 11 providers
  - 5 provider associations
  - 18 regional entities/RHIOS/standard setting bodies/other associations
  - 37 vendors (clearinghouses and PMS)
  - 5 others (consulting companies, banks)
  - 7 government entities, including:
    - Centers for Medicare and Medicaid Services
    - Louisiana Medicaid – Unisys
    - US Department of Veteran Affairs
    - Minnesota Dept. of Human Services

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CORE Certification

- CORE certification is voluntary
- Binding "Pledge"
  - By signing Pledge, CORE entities agree to adopt, implement and comply with Phase I eligibility and benefits rules as they apply to each type of stakeholder business
  - The Pledge will be central to developing trust that all sides will meet expectations
- Recognizes entities that have met the established operating rules requirements
- Entities that create, transmit or use eligibility data in daily business required to submit to third-party testing (within 180 days of signing pledge); if they are compliant, they receive seal as a CORE-certified health plan, vendor (product specific), clearinghouse or provider
- CORE-certification is required for each phase of CORE
- Entities that do not create, transmit or send – sign Pledge, receive CORE Endorser Seal

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Certification Testing

- Based on CORE Test Suite
  - For each rule there are standard conformance requirements by stakeholder
  - Suite outlines scenarios and stakeholder-specific test scripts by rule
  - Not testing for HIPAA compliance, only CORE operating rules; however, entities must attest that, to the best of their knowledge, they are HIPAA compliant
- CORE testing is not exhaustive, (e.g. does not include production data or volume capacity testing)
- Testing conducted by CORE-authorized certification testing entities

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claredi an INGENIX division https://core.claredi.com

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Overview of CORE Requirements Phase

Transaction Type and Standard Data Content		Phase I*	Phase II*
Eligibility/ Benefits	Static *Patient Financial Responsibility*, e.g. co-pay, base deductible	x	x
	Remaining *Patient Financial Responsibility*, e.g. remaining deductible for benefit plan and 40+ service types		x
	Data to Support Financials, e.g. dates, in/out of network differences	x	x
	Use of transaction under "Basic Level" Infrastructure/Policy Requirements	x	x
	Use of transaction under "Enhanced 1" Infrastructure/Policy Requirements		x
Claims Status	Use of transaction under "Basic Level" Infrastructure/Policy Requirements		x
Infrastructure/Policy Requirements to Help Data Flow / Gain Provider Use			
Basic Level	• ~~Policy requirements:~~ Must offer CORE-certified capabilities to ALL trading partners • ~~Infrastructure requirements:~~ ❑ Real- time: 20-seconds AND batch turn around requirements ❑ System availability: 86% ❑ Connectivity: Internet connection with basic HTTP – certified entity uses own specifications, e.g. SOAP with WSDL ❑ Standard acknowledgements for batch and real-time, e.g. similar to fax machine acknowledgement ❑ Standard Companion Guide *Format and flow*	x	x
Enhanced 1	* Basic Level, plus, additional ~~Infrastructure requirements:~~ ❑ Patient identification rules ❑ Standard error codes ❑ Normalizing names ❑ Connectivity: Must offer two existing envelope standards using CORE-approved specifications, e.g. allows for direct connect, PHR transfers		x

Note : *There are over 30 entities already CORE Phase I certified. CORE-certification is for health plans, vendors, clearinghouses and large providers.

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Connectivity Today

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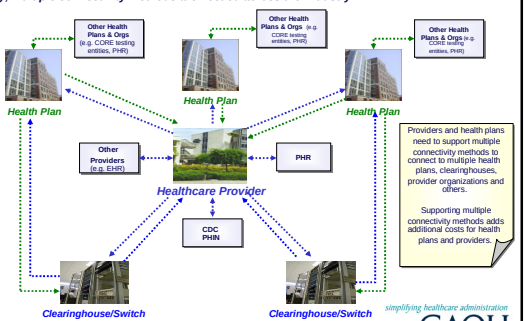
Challenges of Healthcare Connectivity Today

Currently, multiple connectivity methods are needed across the industry...



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Scope and Purpose of CORE Connectivity Phases

Phase I Highlights

- **Decision**: Connectivity is the foundation for electronic transactions and therefore CORE Phase I needs to address the process to communicate, transport, and route inquiries and responses between trading partners
  - **Benefit**: Supports healthcare movement towards at least one common, affordable connectivity platform
  - **Challenge**: Must incorporate appropriate security standards to ensure secure, reliable messaging, including authentication, non-repudiation of both origination and receipt, and message payload confidentiality
- **Decision**: Given market implementation is one of CORE's key goals, feasibility must be a top priority as it helps to drive adoption
  - **Benefit**: Helps maintain momentum toward adoption of standard requirements
  - **Challenge**: A less definitive rule will result in varied implementation
- **Conclusion**: CORE connectivity-specific operating rules, via a phased approach, help maintain momentum and incremental convergence on a common foundation for electronic data exchange
- **CORE Phase I Connectivity Summary**
  - Begin movement and education in the arena
  - Established common transport protocol (HTTP/S over public Internet) and basic metadata
  - Offer a Safe Harbor (rule is supported by all CORE-certified entities for any trading partner)
  - Create an incremental "step" toward interoperability

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Scope and Purpose of CORE Connectivity Phases (cont'd)

Phase II Highlights

- **Decision**: Develop a more definitive Phase II Connectivity Rule
  - **Benefit**: Facilitates connectivity standardization and interoperability as the rule can be applied across various aspects of the healthcare information exchange (e.g. admin, clinical)
  - **Challenge**: CORE must coordinate with its multi-stakeholder members, standards organizations and industry bodies to obtain technical review and acceptance of a rule
- **Conclusion**:
  - Relatively few healthcare industry trading partners have fully implemented Internet interoperability and most are still developing their long-term strategy, therefore, an earlier development of an interoperability rule will assist in an easier industry adoption process
  - As CORE's approach is payload agnostic, early adoption of a Phase II Rule could provide a ready foundation for the inclusion and earlier adoption of additional transaction types and could more easily incorporate evolving national connectivity standards
- **CORE Phase II Connectivity Summary**
  - Create a more ***definitive*** Connectivity Rule, but still a safe harbor
  - Move toward greater interoperability
    - Envelope structure (using existing open standards)
    - Submitter Authentication
    - Envelope Metadata syntax and semantics

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Key Principles Included in CORE Connectivity Phases

- Developed using consensus-based approach among industry stakeholders and is designed to:
  - Facilitate interoperability
  - Improve utilization of electronic transactions
  - Enhance efficiency and help lower the cost of information exchange in healthcare
- Uses existing standards
- Creates a base and not a "ceiling"
  - e.g., certified entities may include additional metadata in a CORE compliant envelope to support their business needs
- Provides a "safe harbor"
  - Rule is supported/offered by any CORE-certified entity
- Phase I or II Connectivity Rules *do not*:
  - Require trading partners to remove existing connections that do not match the rule
  - Require that all CORE-certified entities use the CORE rule or all new connections

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Harvard Pilgrim HealthCare Overview

Harvard Pilgrim HealthCare

General Background Information

- Nonprofit organization which offers HMO, PPO, and POS plans in New England
- Membership = 1.2M+
- 32M electronic transactions/yr
  - 15M eligibility transactions/yr
  - 3.3M claim status transactions/yr
- 6.7M paper, phone, fax transactions
  - 190K Claims Status
  - 170K Eligibility
- 83% of electronic transactions with provider network are without transaction fee

Health Plan Perspective on CORE Certification/Participation

- Adoption of the CORE connectivity standard by payers, vendors and industry-wide initiatives is critical to making e-Health a reality
- Once a common foundation for connectivity is established, adoption and innovation will quickly drive widespread adoption of EHR's, e-RX, regional data exchange, integrated payer-provider supply chains and eventually a true NHIN
  - It is analogous to the SMTP standard for e-mail and HTML for the web

16 Project underway for CORE Phase I/II Implementation

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CORE Phase I Connectivity

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CORE Phase I Connectivity Rule Overview

- CORE-certified entities must support HTTP/S 1.1 over the public Internet as a transport method for both batch and real-time eligibility inquiry and response transactions
- Real-time requests
  - A single inquiry or submission which elicits either an error response or the appropriate X12 message
- Batch requests, submissions and response pickup
  - For batch submissions, the response must be only the standard HTTP message indicating acceptance or rejection
- Security and authentication data requirements
  - By using HTTP/S protocol, information is encrypted by a session-level private key negotiated at connection time
- Response time, time out parameters and re-transmission
  - If HTTP Post Reply Message not received within 60 sec, a duplicate transaction should be sent no sooner than 90 seconds
  - No more than 5 duplicate transactions should be sent within 15 minutes
- Response message options & error notification
  - Authorization errors
  - Batch submission acknowledgement
  - Real-time response or response to batch response pickup
  - Server errors

NOTE: CORE Rules are a base and not a ceiling

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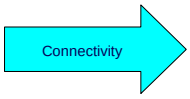
CORE Phase I Connectivity Rule: Benefits



- Like other industries have done, supports healthcare movement towards at least one common, affordable connectivity platform. As a result, provides a minimum "safe harbor" connectivity and transport method that practice management vendors, clearinghouses and plans that are CORE-certified can easily and affordably implement
- Enables small providers not doing EDI today to connect to all clearinghouses and plans that are CORE-certified using any CORE-certified PMS
- Enables vendors to differentiate themselves to offer improved products cost-effectively

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CORE Phase I Connectivity Rule: Challenges

- As expected, the long-term level of rule specificity to enable connectivity interoperability was not yet achieved. Significant variations in:
  - Names for Phase I metadata, names and location for other critical metadata
  - Message envelope structure
  - Authentication methods
  - Routing approaches
  - Security related information
- CORE Phase I was intended as an incremental "step" toward interoperability

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CORE Phase I "Real World" Implementations

Entity	Message Envelope	Authentication
Health plan A	WS (SOAP + WSDL schema I)	WS-Security
Clearinghouse A	HTTP POST: name/value pair	User/password
Clearinghouse B	HTTP POST	User/password
Clearinghouse C	HTTP POST with MIME	User/password encoded in MIME
Clearinghouse D	WS (SOAP+WSDL schema II)	User/password basic authentication
RHIO A	WS(SOAP+WSDL schema III)	Digital signature with X.509 certificate
RHIO B	MIME	User/password encoded in MIME

Note: Small sampling, range in variation is great

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CORE Phase I: Lessons Learned

- Industry has many connectivity approaches (proprietary and non-proprietary) with large installed bases
- Stakeholders are ready to come together and build consensus on connectivity methods for interoperability
- CORE Phase I is a step in the right direction – from proprietary and/or private networks, to public Internet (HTTP/S)
- While having a uniform transport standard is an important first step, many variations exist within CORE Phase I compliant implementations - interoperability requires a more definitive rule

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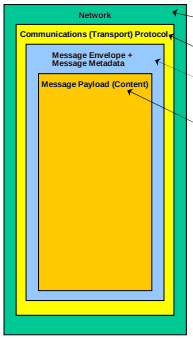
Achieving Connectivity Interoperability Requires Standards



= Public Internet – CORE Phase I Rule

= HTTP/S – CORE Phase I Rule

= Message Envelope & Message Metadata – **CORE Phase II Rule** (independent of payload – required by Phase I)

= HIPAA Administrative Transactions (X12)
HL7 Clinical Messages
NCPDP Messages
Zipped Files
Personal Health Record
Other Content

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Siemens Overview

SIEMENS

General Background Information

- 2007 Healthcare transactions: 230M+
- Providers submitting Eligibility Transactions: 1,300
- Payers available through HDX Network for Eligibility: 250+

Vendor (Clearinghouse) Perspective: CORE Involvement, Participation and Certification

- Key CORE participant
  - Serve on all Work Groups and Subgroups
  - Mitch Icenhower Chair of Technical Work Group and representative on CORE Steering Committee
- Phase I CORE-certified
- Siemens/HDX encourages adoption and further development of the CORE rules
  - Developing consistent operating rules will increase EDI participation, offering customers and the industry greater communication and efficiency.
- Participation with prestigious national organization is more effective than individual, separate attempts to influence change
- Leveraged existing X12 support for more consistent data content transport

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Questions?

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CORE Phase II Connectivity

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CORE Phase II Decision: Definitive Connectivity Rule

Key Rationale*

- As expected, variations existed in Phase I Connectivity Rule Implementation
- Creating a more definitive rule will facilitate connectivity standardization, and can be applied equally across the healthcare information exchange, such as clinical transport messaging (*A key CORE goal is to be payload agnostic*)
- A definitive rule will assist in accelerating industry interoperability
- A definitive rule will help create momentum toward a connectivity foundation for the industry

Methodology

- Make decisions based on criteria, open standards, environmental scan, member inputs and CORE goal to gain implementation

**** Not a comprehensive list***

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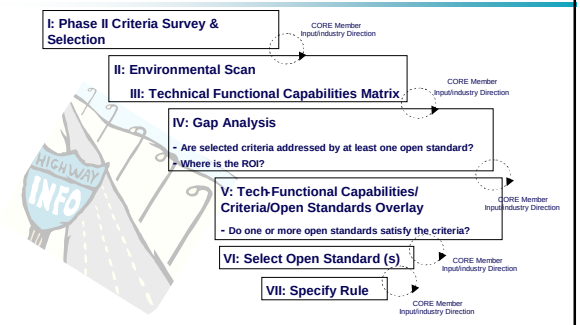
CORE Phase II Connectivity Rule: Roadmap Overview



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CORE Phase II Connectivity Rule Development:

Examples of Analytical Artifacts

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Phase II Connectivity Artifact: Criteria Survey and List of Selected Criteria

Goal: Gather stakeholder feedback to establish rule criteria

- Technical business goals
  - Supports rules based routing
  - Supports Real time (request/reply, or synchronous) transaction processing
  - Supports Point-to-Point message exchange
  - Supports Batch (or asynchronous) message exchange
- Security goals
  - Supports identification
  - Supports submitter authentication, with ability to encrypt
  - Supports HIPAA security regulations
- Messaging goals
  - Payload agnostic (to enable interoperability)
  - Message metadata
- Implementation business principles
  - Language neutral (e.g., payloads like X12, HL7 have language specific envelopes that vary in metadata content and position)
  - Platform neutral

NOTE: This is not a comprehensive list

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Phase II Connectivity Artifact: Criteria Ranking

Goal: Evaluate, rank and prioritize criteria

- Feedback from CORE Participants on:
  - Relative importance of criteria
    - Essential, or Must have
    - Important, or Should have
    - Not essential
  - Member recommendation for criteria additions:
    - e.g., Message format may be clearly and precisely specified in a standard way
- Criteria ranking examples:
  - Supports real-time (synchronous) messaging – almost all responders marked this as an essential criterion
  - Supports broadcast messaging – most responders marked this as a non-essential criterion

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Phase II Connectivity Artifact: Environmental Scan

Goal: Educate participants on industry's envelope standards adoption and industry trends

- Compilation of envelope standards in use by major players in the US-based health care industry
  - Standards Development Organizations (e.g., IETF, W3C, OASIS, HL7, X12, NCPDP)
  - Government Entities/Initiatives (e.g., CDC PHIN, HHS HITSP)
  - Private Organizations/Initiatives (e.g., RxHub, SureScripts, IHE)
- Also reviewed international trends
  - Canada
  - Norway
  - UK

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Phase II Connectivity Artifact: Mapping of Criteria to Open Standards

Goal: Map CORE Phase II criteria to open standards to aid in selecting standards that meet the criteria

- Initial mapping artifacts:
  - Mapping of criteria to technology functional capabilities
  - Mapping of technology functional capabilities to open standards
- Overlay
  - Combination of mappings, to obtain criteria to open standards mappings
  - Helped in identifying:
    - standards gaps (e.g., message throttling was not addressed by any open standard)
    - standard groups that addressed most of the criteria
    - standards that meet very few criteria (e.g., CGI, AS2)

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CORE Phase II Short Listed Standards: Real-world Implementation Examples / Questionnaire

Goal: Obtain real-world implementation perspectives from CORE members in response to a common set of questions that were based on CORE Phase II Criteria and Glossary

- Support for real time transaction processing
- Support for asynchronous message exchange
- Support for large batch transaction files
- Payload independence
- Language and platform neutrality
- Support for submitter authentication (encrypted)
- Implementation environment characteristics
- Interoperability
- Extensibility
- Implementation Cost/Effort level

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CORE Phase II Definitions: Glossary of Terms

Goal: Expand CORE Phase II glossary of terms, use definitions from well recognized standards organizations like IETF, W3C and OASIS

Examples of terms in glossary:	Discussions on performance, interoperability highlighted the need for greater clarity of several terms:
Message metadata **Acknowledgments** **Network error handling** **Payload, Payload agnostic** **Request/Reply Message exchange** **Sender, Receiver** **Transport protocol**	**Synchronous processing** **Asynchronous processing** **Large Volume Transactions** **Large batch** **Interoperability** **Extensibility** **Open Standards** **Standards Definition Organization (SDO)** **Safe Harbor**

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CORE Phase II Connectivity Rule: Conformance Requirements and Rationale

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CORE Phase II Connectivity Rule Overview

- Open Standards
  - Message Envelope
    - SOAP 1.2 + WSDL + MTOM
    - HTTP + MIME Multipart
  - Submitter Authentication
    - Username/Password (WS-Security Username Token)
    - X.509 Certificate over SSL (two-way SSL)
- Envelope Metadata
  - Field names (e.g., SenderID, ReceiverID)
  - Field syntax (value-sets, length restrictions)
  - Semantics (suggested use)
- Error Handling, Auditing

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Phase II Connectivity: Rationale for Two Envelope Standards

- Decision on supporting two message envelope standards
  - SOAP+WSDL
    - Well aligned with HITSP and HL7
    - Lends itself to future rule development using Web-services standards for more advanced requirements (e.g., reliability)
  - HTTP MIME Multipart
    - Relatively simple and well understood protocol framework
    - CORE-certified entities have already implemented HTTP as part of Phase I
  - Incremental "stepped" approach:
    - Facilitates adoption in a market that is still maturing
    - Facilitates interoperability relative to the current state of envelope standard variability in the marketplace

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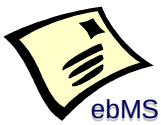
Function of Envelope Standards Within CORE Phase II

SOAP

MIME

- Needed
  - to specify
    - Recipient
    - Sender
  - Keep contents intact
- Support auditing & tracking
- Support Routing
- Provide other critical details

XSD



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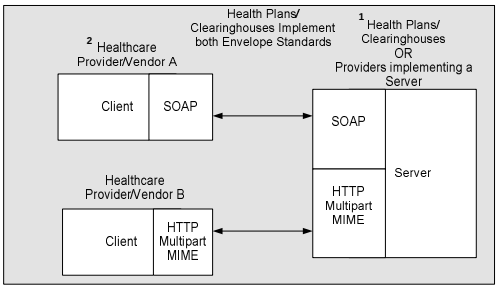
Envelope Analogy

- US Post Office Rules and other market options
  - Specific requirements for envelope size, addressing and use of postal barcode
    - Impose surcharge on mailers not conforming to requirements to offset costs to handle non-standard envelopes
  - FedEx, UPS, etc all have their own standard envelope requirements but include basic "metadata"
- Implications for CORE?
  - Use standard envelope and metadata to
    - Increase interoperability leading to increased use of administrative transactions
    - Improve efficiency
    - Reduce cost

Phase II Connectivity: Envelope Conformance



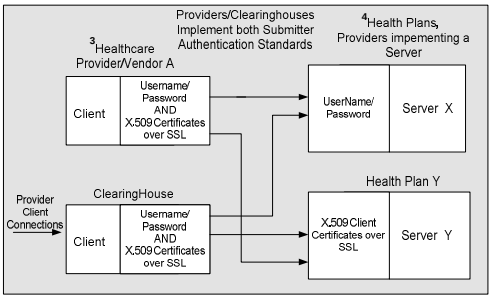
[1] Health Plans, Health Plan Vendors, Clearinghouses or Providers implementing a server must support * both envelope standards.
[2] Providers and Provider Vendors acting as a client need only support one of the envelope standards.

Note: Standards are paired with a metadata list; * Refer to Rule for definition

Rationale for Envelope Standard Basic Conformance Requirements

- Health Plans/Clearinghouses are typically "Servers" and Health Providers are typically "Clients"
- Servers can accept more client connections by supporting two envelope standards (big improvement from the current state of industry)
- Server sites typically have higher technical expertise than Client sites. Increased complexity of supporting two envelope standards may not be significant for Server sites

Phase II Connectivity: Submitter Authentication



[3] Providers, Provider Vendors or Clearinghouses acting as a client must support* both submitter authentication standards.
[4] Health Plans, Health Plan Vendors or Providers implementing a server need only support one submitter authentication standard.

* Refer to Rule for definition

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Rationale for Submitter Authentication Standards and Basic Conformance Requirements

- Standards
  - Username/password: Simple, ubiquitous
  - X.509 Certificate over SSL: Aligned with HITSP/IHE (ATNA)
- Conformance Requirements
  - Health-Plans/Clearinghouses act as "Servers", Health Providers act as "Clients"
  - Server implementations manage identities, credentials, hence more complex to support both authentication methods at Server
  - Client implementations only install their own credentials for each connection to Health-Plan/Clearinghouse, hence simpler to support two authentication methods at Client

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Phase II Connectivity: Metadata Will be Outside the Payload

Concept applied in Phase I, and confirmed again in Phase II

Rationale:

- Facilitates connectivity standardization as well as administrative and clinical integration
- Accelerates industry interoperability
- Entities are able to do auditing and authentication without parsing payload/bring payload into their system
- Payload agnostic
  - Allows CORE's connectivity rules to evolve to future phases independent of payload standard evolution; in other CORE rules, e.g. Eligibility Data Content, adoption of payloads are promoted for content
  - Supports approach of other national initiatives

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Envelope Metadata Requirements

- Metadata provides the ability to
  - Identify both sender and receiver
  - Authenticate sender and authorize access
  - Identify type of payload
  - Route payload to the correct receiver entry point for the type of payload
  - Audit date/time of message
  - Specify payload size in either kilo or megabytes
- Metadata must be independent of the payload (content) {***CORE Phase I Decision***}
  - Does not require receiver to examine payload
- Metadata needs to be standardized for
  - Metadata element names
  - Intended use of each metadata element (as agreed to by the trading partners)
  - Requirement for presence of each metadata element (required/optional)
  - Structure of message envelope

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Phase II Connectivity: Envelope Metadata

Challenges of Payload Specific Metadata

- Not all metadata is present in all types of payload
  - Some payload standards are content focused with no transport/message metadata (e.g., HL7 does not have routing and security information so they are supporting the adoption of an existing envelope standard)
- Different payloads use different structure, position, syntax, semantics for the same metadata
  - HL7 and X12 message structures are different
  - Standards for different payload types are evolving independently of one another

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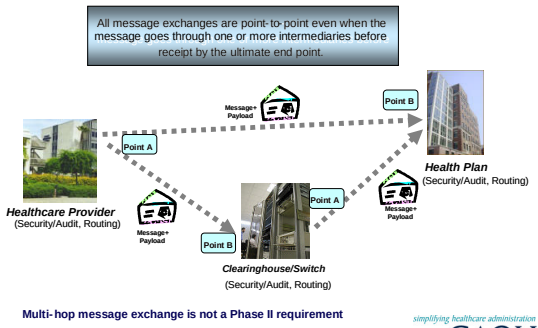
Intended Use of Metadata in CORE Phase II



Multi-hop message exchange is not a Phase II requirement

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CORE Connectivity: Metadata

Decision: For simplicity, use same metadata for request and response

- Payload Type
- Processing Mode
- Payload Length
- Payload ID
- Time Stamp
- User Name
- Password
- Sender Identifier
- Receiver Identifier
- CORE Rule Version
- Checksum
- Error Code
- Error Message

*** See proposed CORE Phase II Rule for detailed descriptions, intended use for each element*

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Value and Benefit of ……

A common shared vocabulary for electronic messaging
= Standard Metadata (e.g., SenderID, Date)

↓

Standard metadata in a structured envelope
= Interoperability (e.g., XML Schema)

↓

A standard message structured using a schema
(e.g., WSDL)
= Automated Processing of Message and Payload

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Examples of Forthcoming Phase II Connectivity Implementations

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Harvard Pilgrim HealthCare (HPHC) Connectivity Perspective

HPHC Transport Protocols

- Support 6 protocols; Channel strategy is to support the common and standard transport protocols in demand by provider network (e.g., dial-up, VPN, Frame Relay, SOAP+WSDL)
- Support multiple protocols via common B2B gateway
- Our opinion is that with further adoption of CORE operating rules, vendors will play a more prominent role in providing connectivity and over time, traffic will move to SOAP+WSDL
  - 30% of all electronic transactions are currently received via SOAP+WSDL
  - All new NEHEN transactions received via SOAP+WSDL
  - Legacy NEHEN conversion to SOAP+WSDL from VPN is underway

Submitter Authentication Methods

- Use X509 Certificate for internet transactions and will continue to do so
- It is our opinion that Username/Password does not scale well for broad adoption and does not promote the adoption of true B2B/machine to machine transaction exchange

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Harvard Pilgrim HealthCare

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Harvard Pilgrim HealthCare (HPHC) Connectivity Perspective

HPHC Envelope Methods

- Loosely defined: support a total of 6 envelopes (one per connectivity protocol)
- Technically defined: support ANSI X12, SOAP/XML, Proprietary (portal transfer agent)
- Project underway for CORE Phase I/Phase II implementation which will include supporting HTTP+MIME

Since SOAP+WSDL is capable of becoming the standard transport mechanism supporting any kind of payload (X12, HL7, NCPDP, LOINC, etc.) it is our opinion that there will be a direct correlation between EHR adoption and broad-based acceptance of the SOAP + WSDL protocol supporting extensive automated, B2B supply chain integration in health care.

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Harvard Pilgrim HealthCare

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Siemens Connectivity Perspective

SIEMENS

Siemens Transport Protocols

- HTTP via VPN, HTTPS via public internet, TCP/IP (persistent/non-persistent sockets, RPC, etc.) via VPN, SNA

Siemens Submitter Authentication Methods

- Server uses only Siemens generated certificates (this will continue for Phase II implementation); Client supports client authentication and/or sending usernames/passwords.
  - All CORE Phase I server connections use certificates only

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Siemens Connectivity Perspective

SIEMENS

Siemens Envelope Methods

- Server side uses 2 variations (HTTP name/value pairs and TCP/IP headers)
- Client side has numerous types (>25) depending upon trading partner requirements
- Both methods used as a client; neither method as a server.
  - 3 client connections using SOAP+WSDL, 1 client connection using HTTP+MIME (multipart)
- Because of Siemens role as a clearinghouse, we do not expect a significant reduction in the number of envelope methods supported in the near term
  - If trading partners request us to act as a clearinghouse for them, we will maintain a non-CORE connection to them and provide a CORE-compliant connection to their trading partners.
  - Siemens will encourage all trading partners to move to CORE-compliant connections in the nearest timeframe that makes sense for their business.
- Siemens anticipates that CORE Connectivity Rules will help simplify future implementations

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Coordinating With National Initiatives

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CORE Phase II: Key Outreach to Standards Organizations and Other Industry Initiatives

- Detailed review and discussions have occurred
  - HITSP and IHE
    - IHE Profiles
      - HL7v2 to use MLLP + Audit Trail and Node Authentication (ATNA)
      - HL7v3 to use SOAP over TLS with ATNA
  - HL7
    - Standards recommended for transport
      - HL7v2 MMLP
      - HL7v3 SOAP+WSDL
      - HL7v3 ebMS
  - RxHub and SureScripts
  - X12 and X12/WEDI RTA Communications Work Group
  - International efforts

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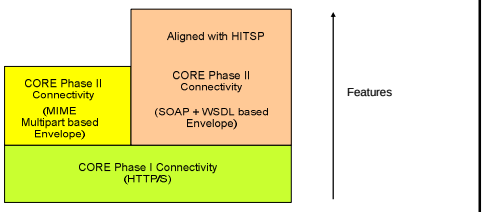
Connectivity: CORE Phase II Rule Builds on CORE Phase I



- Both the CORE Phase II envelope methods support CORE Phase II Metadata
- Both the CORE Phase II envelope methods have significant use among CORE members
- SOAP+WSDL envelope is aligned with HITSP direction
- CORE Phase II Rule goes "above and beyond" HITSP in envelope metadata specificity to facilitate interoperable implementations

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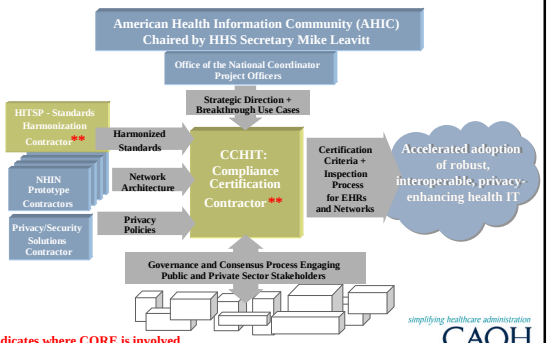
CCHIT and HITSP Roles Within HHS Health IT Strategy, CORE Involvement



 **Indicates where CORE is involved

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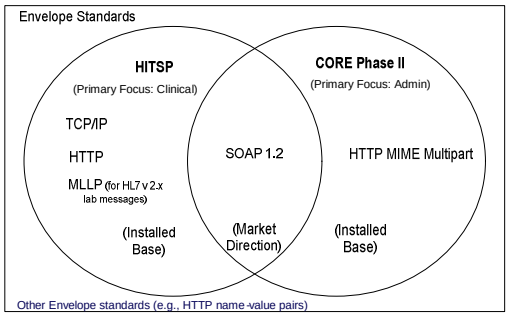
CORE Phase II Connectivity Rule: Standards Alignment with HITSP Envelope Standards



Installed Base: Large segment of the industry currently has software installed that uses the envelope method.
Market Direction: Industry activity is moving in the direction of adopting this envelope method.

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Potential Phase III Connectivity Priorities

- Further enhancement of Connectivity rules
  - Convergence on single envelope standard if possible
  - Convergence on single authentication standard if possible
  - Further alignment with standards initiatives like HITSP
  - Re-evaluate some of the criteria that were deferred in CORE Phase II. e.g.,
    - Multi-hop messaging
    - Publish/Subscribe and Broadcast messaging
    - Payload level encryption

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Additional Questions?

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CAQH®

Steven Zlotkus
Marketing/Business Development
szlotkus@caqh.org 202-778-3226

www.CAQH.org

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Appendix

- CORE Participating Organizations
- CORE-Certified Entities and Endorsers
- CORE visuals

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Current Participants

- **Health Plans**
  - Aetna, Inc.
  - AultCare
  - Blue Cross Blue Shield of Michigan
  - Blue Cross and Blue Shield of North Carolina
  - BlueCross BlueShield of Tennessee
  - CareFirst BlueCross BlueShield
  - CIGNA
  - Coventry Health Care
  - Excellus Blue Cross Blue Shield
  - Group Health, Inc.
  - Harvard Pilgrim HealthCare
  - Health Care Service Corporation
  - Health Net, Inc.
  - Health Plan of Michigan
  - Horizon Blue Cross Blue Shield of New Jersey
  - Humana Inc.
  - Independence Blue Cross
  - UnitedHealth Group
  - WellPoint, Inc.
- **Providers**
  - Adventist HealthCare, Inc.
  - American Academy of Family Physicians (AAFP)
  - American College of Physicians (ACP)
  - American Medical Association (AMA)
  - Catholic Healthcare West
  - Cedars-Sinai Health System
  - Greater New York Hospital Association (GNYHA)
  - HealthCare Partners Medical Group
  - Mayo Clinic
  - Medical Group Management Association (MGMA)
  - Mobility Medical, Inc.
  - Montefiore Medical Center of New York
  - New York-Presbyterian Hospital
  - North Shore LIJ Health System
  - Partners HealthCare System
  - University Physicians, Inc. (University of Maryland)
- **Government Agencies**
  - Louisiana Medicaid – Unisys
  - Michigan Department of Community Health
  - Michigan Public Health Institute
  - Minnesota Department of Human Services
  - Oregon Department of Human Resources
  - United States Centers for Medicare and Medicaid Services (CMS)
  - United States Department of Veterans Affairs
- **Associations / Regional Entities / Standard Setting Organizations**
  - Americas Health Insurance Plans (AHIP)
  - ASC X12
  - Blue Cross and Blue Shield Association (BCBSA)
  - Delta Dental Plans Association
  - eHealth Initiative
  - Health Level 7
  - Healthcare Association of New York State
  - Healthcare Billing and Management Association
  - Healthcare Financial Management Association (HFMA)
  - Healthcare Information & Management Systems Society
  - LINXUS (an initiative of GNYHA)
  - National Committee for Quality Assurance (NCQA)
  - National Council for Prescription Drug Programs (NCPDP)
  - NJ SHORE
  - Private Sector Technology Group
  - Utah Health Information Network (UHIN)
  - Utilization Review Accreditation Commission (URAC)
  - Work Group for Electronic Data Interchange (WEDI)

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Current Participants (cont'd)

- **Vendors**
  - ACS EDI Gateway, Inc.
  - athenahealth, Inc.
  - Availity LLC
  - CareMedic Systems, Inc.
  - ClaimRemedi, Inc.
  - Claredi (an Ingenix Division)
  - EDIFECS
  - Electronic Data Systems (EDS)
  - Electronic Network Systems (ENS) (an Ingenix Division)
  - Emdeon Business Services
  - Enclarity, Inc.
  - First Data Corp.
  - GE Healthcare
  - GHN-Online
  - Health Management Systems, Inc.
  - Healthcare Administration Technologies, Inc.
  - IBM Corporation
  - InstaMed
  - MedAvant Healthcare Solutions
  - MedData
  - Microsoft Corporation
  - NASCO
  - NaviMedix
  - NextGen Healthcare Information Systems, Inc.
  - Passport Health Communications
  - Payerpath, a Misys Company
  - RealMed Corporation
  - Recondo Technology, Inc.
  - RelayHealth
  - RxHub
  - Secure EDI
  - Siemens / HDX
  - SureScripts
  - The SSI Group, Inc.
  - The TriZetto Group, Inc.
  - VisionShare, Inc.
- **Other**
  - Accenture
  - Foresight Corp.
  - Omega Technology Solutions
  - PNC Bank
  - PricewaterhouseCoopers LLP

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Implementation: Phase I – Certified Entities/Products

Clearinghouses

- ACS EDI Gateway, Inc. / ACS EDI Gateway, Inc. Eligibility Engine
- Availity, LLC / Availity Health Information Network
- Emdeon Business Services / Emdeon Real-Time Exchange
- Emdeon Business Services / Emdeon Batch Verification
- Health Management Systems, Inc. / HMS
- MD On-Line, Inc./ACCE$$ Patient Eligibility Verification
- MedAvant Healthcare Solutions / Phoenix Processing System
- MedData / MedConnect
- NaviMedix, Inc. / NaviNet
- Passport Health Communications / OneSource
- RelayHealth / Real Time Eligibility
- RxHub / PRN
- Siemens Medical Solutions / Healthcare Data Exchange
- The SSI Group, Inc. / ClickON® E-Verify

Health Plans

- Aetna Inc.
- AultCare
- Blue Cross and Blue Shield of North Carolina
- BlueCross BlueShield of Tennessee
- Health Net
- WellPoint, Inc. (and its 14 blue licensed affiliates)

Providers

- Mayo Clinic
- Montefiore Medical Center
- US Department of Veterans Affairs

Vendors

- athenahealth, Inc. / athenaCollector
- CSC Consulting, Inc./CSC DirectConnect 270
- Emerging Health Information Technology, LLC / TREKS
- GE Healthcare / EDI Eligibility 270/271
- RelayHealth / RevRunner
- Medical Informatics Engineering, Inc. (MIE) / WebChart EMR *
- NoMoreClipboard.com
- Post- N-Track / Doohickey ™ Web Services
- The SSI Group, Inc. / ClickON® Net Eligibility
- VisionShare, Inc. / Secure Exchange Software

* Product also certified by the Certification Commission for Healthcare Information Technology (CCHIT℠). For accurate information on certified products, please refer to the product listings at www.cchit.org.

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Implementation: Phase I – Commitments to Certification

Commitment to Certify in 2008

Health Plans

- Blue Cross Blue Shield of Michigan
- CareFirst BlueCross BlueShield
- Humana, Inc.

Providers

- Summit Medical Group

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Implementation: Phase I – Endorsers

Endorsement

- Accenture
- American Academy of Family Physicians (AAFP)
- American Association of Preferred Provider Organizations (AAPPO)
- American College of Physicians (ACP)
- American Health Information Management Association (AHIMA)
- California Regional Health Information Organization
- Claredi, an Ingenix Division
- Edifecs, Inc.
- eHealth Initiative
- Electronic Healthcare Network Accreditation Commission (EHNAC)
- Enclarity, Inc.
- Foresight Corporation
- Greater New York Hospital Association and Linxus
- Healthcare Financial Management Association (HFMA)
- Healthcare Information and Management Systems Society (HIMSS)
- Medical Group Management Association (MGMA)
- Michigan Public Health Institute
- Microsoft Corporation
- MultiPlan, Inc.
- NACHA – The Electronic Payments Association
- Pillsbury Winthrop Shaw Pittman, LLP
- Smart Card Alliance
- URAC
- Workgroup for Electronic Data Interchange (WEDI)

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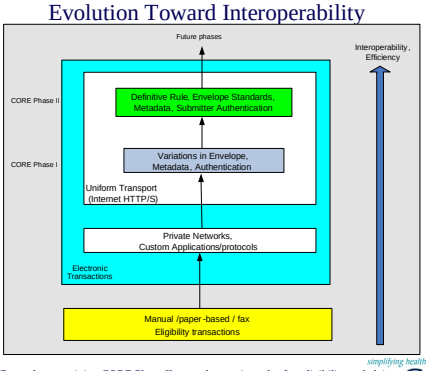
Example: Eligibility Transactions (270/271) Evolution Toward Interoperability



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Note: Beyond connectivity, CORE Phase II created operating rules for eligibility and claim transactions; future phases are expected to address other transa ctions (e.g., prior authorization)

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CORE and Information Transparency