Technical Aspects of Electronic Submission of Medical Documentation (esMD) for NCVHS

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Architectural Principles of esMD

- Be minimally inventive
  - Build on existing capabilities
  - Support existing standards widely adopted by the payer community
  - Leverage national standards for data and vocabulary wherever possible
  - Align with NHIN Exchange wherever possible
- Be open
  - Invite standards bodies to participate from inception (including ASC X12, HL7, CAQH, ONC)
  - Develop specifications of value to the entire payer community, not just CMS
- Be forward-looking
  - Design specifications to be useful for administrative transactions beyond the submission of medical documentation/claims attachments

Standardizing the Submission of Medical Documentation

- esMD believes that three levels of standardization must be addressed to achieve success:
  - **Transport**, the set of protocols used to transmit and receive medical documentation using the public Internet in a secure manner
  - **Packaging**, how data is organized into structured, interoperable representations (e.g. HL7 CDA templates or other)
  - **Vocabulary**, for describing medical terms for diagnoses, procedures, test results, anatomy, medications, etc.

Why is Transport important?

- esMD is working to standardize transport specifications for several reasons:
  - CMS wishes to give health organizations an option to use less-expensive, non-proprietary networks for information exchange
  - ONC strongly believes that providers and other health system participants should not be required to implement one “stack” for clinical transactions, and another for administrative transactions
  - Transport is an important component of the interoperability specifications developed by CAQH
- We recognize that NCVHS may elect not to focus on transport standardization, but collaboration between CMS, NCVHS and SDOs on this issue would be desirable

Current Standards Progress

- Completed:
  - Submission of unstructured medical documentation via NHIN Exchange (XDR Document Submission)
  - Validation and implementation in initial production phase
- Nearly Completed:
  - Submission of unstructured medical documentation via X12/CAQH Core Phase II Connectivity Rule
- Longer term objectives:
  - Harmonize transport between NHIN Exchange and CAQH Connectivity Rule
  - Adopt NCVHS recommendations for structured medical documentation (claims attachments) for vocabulary and packaging
  - Implement additional administrative transactions

Unstructured vs. Structured Data – Technical Analysis

	Unstructured	Structured
Typical Representation	• PDF file, typically containing scanned image of paper medical chart	• XML file, containing some or all elements of medical chart
Advantages	• Least complex and expensive solution for provider adoption • Provides "wet signature" of provider as part of scanned image of chart	• Enables automated review by providers and payers of claims attachments through business rules engines (similar to SSA approach to long-term disability documentation) • Less handling required by provider
Disadvantages	• Cannot support automated review • Readability and consistency issues • Potentially large file sizes	• Standards still being developed • Requires EHR support • Authentication issues must be addressed
Potential Efficiency Gains	• Reduces time and expense associated with mailing/faxing and handling of paper documents	• + Reduces time and expense to adjudicate claims • Potential to create a rich repository of data for analytics to reduce fraud and other purposes

Authentication Technical Issues

- NHIN Exchange already provides authentication at the level of the HIE gateway using digital signature, but not at the level of individual content authors within a single document. Challenges include:
  - How to structure the document (e.g.HL7 CDA content) in such a way that individual segments of the document can be signed
  - Distributing digital certificates to individual providers and establishing certificate authorities that can be trusted by payers
  - Making the signing process as painless as possible for providers through integration with EHR systems

Bidirectional Exchanges

- Key objective for esMD is to enable CMS (and other payers) to electronically request medical documentation from providers, in addition to receiving the documentation
- This requires:
  - Ability for providers to electronically register as participants within esMD
  - Ability for CMS to locate individual providers associated with HIHs, which requires a provider directory service of some kind

Final Thoughts

- We are committed to the adoption of national standards
- Creating specifications for all levels of claims attachment will open the door for new innovations and improvements to the health system through the widespread exchange of structured clinical data
- Structured, electronic claims attachments have the potential to dramatically improve pre-payment fraud detection when combined with other technologies such as predictive modeling
- Extending the NHIN to encompass administrative transactions will be a significant driver of overall network growth