Kettering Discharge Message and CDA

Amendment History

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Reviewers:

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Glossary of Terms:

The table below lists all new terms created in the set of CDA Interoperability documents. Refer to the NHS CFH master glossary for other terms.

Term	Acronym	Definition
CDA	CDA	Clinical Document Architecture – an HL7 standard for the structure (format, content) of clinical documents
CDA Document	-	An instance of a clinical document in CDA format
Domain Message Specification	DMS	A set of documented requirements related to a specific messaging domain covering a range of messages interactions between systems across that domain. This is the successor to the MIM (Message Implementation Manual) that covered many different domains which reached version 8 – all further developments being spawned off into their own domains to become DMSs.
Data Transfer Service	DTS	A Store and Collect mail facility operated by BT and now part of the range of 'Spine' services
Interoperability Tool-Kit	ITK	Interoperability Tool-Kit – a set of technical standards covering the exchange of messages between the messaging components of systems.

Contents

1 Introduction and Background

The 'Kettering' Discharge XML message was developed towards the end of the 90's for use as a trial Discharge message and was implemented at Kettering Hospital. It was expected to be one of the next breed of clinical messages to follow on from the success of the Pathology programme (PMIP) which finished its roll-out in 2003.

Technically, the Kettering message is a fairly simple XML file that has the ability to contain binary data (e.g. a PDF file, HTML file, plain text, etc) along with 'header' information identifying the sender, receiver, patient, coded data, etc. It is usually sent with embedded PDF files but some implementations use the 'text' section.

Up until 2009 there were very few Kettering implementations but enough that most GP systems supported it. Since 2009, due to the contractual obligation upon Secondary Care Trusts to get Discharge information to GPs with 72, 48 and now 24 hours, the number of implementations has risen in the absence of any national standard.

Almost all Kettering implementations involve 3rd party middleware suppliers at the sending end (e.g. Sunquest (Anglia), Indigo, EPOC, and others). Almost all Kettering messages are sent over DTS but some go via other middleware solutions which don't involve DTS (e.g. PCTI's EDT solution).

Kettering is a Discharge message and was not designed to carry other information flows, e.g. A&E report, OOH report, Hospital Admission, etc. although it is believed a small number of organisations are using it for other data in a similar way that some laboratories are sending Radiology reports in the Pathology message. This is regarded as clinically unsafe and should therefore not be encouraged, especially where there are alternative appropriate messages to use (e.g. HL7 CDA messages).

1.1 Differences between Kettering and CDA

The Kettering message is plain XML – it is not CDA (although there are very close similarities). CDA (Clinical Document Architecture) is a specific extension/derivative of XML used for 'Clinical Documents' and was developed by HL7. Although there is significant commonality of content between the Kettering XML message and the CDA Discharge Report, the Kettering message specification, like HL7 v2.x, allows implementation variations that require each implementation to be tested first to prove receivers can process it, whereas CDA prevents this variability (see 'Why CDA?' section below) Both messages allow the inclusion of binary objects and thus fully support the sending of pre-formatted discharge documents such as PDF or MS Word files from sending systems with these native outputs.

1.2 Kettering and ITK

A Kettering message can be sent using ITK web service messaging by taking the native Kettering file and placing it inside an ITK Distribution envelope (wrapper) and sent using the 'Send Document' ITK service.

1.3 CDA and ITK

CDA Documents are sent using ITK web service messaging by using the 'SendCDAdocument' service.

1.4 Kettering and DTS

Kettering XML messages can continue to be sent over DTS as they have been to date. They can also be placed within an ITK Distribution wrapper and sent over DTS. Using the ITK Distribution wrapper adds value (e.g. allows inter-channel routing, can carry business behaviour - see ITK specification for further details) and also provides more standardisation as this is the wrapper used in all ITK communication.

2 Migrating from Kettering to CDA

It is a relatively straightforward task for a sender of Kettering XML to convert to sending the CDA Discharge Report message. In order to assist with this NHS CFH have published within the ITK specifications a guidance document and associated XSLT transform. In brief, a sender populates a simple domain specific intermediary XML file with various metadata elements such as sender and receiver details, embeds any associated binary object or text based clinical content, and applies the XSLT transform – the resultant file is a fully formed CDA Discharge message. Further details on this process can be found in the ITK v2 specification.

2.1 Why CDA?

Clinical Document Architecture (CDA) provides a well defined consistent and internationally adopted framework for document exchange. It supports three levels of system capability:

- CDA Level One, allows simple unstructured human readable information to be exchanged
- CDA Level Two, provides for structured human readable information exchange utilising headings within a narrative section
- CDA Level Three introduces the ability to exchange machine to machine coded information alongside the human readable narrative

CDA is therefore a simple standardised framework for exchanging both human and machine readable information.

There are many benefits to adopting CDA as the underlying framework for document exchange. These include:

- Promoting a common approach to all document exchange across the various sectors and vendors within the NHS
- Enabling a 'plug and play' capability within systems at the document exchange level
- Allowing for variations in system capability and maturity without losing the basic levels of interoperability
- Establishing a strong, well understood route to the higher levels of maturity and providing a known roadmap for future developments in support of the professional guidance being developed by The Academy of Royal Colleges (and numerous of its members), the Joint GP IT committee of the BMA and RCGP)
- Support a broad range of document types within a single framework across multiple care sectors and settings.

3 Summary

NHS CFH recognises that the use of the Kettering Discharge message has provided a useful solution to a number of clinical communities. The selection of CDA as the standard format for the communication of most clinical documents provides a direction of travel for future clinical communications. CDA, as a generic structure, provides significant benefits over other messaging architectures and will enable faster development, simpler support, more robust solutions and a quicker route to market.

It is expected that suppliers will recognise the benefits of CDA, support the acknowledgement of CDA by the clinical community and make plans to adopt CDA as their new clinical document standard, migrating solutions to support this in due course. Meanwhile, Kettering as a legacy standard can continue to be supported by the methods above.