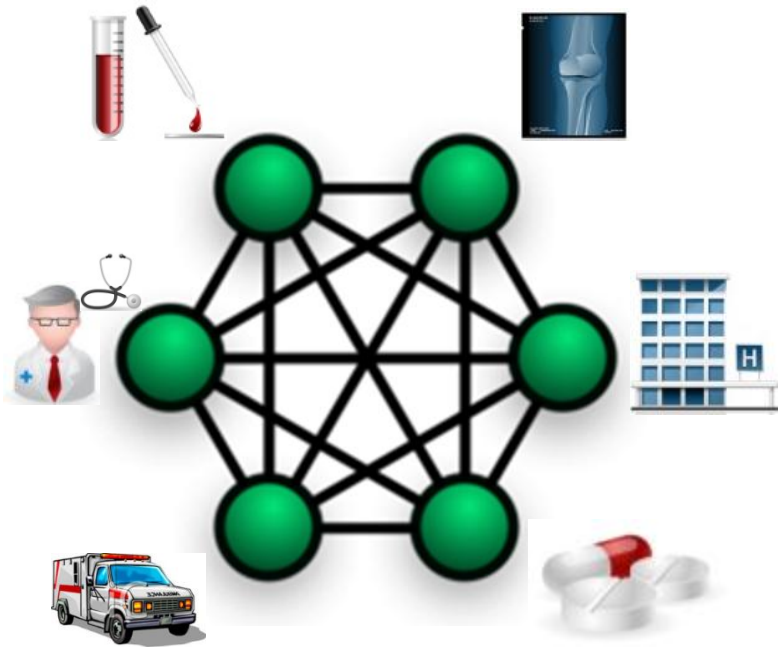
Using CDA for Clinical Interoperability

Issue: Interoperability Conundrum



Healthcare data is largely held in silo systems that do not easily share data.

Issue: Roadblock to "Care Coordination"

How can we achieve integrated care coordination when *we* don't:

- **capture** the right electronic information in the right formats?
- **share** the right health information with other providers in the patient's circle of care?

Goal:

Share to Support Care Coordination

Supporting Strategy:

Exchange meaningful and useable health information with providers in the patient's circle of care.

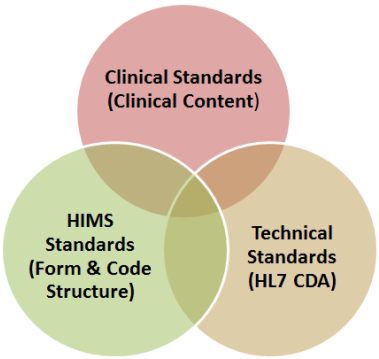
Enabler:

Implementation of interoperable standards

- Semantic standards end-to-end (senders/receivers)
- Leverage clinical vocabularies and coding systems

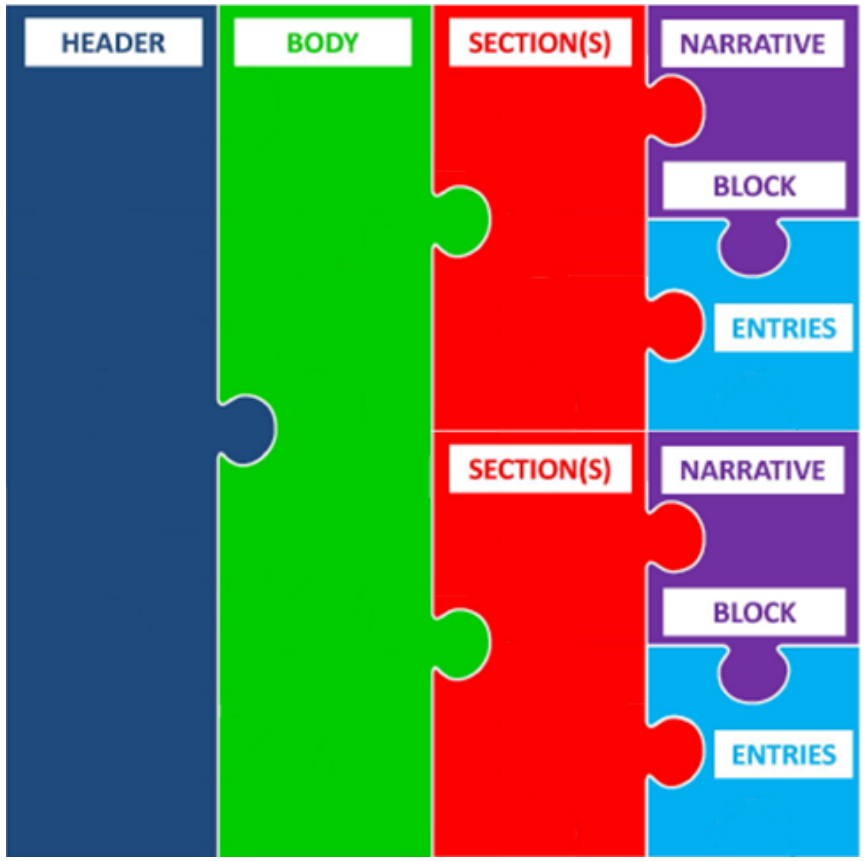
CDA – What is it?

- **Clinical Document Architecture** (CDA®) is a BASE standard for the purpose of electronic healthcare information exchange.
- The CDA standard was developed through Health Level 7 (HL7) International … by clinical, semantic and technical experts.
- Endorsed for use in many other countries including Australia, New Zealand, UK. In the US – mandated for meaningful use.



CDA – Put More Simply …

- CDA has building blocks required for Health Information Exchange.
- These building blocks are *flexible*.
- The components are *re-usable*.



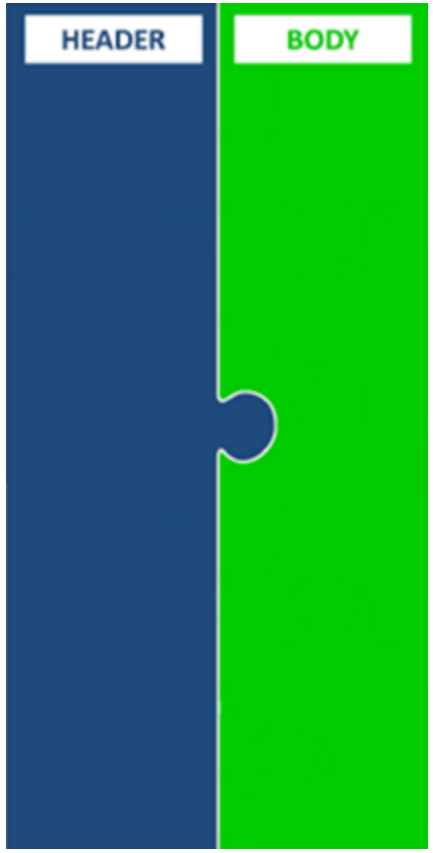
What is CDA Level 1?

CDA Level 1 has:

- Header
- Body

CDA Level 1 does NOT have:

- Sections
- Discrete data (entries)



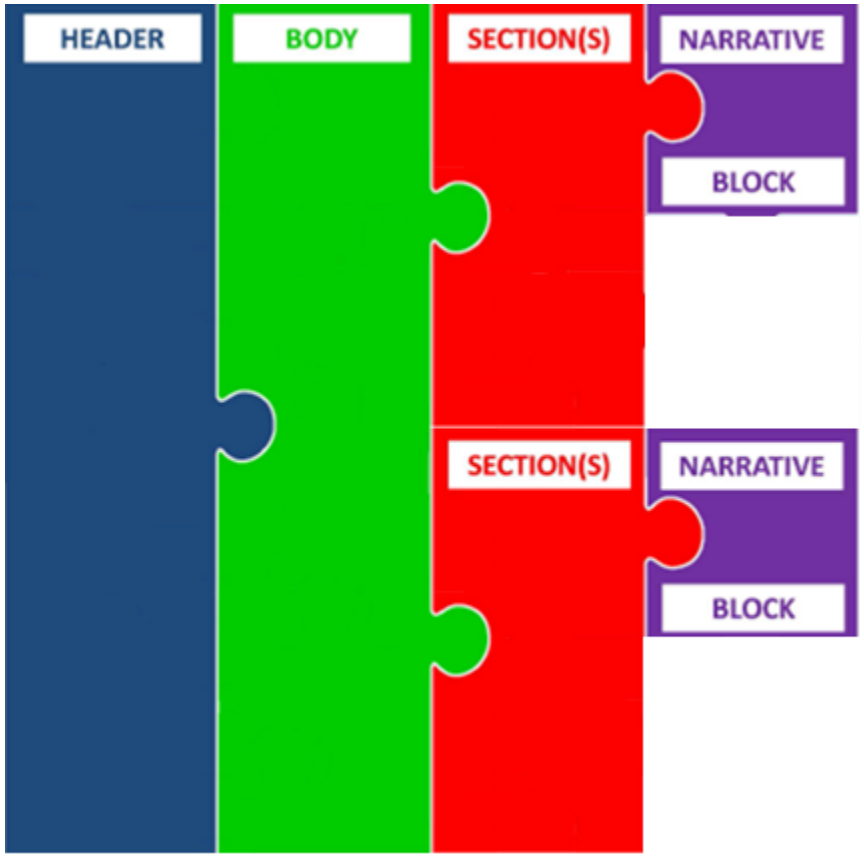
What is CDA Level 2?

CDA Level 2 has:

- Header
- Body
- Sections with narrative blocks

CDA Level 2 does NOT have:

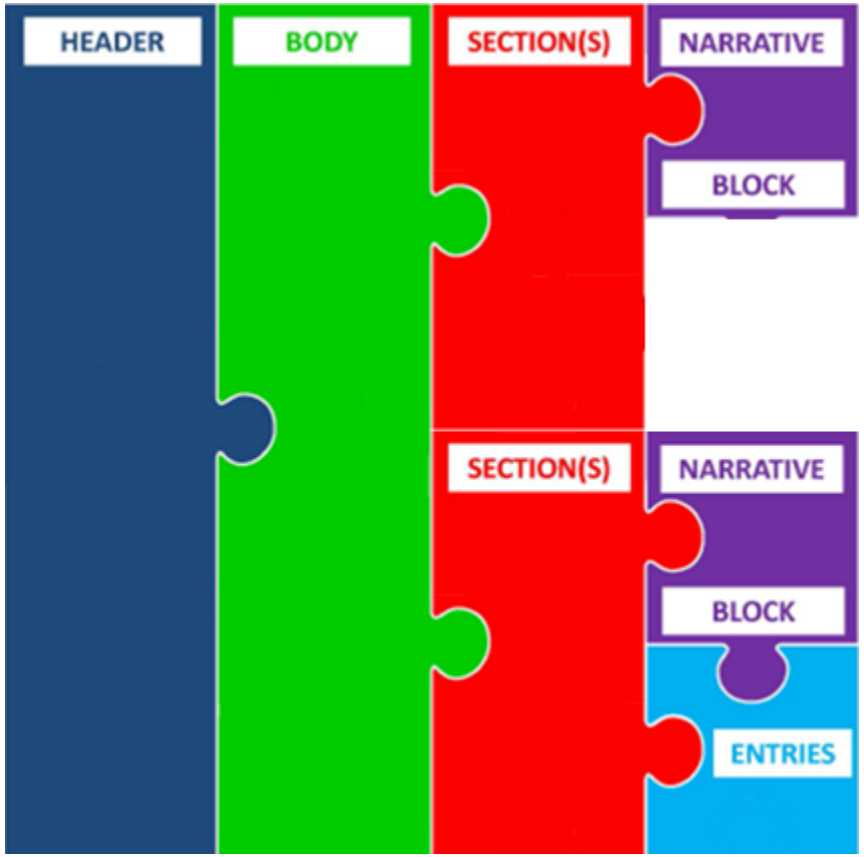
- Entries with discrete data elements



What is CDA Level 3?

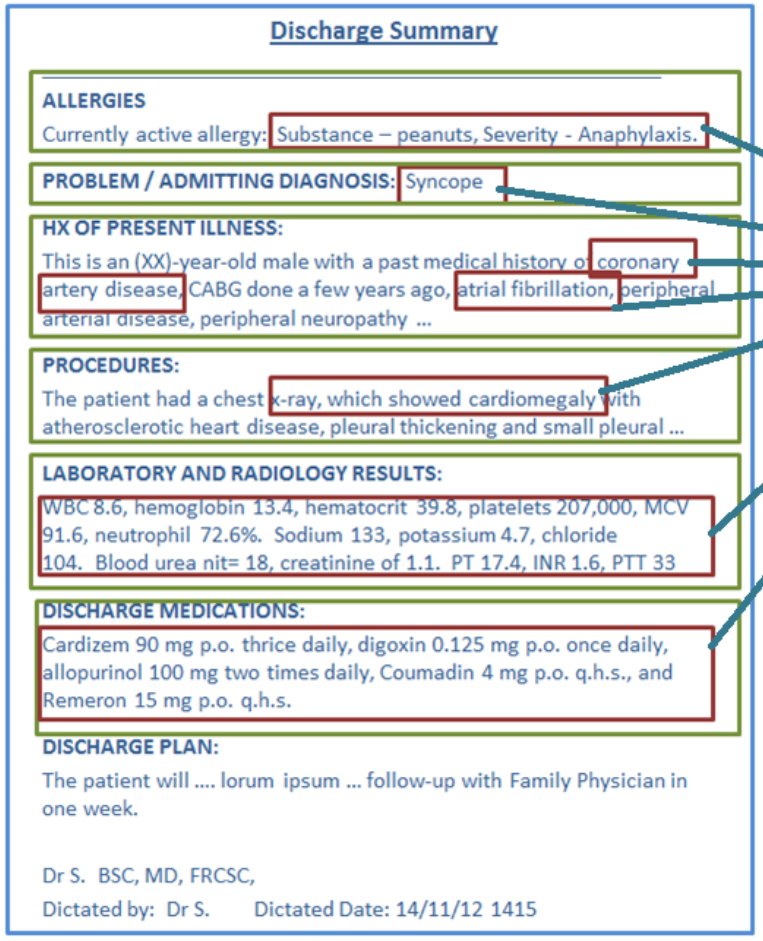
CDA Level 3 has:

- Header
- Body
- Sections with narrative blocks
- Some sections must have entries with discrete data elements



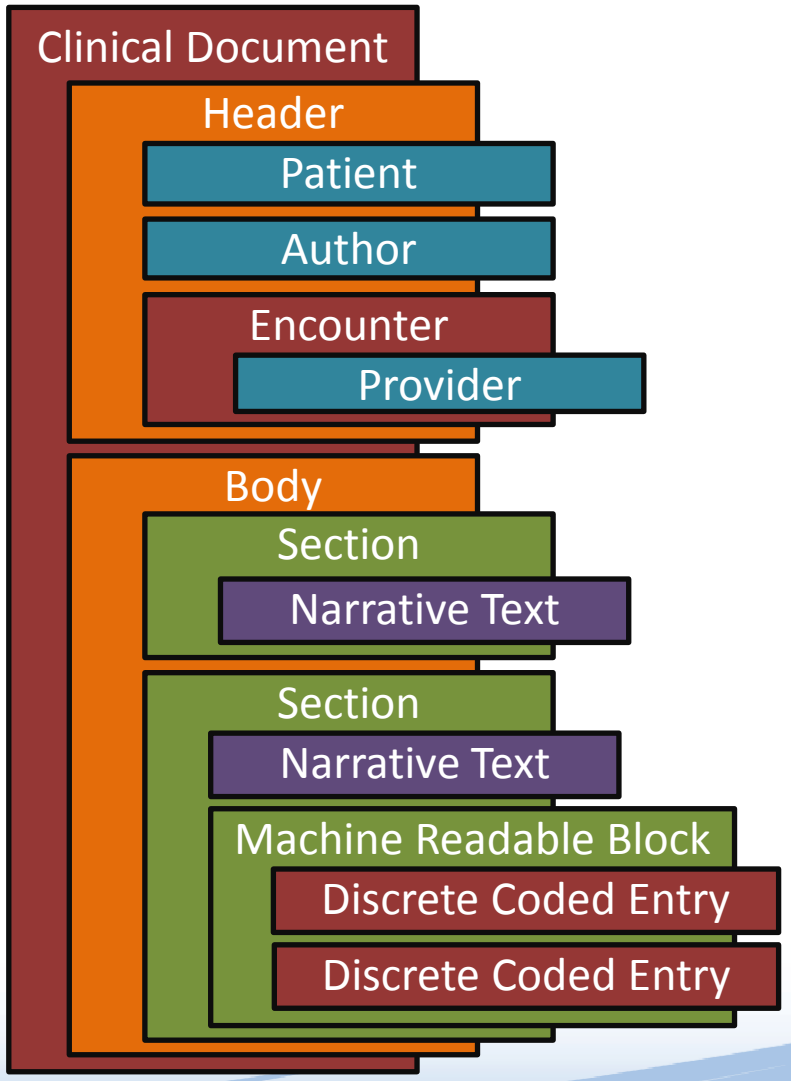
Discharge Summary CDA

Possible Future: CDA Sections & Coded Entries



With CDA, data from a report can be extracted and placed into the appropriate section of an EMR system on the patient's electronic chart. For example, problems can be moved to a collated problem list, laboratory results can be graphed and trended over time. Relevant data can be used to populate a collaborative Care Plan.

CDA – A Clinical Document



Containers
"Acts"

"Participants"

Sections
"Components"

Narrative Text:
Human-readable,
Mandatory

Challenges: Using a Standard

- First to use new standard means finding flaws in the design that needed to be worked out
- Finding solutions took more time – need to find alternatives when a new problem was discovered
- Opened the door to things not considered – (pro and con) – Con being Scope Creep
- Change Management with end users was difficult
  - Ex: Compromises (such as the intended Stylesheet)
  - Needing to find a common ground that meet the needs of everyone – including the end users

Benefits: Using a Standard

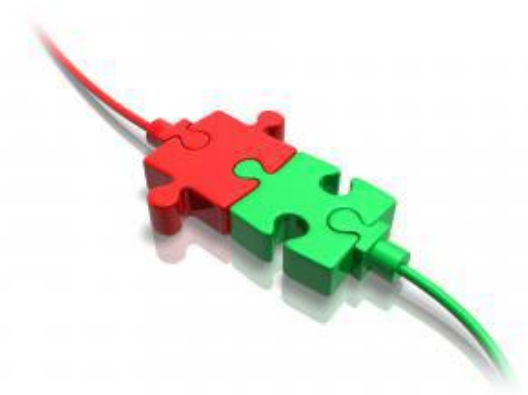
- Intrahealth has already implemented CDA for projects with other jurisdictions. We were able to leverage knowledge and experience.
- Intrahealth supports standard terminology and code systems. Since pCLOD (Canadian version of LOINC) is already used by Intrahealth, it made cross referencing termsets easy.
- Opened the door to things not considered – (pro and con) – mid course enhancements.
- Better chance of success – long term buy in from other vendors when a standard is used.

Benefits: Partnership and Relationship

- Successful outcomes achieved through a Partnership Model
- Challenges overcome through a flexible and collaborative approach
- Extended existing relationships, and forged new relationships
- Partnership Model based on:
  - Familiarity
  - Understanding
  - Respect

Benefits: Overall

- This was considered an initiative where we're contributing to something that is usable and scalable.
- It considers the longer term vision; broader than initial scope capabilities.



Success

EMR Vendors:

Thank you for attending the Doctors of BC Vendor Partnership meeting a few weeks back. As a follow-up to my presentation, I wanted to close the loop and announce that the following week, the Provincial Health Service Authority (which also represents Vancouver Coastal Health and Province Health) , Interior Health and North Health successfully tested the foundational principle behind the CDA message format – interoperability between systems.

What we did was:

1. PHSA created a CDA message from our transcription system
2. PHSA then sent this message to the CDX system used by IH and NH for processing. The message was successfully routed through CDX for consumption by a NH-managed instance of MOIS
3. MOIS then successfully consumed the message, which was subsequently viewable as intended

The whole effort, which included adjustments for our testing environments, took a matter of hours.

This process demonstrated that with adherence to the provincial format, a message generated from any clinical system can be easily distributed via any CDA distribution hub and then easily consumed by any EMR that can consume CDA Level 1 messages. What this enables is the ability for EMR vendors to onboard new content without custom implementation effort, regardless of source. Given our Provincial CDA implementation roadmap, we will continue to test this principle over the come months to ensure the easiest implementation experience for EMR vendors.

Please me know if you have any questions.

Oliver Thompson
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Questions?