

Burden Reduction Opportunities in the World of US Core Data for Interoperability?

DRAFT Discussion

HL7 EHR Reducing Clinician Burden Project

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 <p>Allergies and Intolerances Represents harmful or undesirable physiological response associated with exposure to a substance.</p> <ul style="list-style-type: none"> Substance (Drug Class) Substance (Medication) Reaction 	 <p>Health Concerns Health related matter that is of interest, importance, or worry to someone who may be the patient, patient's family or patient's health care provider.</p> <p>Health Concerns</p>	 <p>Procedures An activity that is performed with or on a patient as part of the provision of care.</p> <p>Procedures</p>
 <p>Assessment and Plan of Treatment Represents a health professional's conclusions and working assumptions that will guide treatment of the patient.</p> <p>Assessment and Plan of Treatment</p>	 <p>Immunizations Record of an administration of a vaccination or a record of a vaccination as reported by a patient, a clinician, or another party.</p> <p>Immunizations</p>	 <p>Provenance The metadata, or extra information about data, that can help answer questions such as when and who created the data.</p> <ul style="list-style-type: none"> Author Time Stamp Author Organization
 <p>Care Team Member(s) The specific person(s) who participate or are expected to participate in the care team.</p> <p>Care Team Member(s)</p>	 <p>Laboratory Tests</p> <p>Values/Results</p>	 <p>Smoking Status Classification of a patient's smoking behavior.</p> <p>Smoking Status</p>
 <p>Clinical Notes Composed of both structured (i.e. obtained via pick-list and/or check the box) and unstructured (free text) data. A clinical note may include the history, Review of Systems (ROS), physical data, assessment, diagnosis, plan of care and evaluation of plan, patient teaching and other relevant data points.</p> <ul style="list-style-type: none"> Consultation Note Discharge Summary Note History & Physical Imaging Narrative Laboratory Report Narrative Pathology Report Narrative Procedure Note Progress Note 	 <p>Medications Medications</p>	 <p>Unique Device Identifier(s) for a Patient's Implantable Device(s) A unique numeric or alphanumeric code that consists of a device identifier (DI) and a production identifier (PI).</p> <p>Unique Device Identifier(s) for a patient's implantable device(s)</p>
 <p>Goals An expressed desired health state to be achieved by a subject of care (or family/group) over a period of time or at a specific point of time</p> <p>Patient's Goals</p>	 <p>Patient Demographics</p> <ul style="list-style-type: none"> First Name Last Name Previous Name Middle Name (including middle initial) Suffix Birth Sex Date of Birth Race Ethnicity Preferred Language Current Address Previous Address Phone Number Phone Number Type Email Address 	 <p>Vital Signs Physiologic measurements of a patient that indicate the status of the body's life sustaining functions.</p> <ul style="list-style-type: none"> Diastolic blood pressure Systolic blood pressure Body height Body weight Heart Rate Respiratory rate Body temperature Pulse oximetry Inhaled oxygen concentration BMI Percentile (2 - 20 years) Weight-for-length Percentile (Birth - 36 Months) Head Occipital-frontal Circumference (Birth - 36 Months)
	 <p>Problems Information about a condition, diagnosis, or other event, situation, issue, or clinical concept that is documented.</p> <p>Problems</p>	

US Core Data for Interoperability (USCDI)

Mostly Clinical Content

- Except for a minimum subset of USCDI data elements:
 - Patient Demographics
 - Provenance
 - Care Team Members
 - Unique Device Identifiers for a Patient's Implantable Device(s)
- Everything else is clinical and thus likely collected – and managed over time – by a front-line clinician

US Core Data for Interoperability (USCDI)

Interoperability = Back End Exchange

- Is USCDI only a back-end phenomena?
 - Presumably “interoperability” is about back-end exchange
 - USCDI is a required framework for purposes of exchange between conforming US-based systems
- Thus, EHR/HIT systems must provide/implement the full USCDI dataset for exchange...
 - Source/sender – at the point of health data/record transmission
 - Receiver – at the point of health data/record receipt

US Core Data for Interoperability (USCDI)

Impact and Awareness

- Does USCDI directly or indirectly impact – or place burden on – front-line clinicians?
- Are front-line clinicians aware of USCDI?
- While established as a “system” requirement, do clinicians become tasked with originating or consuming USCDI required content either wittingly or unwittingly?

US Core Data for Interoperability (USCDI)

Core Data or Monkey Chow?

- As the clinician author of “clinical” content, must they originate (fill in) USCDI-required content?
 - As the clinician end user of “clinical” content, must they consume USCDI-required content?
- Even if such content is not relevant, timely or action-able in meeting immediate needs of patient care, interventions and decision making?

Monkey Chow

- “Over packing, the act of packing items required... that are not necessary” – Urban Dictionary

In Context

USCDI specifies lots of clinical data items

- As mostly de-coupled fragments
- With little focus on:
 - Clinical context and vital inter-relationships, e.g., between problems, diagnoses, complaints, symptoms, encounters, history and physical findings, allergies, medications, vaccinations, assessments, clinical decisions, orders, results, diagnostic procedures, interventions, observations, treatments/therapies, referrals, consults, outcomes, protocols, care plans and status
 - Elements and context/purpose of capture: e.g., blood pressure, its measurement (systolic, diastolic), its unit of measure (mm/Hg), its reason for capture, its context of capture (sampling site, sampling method, patient position, at rest/during/post exercise...

US Core Data for Interoperability (USCDI) With Provenance

- USCDI Provenance currently specifies two elements:
 - When: Author time stamp
 - Who: Author organization
- USCDI Provenance is missing at least:
 - Who: Actual author, role and credentials
 - What: Action taken
 - What: Data content/context as...
 - Original entry
 - Updated entry: superseding prior data content/value(s)
 - Verified entry: validating data originated by devices or others (transcriptionist, student...)
 - Attested entry
 - Where: Physical location, device ID, network address
 - Why: Action rationale, purpose of data capture

US Core Data for Interoperability (USCDI) **With Provenance**

- Provenance is crucial to assurance (trust), transparency, accountability, traceability, ensuring data quality and basic context (who did what, when, where and why)
 - Occurs when data is originated (captured, collected or sourced), updated, verified, attested, transformed (e.g., to/from exchange artifact such as HL7 v2 message, document or FHIR resource instance or from one human language to another).
- Most provenance elements are intrinsic to what the EHR/HIT system already knows
 - Not requiring extra data collection (burden) by the clinician or other end user