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

DRAFT Discussion
HL7 EHR Reducing Clinician Burden Project
26 October 2020
### Allergies and intolerances
- Represents harmful or undesirable physiological response associated with exposure to a substance.
  - Substance (Drug Class)
  - Substance (Medication)
  - Reaction

### Assessment and Plan of Treatment
- Represents a health professional's conclusions and working assumptions that will guide treatment of the patient.
  - Assessment and Plan of Treatment

### Care Team Member(s)
- The specific person(s) who participate or are expected to participate in the care team.
  - Care Team Member(s)

### 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.
  - Consultation Note
  - Discharge Summary Note
  - History & Physical
  - Imaging Narrative
  - Laboratory Report Narrative
  - Pathology Report Narrative
  - Procedure Note
  - Progress Note

### 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.
  - Patients Goals

### 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.
  - Health Concerns

### Immunizations
- Record of an administration of a vaccination or a record of a vaccination as reported by a patient, a clinician, or another party.
  - Immunizations

### Laboratory
- Tests
- Values/Results

### Medications
- Medications

### Patient Demographics
- 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

### Problems
- Information about a condition, diagnosis, or other event, situation, issue, or clinical concept that is documented.
  - Problems

### Procedures
- An activity that is performed with or on a patient as part of the provision of care.
  - Procedures

### Provenance
- The metadata, or extra information about data, that can help answer questions such as when and who created the data.
  - Author Time Stamp
  - Author Organization

### Smoking Status
- Classification of a patient's smoking behavior.
  - Smoking Status

### Unique Device Identifier(s) for a Patient's Implantable Device(s)
- A unique numeric or alphanumerical code that consists of a device identifier (DI) and a production identifier (PI).
  - Unique device identifier(s) for a patient's implantable device(s)

### Vital Signs
- Physiologic measurements of a patient that indicate the status of the body's life sustaining functions.
  - Diastolic blood pressure
  - Systolic blood pressure
  - Body height
  - Body weight
  - Heart Rate
  - Respiratory rate
  - Body temperature
  - Pulse oximetry
  - Inhaled oxygen concentration
  - BMI Percentile (2 - 10 years)
  - Weight for length percentile (Birth - 36 Months)
  - Head occipital-frontal circumference (Birth - 36 Months)
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
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?
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
US Core Data for Interoperability (USCDI)

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
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