Interoperability MATTERS
an initiative of The Sequoia Project

Data Usability Work Group
July 8, 2021

the sequoia® project

Agenda

- Welcome, Introductions, Membership, Agenda - David Camitta
- Website, Meeting and Workgroup Logistics & Collaboration Forum – David Camitta
- Topic Focus: Data Provenance and Traceability of changes – David, Didi, John, Russell
  - Topic Provenance – Clinician Workshop Recap
  - Use Case/Scenario Summaries: Provider to Provider, Provider to Public Health Agency, Heathcare Entity to Consumer
- Collaboration Space Input Discussion
- Phase 2 Implementation Guide Structure and Development Process
- Questions/Next Steps
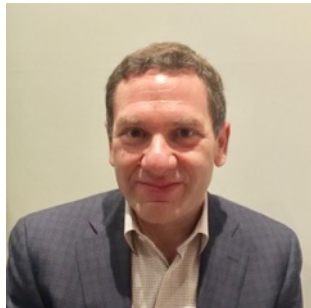
David Camitta, Co-chair
Anthem, Inc.

Bill Gregg, Co-chair
HCA Healthcare

Mariann Yeager, CEO
The Sequoia Project

Didi Davis, VP
The Sequoia Project

Workgroup Members

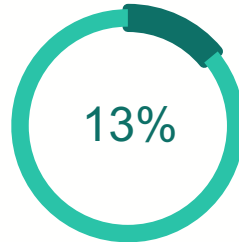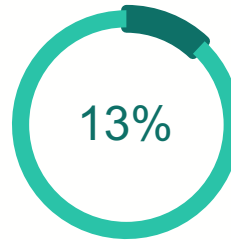**193 Organizations**

298 Participants

Healthcare Providers
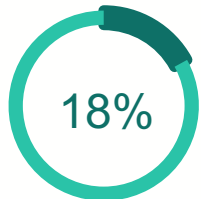20%

Public Health
2%

Consumer/Patient
5%

Health IT Developers
18%

Other
15%

HIN/HIEs
13%

Federal, State, Local Government
13%

Health Plan/Payer
10%

Standards Developer
4%
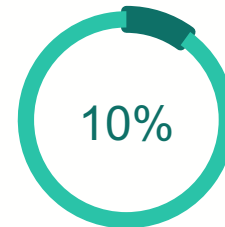
The Sequoia Project's Members

KAISER PERMANENTE. Kno2 Lehigh Valley Health Network leidos LifeImage MatrixCare by ResMed

MEDVIRGINIA MiHIN Shared Services MRO NC HealthConnex Powering Health Care Outcomes Netsmart nextgen healthcare

NORTH Dakota Be Legendary. Health Information Network NYeC NEW YORK eHEALTH COLLABORATIVE OCHIN onerecord OPTUM ORION HEALTH

PATIENTPING Santa Cruz Health Information Organization sharecare Skagit Regional Health SOCIAL SECURITY ADMINISTRATION USA Stanford HEALTH CARE STANFORD MEDICINE

surescripts Sutter Health TEXAS eHEALTH ALLIANCE updox WOMBA POWERED BY ME
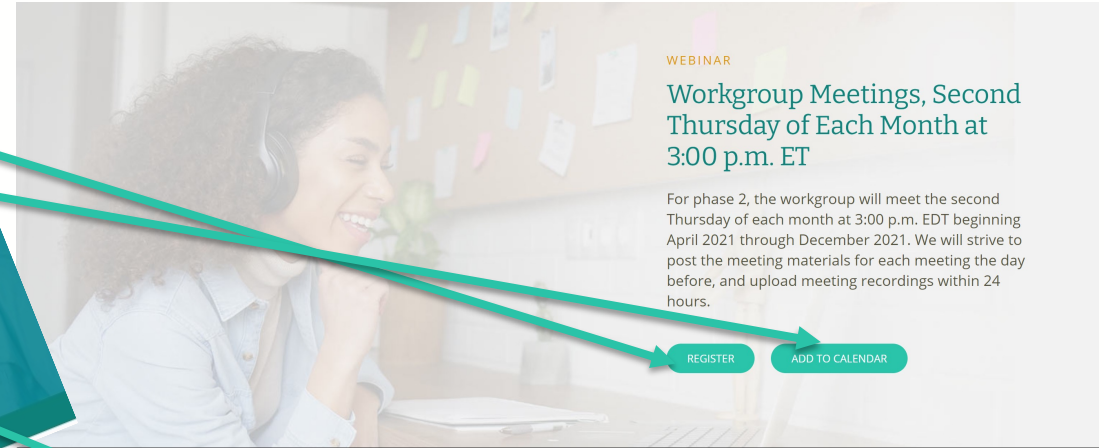
- Audacious Inquiry
- CA Emergency Medical Services Association
- ConSensys Health
- Cureous Innovations
- Hawaii HIE
- Health InfoNet

- Innovaccer
- CVS Health
- Mayo Clinic
- Virginia HIE

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Website, Meeting and Workgroup Logistics

- Register for the Workgroup
- Calendar Downloads
- Meeting Notes

WEBINAR

Workgroup Meetings, Second Thursday of Each Month at 3:00 p.m. ET

For phase 2, the workgroup will meet the second Thursday of each month at 3:00 p.m. EDT beginning April 2021 through December 2021. We will strive to post the meeting materials for each meeting the day before, and upload meeting recordings within 24 hours.

REGISTER   ADD TO CALENDAR

Meeting Materials and Recordings

Phase 2

| June 10: Meeting Notes |
| May 13: Meeting Notes |
| Apr 15: Meeting Notes |
| Apr 8: Meeting Notes |
| Apr 1: Meeting Notes |

Phase 1

| Mar 25: Meeting Notes |

Four Work Phases

The Interoperability Matters **Leadership Council** chartered the Data Usability Workgroup to work in the following phases:

PHASE 1
Administration and Prioritization (Current)
October 2020-March 2021
View Meeting Notes

PHASE 2
Developing Initial Drafts
April 2021-November 2021
View Meeting Notes

PHASE 3
Public Comment Period/ Recommended Next Steps
TBD, based on end of Phase 2-60 days after start

PHASE 4
Finalizing Implementation Guides
[TBD, based on end of Phase 3]-[3 months after start]

https://sequoiaproject.org/interoperability-matters/data-usability-workgroup/

Data Usability Workgroup Forum – Please Respond

https://sequoiaproject.org/interoperability-matters/data-usability-workgroup/

Topic Provenance – Clinician Workshop Recap

- Current state: No changes to the Provenance data class is proposed in version two of the USCDI

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

- Clinicians expectation is for "Where the data originated (Author Organization), **with what type of clinician** and a date (Author Time Stamp) of when it originated are most important
- Provenance of **"context for how it was captured" and "last touch" are also nice to have**
- The following were outlined as being really helpful for provider to provider exchange:
  - Was the data captured by the patient, a nurse, a physician, home health, or device, etc?
    - What vocabularies can be leveraged for "type of clinician"?
  - Was the lab result generated with a home test, by an over the counter test, or in a CLIA Certified Lab, etc?
  - Was the data modified by some system in the chain? (PHR, EHR, HIE, etc.)
  - It is not as important to know who has reviewed it over time in most cases
  - There is a risk of putting too much provenance data that may slow down clinicians and makes it harder to get the important information
  - Labs data elements will not likely change over time moving from system to system
  - Problem data elements may change over time, so people may refine the problem as it traverses and that may be useful information
  - There is hope that Provenance will help with de-duplication efforts
  - Clinicians would like to see whether an order, radiology report, document, medication or medication orders are signed by a credentialed provider
  - There are certain data elements that do tend to get modified over time (i.e., problems, allergies, medical history, etc.)
  - Important that metadata not be distracting and not get in the way of the core data and really only be made available if somebody goes looking for it and wants to drill down into the history

Topic Focus: Data Provenance and Traceability of changes

- Guidance for Data Provenance
- Consequential Data Update
- The HL7 "Basic Provenance" Implementation Guide addresses these use cases:
  - Basic Exchange
  - Health Information Exchange (HIE) Redistribution
  - HIE Transformation
  - Clinical Information Reconciliation and Incorporation (CIRI)
- Definitions for Human, Machine, and Inter-organization Useability to be defined:
  - Human Useability
    - How can we structure data to make it more useful, readable, and interpretable, for end user
    - Which situations are the most important for receiving an updated piece of clinical data?
  - Machine Useability
    - How can we make data we send out easier for machines to display, parse, sort, index, etc.
  - Inter-organization Useability
    - How can we send data in a way that is easy for the receiving party to accurately interpret and derive value from
      1. Is it important for you to know all users who have touched/reconciled the information, only the originator or only the most recent?
         a. Does this requirement change for different types of data -- e.g. labs vs. Problems/diagnosis
         b. What do you consider important provenance information: the clinician's name, credentials, specialty, the name of the hospital or clinic?
      2. Which situations are the most important for receiving an updated piece of clinical data?

Use Case: Provider to Provider

- HIE Transformation
  - Scenario: Patient has a medication that originally came from data ingested from an external system, listed in their treatment plan, and the physician treating the patient wants to know if the prescriber was a specialist or the patient's prior PCP
- EHR/HIE Transformation
  - Scenario: An HIE creates a Patient Summary document by incorporating content from multiple encounters and authors
    - Leverage provenance attributes to help with rendering a deduplicated longitudinal view of a patient (see Guidance for Longitudinal View)
  - Scenario: An EHR creates a Patient Summary document by incorporating content from multiple encounters and authors
- Clinical Information Reconciliation and Incorporation (CIRI)
  - Scenario: Provider reconciles a medication list within an HIE or across HIEs
  - Scenario: Provider within an EHR reconciles a medication list
- Scenario: Individual item correction
  - Scenario: Provider corrects an entry that was entered in error
  - Scenario: Retain original prescriber
    - Original prescriber of a medication was a specialist quite some time ago, but the PCP has been prescribing the medication once the original prescription ran out
    - The desire is to identify both the original and most recent prescribers

Use Case: Provider to Public Health Agency

- Provenance data for Immunizations
  - Section guidance will be documented as a good place to start
  - Scenario: Distinguish administered vaccines from "historical" vaccines
  - Scenario: Patient history of vaccinations is sometimes recorded in the official vaccination section of the EHR to satisfy gaps in care/CDS, but can be done inconsistently or inaccurately
    - The original administration is the most valuable
- Provenance Data for Electronic Case Reporting (ECR)
  - Should consideration be made for other eCR types of transactions?

Use Case: Healthcare Entity to Consumer

- Scenario: Digitally sign data supplied to patient so it can be re-disclosed to other providers while ensuring it hasn't been modified
  - As consumer-directed health information exchange becomes more prevalent, verifying the integrity of patient-supplied medical information will become an imperative
  - When EHI obtained by a patient that is digitally signed is provided to a third party along with the chain of trust from its origin, that third party can have confidence in the integrity of that EHI
- Scenario: Consumer apps facilitating the submission of sports physicals and immunization records to schools, for travel, concerts and other events are inevitable—as are apps driving patient-driven care coordination
  - Consumers will demand this access to their data, and providers receiving that data will need to know it is unaltered
- Scenario: Enable a patient to request corrections to errors in their data
  - The HL7 Patient Empowerment Workgroup (PEWG) is addressing the Patient Correction use case - the patient is the initial trigger of the request to fix bad data; the system then takes over fixing it
  - The PEWG has not yet considered propagation of corrections so this is currently out of scope

Collaboration Space Input Discussion

June 24, 2021 at 4:11 pm   #33686   REPLY

Andrea Pitkus, PhD, MLS(ASCP) CM

Regarding laboratory data, there are specific CLIA requirements by law which overlap with the questions. CLIA is more specific than HL7/ONC data provenance requirements too.

Each laboratory accrediting body (i.e. The College of American Pathologists, Joint Commission) may have additional requirements such as interface checks ensuring what the performing lab sent to the first downstream entity (i.e. EHR, HIE, another lab, public health) doesn't have any truncation or data issues, decimal points are in the right place, etc. There required data elements such as the performing laboratory address, etc. When data are updated there are also requirements to retain the original and updated information, communicate the change, etc.

See CLIA §493.1291 Standard: Test report. https://www.ecfr.gov/cgi-bin/text-idx?SID=1248e3189da5e5f936e55315402bc38b&node=pt42.5.493&rgn=div5#se42.5.493_12

June 30, 2021 at 10:33 pm   #34592   REPLY

Riki Merrick

In additon to Andrea's points:
What data is important depends on the use case and what the data will be used for, but at minimum you would need to know who changed the data and when and in some cases why. WHat elements to us to identify the who (could be an id like the NPI, but if it's not something unique we probably would need name (last and first) and associated organization at a minimum.) I would look at the provenance resource and check with the owning WG at HL7 for input.
obviously any time a change in data affect clincial treatment or impacts public health that change needs to be communicated.

https://sequoiaproject.org/groups/data-usability-workgroup/forum/topic/data-provenance-and-traceability-of-changes/

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Phase 2 Implementation Guide Development Process

- Co-chairs and staff have started to organize and gather the content for the 8 topic areas developed in phase 1 activities – the following tasks will be completed monthly for each topic area by staff to review
- Topics will be addressed in priority order with one – two topics reviewed each month
  - This will be documented in the existing Google docs and/or the draft IG for the work items
    - Priority Work Items Spreadsheet:
      - https://docs.google.com/spreadsheets/d/1eRbgoStsfhYzIK-wj4TIU9Wr4MEkxfF3syOxsHWIPdg/edit#gid=0
  - Staff will take a high level pass of existing recommendations from Commonwell IG
  - Integrate feedback from workshop(s) to the draft IG
  - Incorporate feedback from Data Usability Collaboration space / forum
    - https://sequoiaproject.org/interoperability-matters/data-usability-workgroup/
  - Go over problem statements from a more technical perspective
  - Document other aspects to be considered for the solution
  - Identify questions that still require clarification for all topics
  - Update the Draft IG for each topic category and use case

Data Usability Work Group

For more information:
www.sequoiaproject.org/interoperability-matters/data-usability-workgroup/

(571) 327-3640   Interopmatters@sequoiaproject.org

Convene   Collaborate   Interoperate

Thank You for your support of Interoperability Matters!