



# Interoperability MATTERS

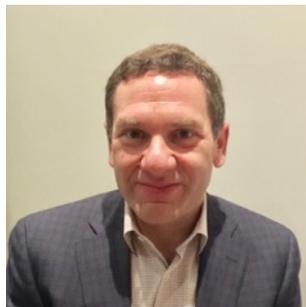
an initiative of The Sequoia Project

## Data Usability Work Group

October 28, 2021

# Agenda

- Welcome, Introductions, Membership, Agenda - David Camitta – 5 minutes
- Website, Meeting and Workgroup Logistics & Collaboration Forum – Bill Gregg– 5 minutes
  - November and December meetings will change to the 1<sup>st</sup> and 3<sup>rd</sup> Thursday's due to holiday conflicts
- Topic Focus: Data Integrity and Trust - Didi, Bill, David, John, Dylan & Zach – 15 minutes
  - Implementation Guide Review
  - Use Case/Scenario Summaries: Provider to Provider, Provider to Public Health Agency, Healthcare Entity to Consumer
- Topic Focus: Data Tagging and Searchability - Didi, Bill, David, John, Dylan & Zach – 15 minutes
  - Implementation Guide Review
  - Use Case/Scenario Summaries: Provider to Provider, Provider to Public Health Agency, Healthcare Entity to Consumer
- Draft IG Q&A Review and Next Steps – 15 minutes



David Camitta, Co-chair  
Anthem, Inc.



Bill Gregg, Co-chair  
HCA Healthcare



Didi Davis, VP  
The Sequoia Project

# Workgroup Members

217 Organizations

310 Participants



Healthcare Providers



Public Health



Consumer/Patient



HIN/HIEs



Federal, State, Local Government



Standards Developer



Health IT Developers



Other



Health Plan/Payer



# The Sequoia Project's Members



# The Sequoia Project's Members



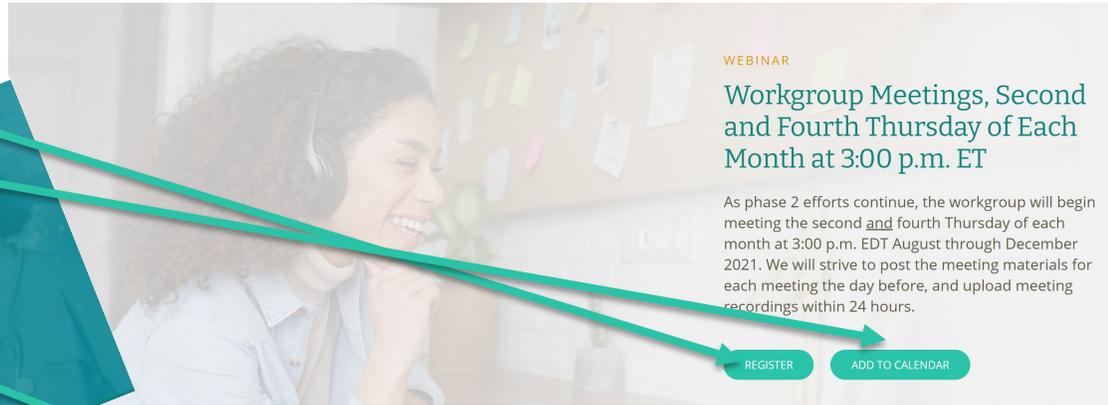


- Audacious Inquiry
- CA Emergency Medical Services Association
- ConSensys Health
- Cureous Innovations
- CVS Health
- Hawaii HIE

- Health InfoNet
- Innovaccer
- Lyniate
- Mayo Clinic
- Virginia HIE

# Website, Meeting and Workgroup Logistics

- Register for the Workgroup
- Calendar Downloads
- Meeting Notes



## Meeting Materials and Recordings

Phase 2

September 9: Meeting Notes	+
August 26: Meeting Notes	+
August 12: Meeting Notes	+
July 8: Meeting Notes	+
June 10: Meeting Notes	+
May 13: Meeting Notes	+
Apr 8: Meeting Notes	+
Apr 1: Meeting Notes	+
Apr 15: Meeting Notes	+

Phase 1

Mar 25: Meeting Notes	+
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## Four Work Phases

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

<p><b>PHASE 1</b> Administration and Prioritization (Current) October 2020-March 2021 <a href="#">View Meeting Notes</a></p>	<p><b>PHASE 2</b> Developing Initial Drafts April 2021-November 2021 <a href="#">View Meeting Notes</a></p>	<p><b>PHASE 3</b> Public Comment Period/ Recommended Next Steps TBD, based on end of Phase 2-60 days after start</p>	<p><b>PHASE 4</b> Finalizing Implementation Guides [TBD, based on end of Phase 3]-[3 months after start]</p>
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<https://sequoiaproject.org/interoperability-matters/data-usability-workgroup/>

## Phase 2 Implementation Guide Development Process

- Co-chairs and staff have organized and gathered the content for the 7 topic areas developed in phase 1 activities
- Topics will be addressed in priority order with two topics reviewed each meeting
  - This will be documented in the existing Google docs and/or the draft IG for the work
    - Priority Work Items Spreadsheet:
      - <https://docs.google.com/spreadsheets/d/1eRbgoStsfhYzIK-wj4TIU9Wr4MEkxF3syOxsHWIPdg/edit#gid=0>
  - Staff will review existing recommendations from Carequality/Commonwell Joint IG
  - Integrate feedback from workshop(s), vendor discussions and Interoperability Matters meetings 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
    - <https://docs.google.com/document/d/18njbwLECzNMg7gm9LP9btAiNQFtuEIHArXr-IrJN69o/edit#>

## **Future Workgroup Calendar Invites to be Pushed & Cadence of meetings changed to 1<sup>st</sup> & 3<sup>rd</sup> Thursday November/December**

- Meetings for the remainder of 2021
  - October 28, 2021
  - November 4, 2021
  - November 18, 2021
  - December 2, 2021
  - December 16, 2021
  - Workgroup will go on hiatus for holidays and restart meetings the 2<sup>nd</sup> & 4<sup>th</sup> Thursday's starting January 13, 2022

# Data Integrity and Trust

## Topic: Data Integrity and Trust – Summary

- Data Accountability/Binding Content and Authorship
- Data Integration or Data Insulation
- Problems with name formats between XDS/CDA
- Data Transformation from Source
- **Provider to Provider -**
  - Provide guidance to ensure consistency between person names as expressed in CDA payload vs. in XCPD transaction request/responses vs. XCA transport metadata (reference guidance from Joint Document Content Workgroup)
    - Include guidance for dealing with special characters in names used for rendering or matching from the DRAFT v1.0 of the Project US@ Technical Specification
- **Provider to Public Health Agency -** None identified at this time
- **Healthcare Entity to Consumer –** None identified at this time

# Data Tagging and Searchability

# Topic: Data Tagging and Searchability – Summary

- Data linked to Action
  - Many of the pain points/problems are solvable with guidance to be provided for other topic categories (Provenance, longitudinal view, data tagging, reduce impact of duplicates)
- Data Tense – Past, Present, Future
- Data in Context
- Improve readability of documents through standardized tagging
- Guidance for Longitudinal View
  - The JDCWG has already provided some guidance requiring at least one patient summary and one encounter summary per encounter with guidance for generating, populating and querying these
- **In Scope:** Common guidance for how to narrow the information by common filters (i.e. dates, problems, labs, vital signs, diagnosis and procedures)
  - Client-side (filter what to retrieve based on query response) filtering
  - Focus on tagging improvements within CDA documents for this version
  - Advanced directive data guidance for document inclusion
  - Tag a document with a dx code to enable the ability to find the setting (i.e. COVID ER visit, the COVID admission, COVID ICU d/c, the COVID hospital d/c, and the disposition for the COVID patient)
- **Provider to Provider**
  - Scenario: Ability to search/query by document titles and further note titles, ability to filter by type such as radiology, cardiology or respiratory therapy notes
- **Provider to Public Health –**
  - Scenario: Ability to narrow queries for a document or data set by diagnosis/ICD-10
    - Show data related to COVID
- **Healthcare Entity to Consumer –** Same abilities as provider to provider Use Case

# Carequality/Commonwell Joint Document Content Guide

- Carequality has dusted off the original guide created in September 2020 but not published due to outstanding comments
- Tiger Team was formed and first meeting was held August 6, 2021
- Carequality's expectation is to publish final guide (Version 2.0) with comments resolved by the end of 2021
- Sequoia will work with Carequality to coordinate messaging and adoption of new guidance to be published by this workgroup since the timings may overlap
- Carequality will require content testing with a timeline TBD
- Commonwell will also require content testing with a timeline TBD

## Data Usability Work Group

**For more information:**

[www.sequoiaproject.org/interoperability-matters/data-usability-workgroup/](http://www.sequoiaproject.org/interoperability-matters/data-usability-workgroup/)



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Convene



Collaborate



Interoperate



**Thank You for your support of  
Interoperability Matters!**

Data Provenance and Traceability of changes

# Appendix

# Data Integrity and Trust

## Topic: Data Integrity and Trust – Clinician Workshop Recap

- Data is most trusted when it comes from the data producer directly
- Unparsed narrative data is most trustworthy because the author is identified with context and other relationships between diverse data
- Allergy data is least trustworthy because it is based on what the untrained patient provides
- Medication data is often out-of-date and requires confirmation by the patient
- Lab data trust depends on the source (i.e. patient reported/performed, health professional, CLIA lab or pop-up site)
  - Suggest SHIELD initiative work to make lab data more usable and interoperable be considered
  - Specimen type and/or source impacts the trust of many test results
    - COVID consumer collected → sent to CLIA lab or self collected at home

## Topic: Data Integrity and Trust – Summary

- Data Accountability/Binding Content and Authorship
- Data Integration or Data Insulation
- Problems with name formats between XDS/CDA
- Data Transformation from Source
- Definitions for Human, Machine, and Inter-organization Useability to be defined:
  - Human Useability
    - What factors cause you to mistrust external data?
    - Are there scenarios where you have strong trust for external data?
    - Does trust vary by type of data?
  - Machine Useability
    - How can we make data we send out more trusted?
  - Inter-organization Useability
    - How do you weigh data from different sources (Payers/Clinical/HIEs/Registries)?
    - Would it be helpful to know that data had been previously reviewed by a clinician at another organization?

## Data Integrity and Trust : Provider to Provider

- Use Cases:
  - Provide guidance to ensure consistency between person names as expressed in CDA payload vs. in XCPD transaction request/responses vs. XCA transport metadata
    - Include guidance for dealing with special characters in names used for rendering or matching from the [DRAFT v1.0 of the Project US@ Technical Specification?](#)
      - Public Comment closed 7/31
  - Provide guidance for intermediaries who may transform data from the original source value
    - Representation in an alternate value set (LOINC)
    - Transformation of HL7 v2 message, CDA document
  - Reference SHIELD initiative work???

# Data Integrity and Trust: Provider to Public Health Agency

No Use Cases in scope at this time

# Data Integrity and Trust : Healthcare Entity to Consumer

No Use Cases in scope at this time

# Data Integrity and Trust : Collaboration Space Discussion

June 30, 2021 at 10:48 pm #34597 REPLY

  
**Riki Merrick**

Please don't use the term "data type" in this manner – use type of data, or data element.

SHIELD (Systemic Harmonization and Interoperability Enhancement for Laboratory Data) is a public private partnership that is working on a strategic plan with the goal to "Name the same test the same way across the healthcare continuum" – this group is tackling the difficult problem of making sure lab results from different performers / vendors / instruments can be compared without the risk to patient safety.

For some lab tests the methodology is important as is the clinical context, so depending on how many transformations the data has seen that can be lost; so I usually trust the data the most, when it comes from the data producer directly.

July 8, 2021 at 12:46 pm #36024 REPLY

  
**Tom Bronken**

Trust in the data varies by type. Generally, I find un-parsed narrative data most trustworthy because the author is identified, it has self-contained context, it emphasizes what is most important, and it explains the temporal and other relationships between diverse data that are included within it. I find allergy data least trustworthy because the allergy is usually not observed by a clinician and documentation is based on what the untrained patient says. Medication data is often out-of-date, so I only trust it if confirmed with the patient. I worry less about lab data because I use past lab values only as an indication of what's going on—not something with which to make decisions.

July 8, 2021 at 6:01 pm #36072 REPLY

  
**Andrea Pitkus**

Dr. Bronken, do you use previous lab result deltas for clinical decision making (i.e. pre/post transfusion hgb)?

For lab data, it depends on the source (i.e. patient reported/performed, health professional, CLIA lab/pop up site). Concur with Dr. Bronken that it depends on the type of data.

Working on SHIELD initiatives with riki on making lab data more useable and interoperable. Specimen type and/or source also has a huge impact on many test results.

I'm less likely to fully trust a lab result performed by a non health professional. With COVID consumer collected (and sent to CLIA lab) or self collected and performed at home testing, how do we know the dog wasn't swabbed or the patient's ear?

CLIA regs help ensure quality testing as they are actionable by health team members and need to be perfect/accurate given decisions made upon them (diagnosis, prognosis, treatment, etc.) Even methods with higher false positives/false negatives, screening tests, etc may be trusted less given the differences in their predictive values.

<https://sequoiaproject.org/groups/data-usability-workgroup/forum/topic/data-integrity-and-trust/>

# Data Tagging and Searchability

## Topic: Data Tagging and Searchability – Clinician Workshop Recap

- Clinicians desire to understand the chronology of a patient’s journey (care continuum) as opposed to a summary of many disparate encounters
  - Clinicians enjoy the ability to search by document titles and further note titles
    - Desire the ability to filter out progress notes from an inpatient stay when they are documented daily
    - Desire the ability to filter by type such as cardiology or respiratory therapy notes
  - Clinicians also desire the ability to search by date and type of discrete data (i.e. labs, medications and vital signs)
  - One pain point is the inability to have one place to search for historical ICDs mixed with current SNOMED across data
  - Searchability should also apply within large blobs of data such as a CCD documents
  - Advanced directive data and updates should be easily searchable

# Topic: Data Tagging and Searchability

- Data linked to Action
  - Many of the pain points/problems are solvable with guidance to be provided for other topic categories (Provenance, longitudinal view, data tagging, reduce impact of duplicates)
- Data Tense – Past, Present, Future
- Data in Context
- Improve readability of documents through standardized tagging
- Guidance for Longitudinal View
  - The JDCWG has already provided some guidance requiring at least one patient summary and one encounter summary per encounter with guidance for generating, populating and querying these
  - **In Scope:** Common guidance for how to narrow the information by common filters (i.e. dates, problems, diagnosis and procedures)
    - Server-side (filter in the query) and client-side (filter what to retrieve based on query response) filtering
    - Focus on tagging improvements within CDA documents for this version
- Definitions for Human, Machine, and Inter-organization Useability to be defined:
  - Human Useability
    - Is there data that you would like to be able to temporarily filter out when looking at Patient Summaries or Encounter Documents?
  - Machine Useability
    - How would you envision optimal filtering and searching of external summary data to incorporate and improve clinical usability at the point of care?
  - Inter-organization Useability
    - What important types of information are easily available, searchable and filterable in your current EMR but you find hard to find or understand when looking at data from other systems?

## Data Tagging and Searchability : Provider to Provider

- Scenario: Ability to search/query by document titles and further note titles
  - Ability to filter by type such as radiology, cardiology or respiratory therapy notes
  - Ability to filter “Lifetime” tests (i.e. blood type, genetic tests, etc.)
- Scenario: Ability to search/query documents and narratives on specific codes/data related to problems, diagnosis, procedures (i.e. Cancer, Diabetes, Dementia)
  - Clinicians also desire the ability to search by date and type of discrete data (i.e. labs, medications and vital signs)
  - Searchability should also apply within large blobs of data such as a CCD documents or Patient Summaries
  - Advanced directive data and updates should be easily searchable
  - Tag a document with a dx code to enable the ability to find the COVID ER visit, the COVID admission, COVID ICU d/c, the COVID hospital d/c, and the disposition for the COVID patient
    - Consider 3 types of tags:
      - Setting (ER, hospital, ICU, SNF, outpatient)
      - Transitions (ER visit, hospital admission, hospital discharge, ICU admission, ICU discharge, death, SNF or Rehab admission, SNF or Rehab discharge, outpatient/ambulatory encounter)
      - Problem or Diagnosis

## Data Tagging and Searchability : Provider to Public Health Agency

- Scenario: Ability to narrow queries for a document or data set by diagnosis/ICD-10
  - Show data related to TB, HIV, Syphilis, HepC
  - Tag a document with a dx code to enable the ability to find the COVID ER visit, the COVID admission, COVID ICU d/c, the COVID hospital d/c, and the disposition for the COVID patient
    - Consider 3 types of tags:
      - Setting (ER, hospital, ICU, SNF, outpatient)
      - Transitions (ER visit, hospital admission, hospital discharge, ICU admission, ICU discharge, death, SNF or Rehab admission, SNF or Rehab discharge, outpatient/ambulatory encounter)
      - Problem or Diagnosis

## Data Tagging and Searchability: Healthcare Entity to Consumer

- Same abilities as provider to provider Use Case
  - Scenario: Ability to search/query as documented for Provider tagging and searchability
    - Ability to filter by type such as radiology, cardiology or respiratory therapy notes
    - Ability to filter “Lifetime” tests (i.e. blood type, genetic tests, etc.)
    - Advanced directive data and updates should be easily searchable
  - Scenario: Ability to search/query documents and narratives on specific codes/data related to problems, diagnosis, procedures (i.e. Cancer, Diabetes, Dementia)

# Data Tagging and Searchability Collaboration Space Input Discussion

June 24, 2021 at 4:25 pm #33689 REPLY

  
**Andrea Pitkus, PhD, MLS(ASCP) CM**

Perhaps another way of asking this question is would providers want to see data in a Problem Oriented View as pioneered by Dr. Larry Weed to reduce their clinical burden? What data is preferred in POV?

My team is providing freely available Problem Concept Maps that can be utilized in EHRs globally to produce POV and reduce clinical burden. Initially maps are problem centric and listing relevant labs and meds for each. Epic currently has functionality to import PCM content to generate the POV. PCM framework permits addition of radiology/imaging results, procedures (pulmonary function, cardiology testing), Social Determinants of Health (SDOH) and other data desired by clinicians.

- Relevant labs and meds can be imported across providers/organizations and include historic results (especially those like genetics, tumor markers, etc. that may be done once across a patient's timeline.
- HL7 Reducing Clinical Burden Workgroup is working on specifications to generate global standards/implementation guide for POV.

June 30, 2021 at 10:08 pm #34587 REPLY

  
**Riki Merrick**

APHL does not work on summary documents, which are hopefully using CDA, especially the structured part, so that filtering etc can be accomplished.

From a lab perspective LOINC and SNOMED (for ordinal and nominal results) should be helpful in finding specific tests, though if the results are comparable over time, when tests were performed at different institutions, or even over time at the same institution requires more information, that may not be currently captured. SHIELD (Systemic Harmonization and Interoperability Enhancement for Laboratory Data) – a public Private partnership group is currently working on a strategic plan with the goal of identifying the same test the same way across the healthcare continuum.

Often Labs (specifically public health labs) are not patient centric, so knowing the specimen ID = accession number is important, when getting data from the source.

<https://sequoiaproject.org/groups/data-usability-workgroup/forum/topic/data-tagging-searchability/>