

HC-SIG - Healthcare Interoperability Subgroup (Archived)

Charter

In the United States as recently as 2009, health records are kept either as paper documents or in database silos proprietary to monolithic health information systems such as Epic and Cerner. More importantly, the semantics of the information is also proprietary which means the exchange of even high level information between systems is impossible, much less for patients, who are left with gaps and inconsistencies in their personal healthcare information.

On February 17, 2009, the American Reinvestment Recovery Act (ARRA) was enacted to modernize the US health system through the Health Information Technology for Economic and Clinical Health Act (HITECH) which included initiatives to digitize health records (EHR) and incentivize health care providers to use standards based clinical terminologies so medical knowledge is semantically interoperable.

In general these measures known as Meaningful Use (MU) are overseen by the Centers for Medicare and Medicaid Services (CMS) with 5 goals:

- Improving quality, safety, efficiency, and reducing health disparities
- Engage patients and families in their health
- Improve care coordination
- Improve population and public health
- Ensure adequate privacy and security protection for personal health information

We are currently in the third iteration of Meaningful Use, MU3. now called MIPS/MACRA. MIPS /MACRA is centered around value based care as opposed to volume based care and penalizes health systems that do not demonstrate better value. In addition, the MIPS/MACRA prime directive is to ensure the patient has access to their personal health information, can understand what it means, and can manage how it is used.

In order to meet these goals, health systems are grappling with solutions to make healthcare information available and semantically interoperable. A permissioned Distributed Ledger Technology (DLT) provides a solution to existing silos of information. It is the mission of this subgroup to demonstrate how health information can be made interoperable and exchanged with equal meaning amongst all participants.

The problem of portability for healthcare information is not just a problem in the US, and all solutions provided by this sub-group are meant to be universal and will source existing technologies from international healthcare institutions.

Full Text of Healthcare Interoperability Subgroup Charter

To review the full text of the Healthcare Interoperability Subgroup Charter, [please view here](#).

Scope

Goals

The HC-SIG Healthcare Interoperability Subgroup has the following goals:

- Identify and document current interoperable models and semantic terminologies in the clinical domain appropriate for the digital exchange of healthcare information.
- Document the policies (e.g. Proof of Interoperability), knowledge artifacts/assets and transactions needed to build and retrieve healthcare information to and from the Hyperledger Fabric blockchain.
- Build several proof-of-concept use-cases in a bottom-up manner to test and understand how clinical artifacts and episodes of care can be represented in an interoperable manner on the blockchain.
- Collaborate with medical SME(s) (aka medical informatics) to validate and guide best practices for interoperable clinical artifacts.
- Deliver working code that demonstrates access to episode of care transactions.
- Identify areas where additional work from other subgroups can be leveraged (e.g. identity, membership, consent management, etc.).
- Deliver published research about real-world applications; payer, patient and provider where an interoperable clinical blockchain can provide benefit (e.g. Smart-on-FHIR (SoF) dApps, population health research, social determinants of health, IOT data gathering, etc.)

Work Products

Work products of the Interoperable Healthcare subgroup include, but are not limited to:

- A working Hyperledger Fabric architecture that allows a consortium of health systems to participate in a shared, distributed and interoperable blockchain.

Resources

New to Hyperledger? You'll need a Linux Foundation ID (LFID) to edit our wiki pages and chat on Hyperledger channels. [Here's how to get your LFID](#)

Stay Informed. [Get on our email list](#), and receive regular updates to HC-SIG meetings and events

Additional Resources:

- [HC-SIG Email List](#)
- [HC-SIG Chat Channel](#)
- [HC-SIG Wiki](#)
- [Hyperledger Events Calendar](#)
- [Github Projects](#)
- [Linux Foundation Antitrust Policy](#)

- Real-world use-cases from episodes of care that have clinical validation and can be used as legitimate proof-of-concept trials.
- Working code that executes the building and retrieval of clinical artifacts representing episodes of care to and from the blockchain.
- Documentation that clearly describes the specifications and requirements of the software developed
- Findings that document lessons-learned and best practices so knowledge can be shared with other working groups.
- Other media/material tasks, artifacts (e.g., whitepapers, research/academic papers, videos, webinars), and demos (including POC/POV deliverables), that are deemed necessary by Hyperledger leadership which serve to showcase and promote the Hyperledger brand

Meetings

HIS-SIG Meetings are scheduled twice monthly for one hour. Meetings will discuss progress on tasks assigned in the previous meeting and any impediments or findings. General discussion to focus on topics posted in the agenda will follow. Agenda items can be proposed by individual members in advance of the meeting. Time will be given for new member introductions and open floor topics. Finally, discussion of work proposed for upcoming meetings, task creation and task assignment. All Hyperledger meetings are run covered by the following [Antitrust Policy](#).

Meeting Agendas



HYPERLEDGER

Healthcare

SPECIAL INTEREST GROUP

Welcome and Opening Statements - Monday April 11 at 7:00AM Pacific Time (14:00 UTC)

<https://zoom.us/my/hyperledger.community.3>

- A reminder to all HC-SIG members that this meeting is being recorded
- [Reading of the Linux Foundation Antitrust Policy](#)
 - [Hyperledger Antitrust Slide](#)
- Welcome statement - brief introduction to HIS

New Member Introductions : 5 minutes

- If you're new to the group, please...
 - Introduce yourself, your background and interest in the group
 - Your anticipated level of participation/commitment (active, infrequent, capable of taking on a role and/or task)
 - Tell us where you're geographically located
 - What days, times you prefer or can work with
 - Respond to queries and comments from the group
 - Consider posting your contact information in our [HC-SIG Membership Directory](#)

Review of last meeting agenda: Goals, Means : 10 minutes

- General review of HIS mission statement and goals
- Member participation and expectations
- Feel free to make an announcement here, on our [Rocket.Chat channel](#), or via our [email listserv](#)

General discussion : 45 minutes

- Continuation of Immunization use-case review
 - Discuss the Fabric components needed
 - Which FHIR resources : Episode of Care vs. Encounter or both or..

Next Meeting

- Discussion: topics to add to agenda?

Meeting Notes

Previous Meetings:

- [HIS Meeting: 2019.09.16](#)
- [HIS Meeting: 2019.10.14](#)
- [HIS Meeting: 2019.12.09](#)
- [HIS Meeting: 2019.12.23](#)
- [HIS Meeting: 2020.01.20](#)
- [HIS Meeting: 2020.02.03](#)
- [HIS Meeting: 2020.02.17](#)
- [HIS Meeting: 2020.03.30](#)
- [HIS Meeting: 2020.05.25](#)
- [HIS Meeting: 2020.07.20](#)
- [HIS Meeting: 2020.08.03](#)
- [HIS Meeting: 2020.11.09](#)
- [HIS Meeting: 2020.11.23](#)
- [HIS Meeting: 2020.12.07](#)
- [HIS Meeting: 2021.03.01](#)
- [HIS Meeting: 2021.03.15](#)
- [HIS Meeting: 2021.03.29](#)
- [HIS Meeting: 2021.04.12](#)
- [HIS Meeting: 2021.06.07](#)
- [HIS Meeting: 2021.07.19](#)
- [HIS Meeting: 2021.10.11](#)
- [HIS Meeting: 2021.11.22](#)
- [HIS Meeting: 2021.12.20](#)
- [HIS Meeting: 2022.2.14](#)
- [HIS Meeting: 2022.3.28](#)

Links to Work In Progress

[HIS_epics.docx](#)

[HIS_epics_20200413.pdf](#)

[usecase_1.docx](#)

[usecase_2.docx](#)

[UseCase2_seq_diag.pdf](#)

[FHIR Resource Proposal.pdf](#)

Links to External Resources

[Mayo-blockchain-based-approach-final.pdf](#)

Active Members

Name	Company
Jim Mason	SkyWebTeam
Bhaskar	Bhaskar Agency