

Making EHR Data More Available for Research and Public Health (MedMorph)

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U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

MedMorph Background

Making EHR Data More Available for Research and Public Health (MedMorph)

- Funded by the **Patient-Centered Outcomes Research Trust Fund (PCORTF)** via the U.S. Department of Health and Human Services (HHS) Assistant Secretary for Planning and Evaluation (ASPE)

Total project timeline: 3 years

- **PROBLEM:** Patient-centered outcomes researchers and public health professionals need better ways to get data from different electronic health record (EHR) systems without posing additional burden on health care providers
- **GOAL:** Create a reliable, scalable, generalizable, configurable, interoperable method to get EHR data for multiple public health and research use cases
- **OBJECTIVE:** Develop a reference architecture and demonstrate a reference implementation (including implementation guides (IGs))

Technical Expert Panel (TEP): Participating Stakeholder Groups

- Federal Partners
- Health IT Developers
- Clinicians/ Healthcare Organizations
- Medical Societies
- Public Health Organizations
- Evaluation Experts
- Laboratory Professional Groups
- Standards Experts
- Clinical Decision Support Developers
- Clinical Quality Measure Developers
- Researchers
- Policy or Technical Support for Implementation

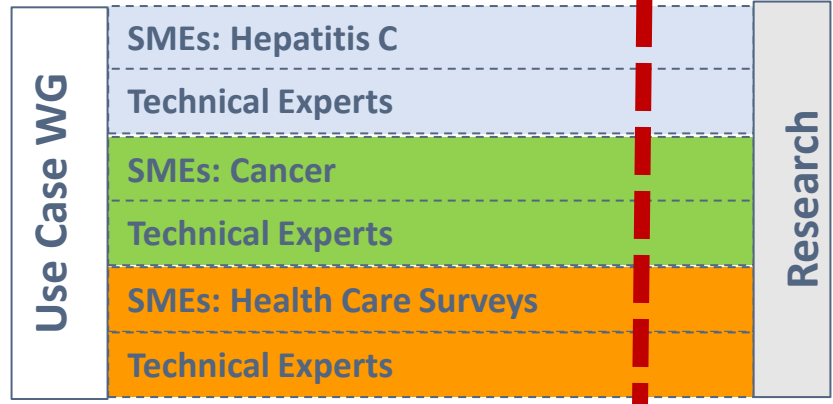
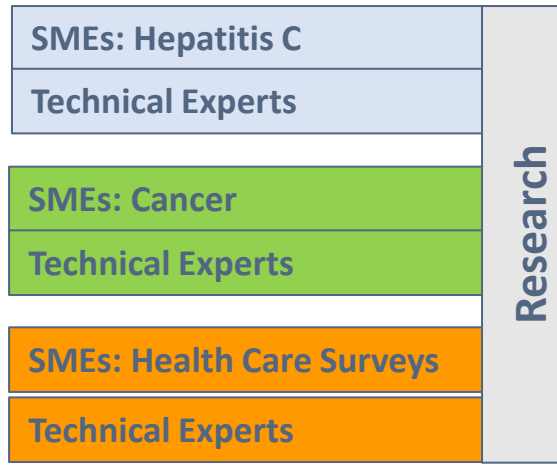
****NOTE:** Over 100 individuals from these partner groups have participated in the MedMorph TEP and at least one of its workgroups.*



WE ARE HERE

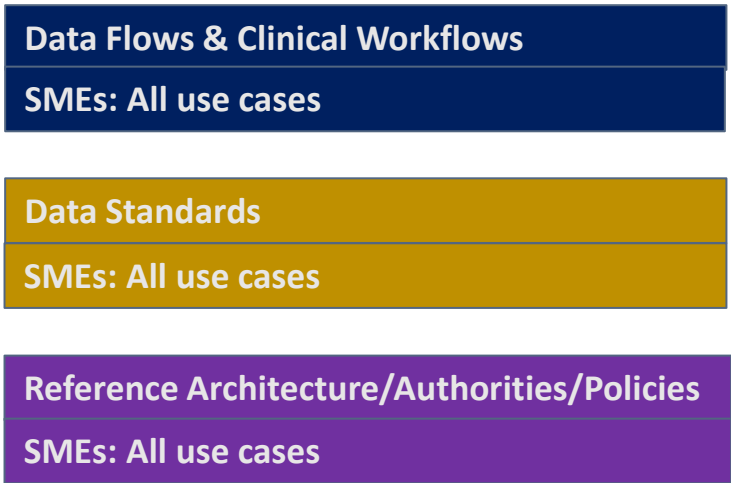
MedMorph Workgroups

Use Cases
(Public Health & Research)



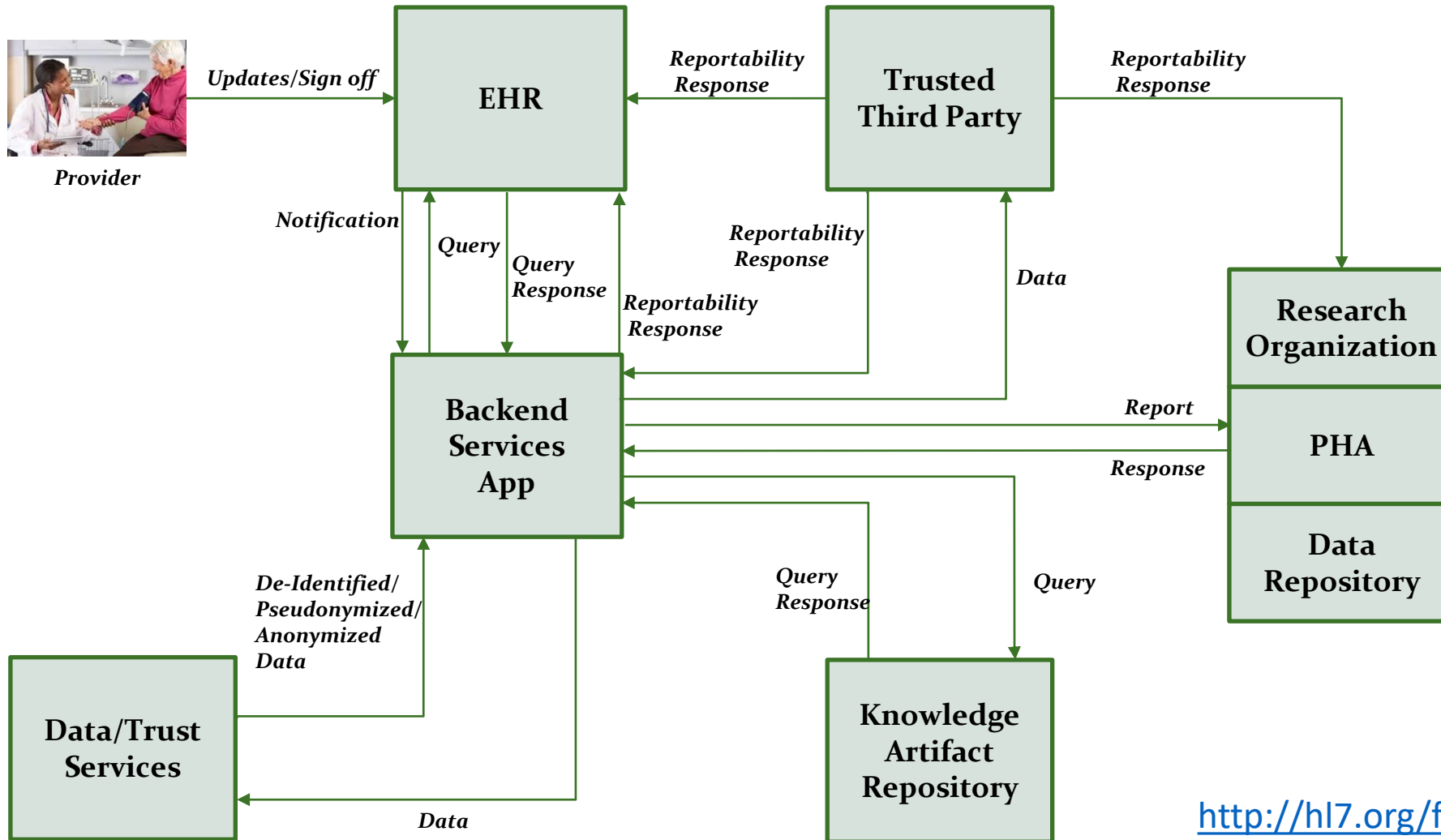
Roadmap

Technical Requirements



MedMorph Reference Architecture

MedMorph Abstract Model of Actors and Systems



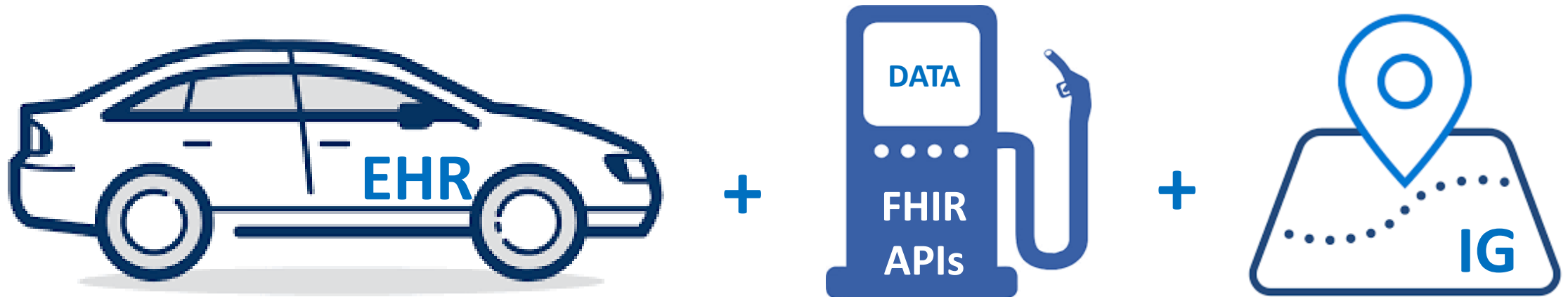
The abstract model of actors and systems is used to define the common workflows identified in the use cases, which include:

- **Provisioning**
- **Data Collection and Submission Report Creation**
- **Data Submission**
- **Receiving Response/Acknowledgement**

Value of the MedMorph Approach

Why use the MedMorph IGs?

- Standardization across EHRs, institutions, etc. so that implementation is more consistent & can be more portable between sites or platforms (e.g., if there are transitions between systems or onboarding of more sites)
- Consistent description of how to leverage EHR FHIR implementations for data exchange between EHRs and an endpoint (e.g., public health surveillance systems, data marts)



Transforming the health data landscape with FHIR

Current: Multiple Different Methods/Approaches



MedMorph: Common Method/Approach



Contacts

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TEP Co-Chairs

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Resources/Useful Links

- **MedMorph Description:**

<https://www.cdc.gov/csels/phio/making-ehr-data-more-available.html>

- **MedMorph Reference Architecture FHIR IG:**

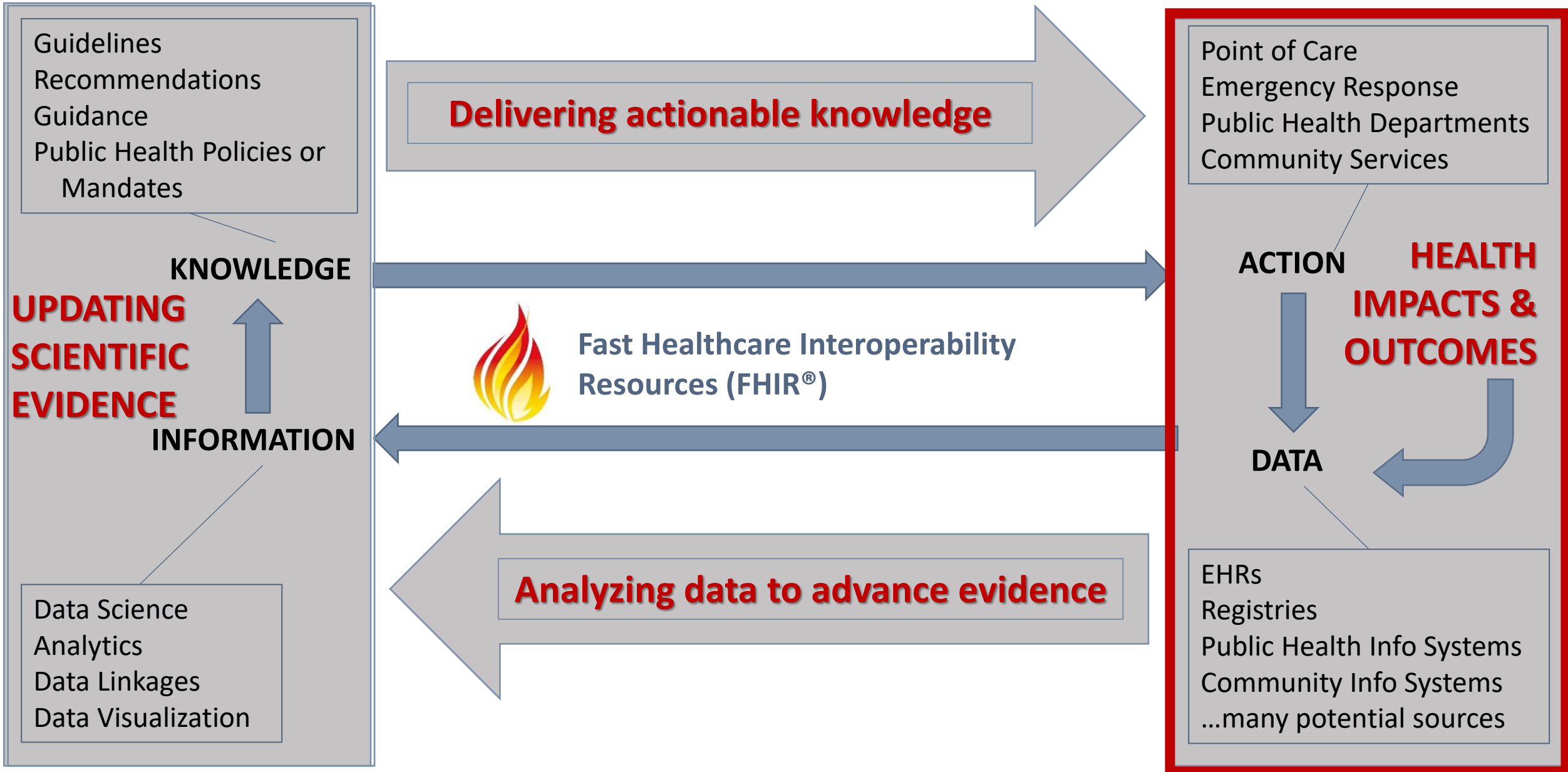
<http://hl7.org/fhir/us/medmorph/2021Jan/>

- **GitHub:** <https://github.com/HL7/fhir-medmorph>

NOTE: You may need to be logged in to GitHub

Additional Slides

The Data Lifecycle & Impacts to the Public's Health



Technical Expert Panel:

End Users, Data Recipients, Stakeholders – Including representatives of additional use cases

Foundation of standards supported by health IT certification (CCDS/USCDI, APIs, FHIR)

Fully Modeled Use Cases

Hepatitis C, Cancer, Healthcare Surveys



Implementation Guides

For general use and for each use case

Technological Strategies

To develop scalable and extensible architecture

CCDS: Core Clinical Data Set

USCDI: US Core Data for Interoperability

APIs: Application Programming Interfaces

FHIR: Fast Healthcare Interoperability Resources

Agile Development: Iterative Design-Build-Test Cycles (test case: Hepatitis C)



Software



Clinical organization



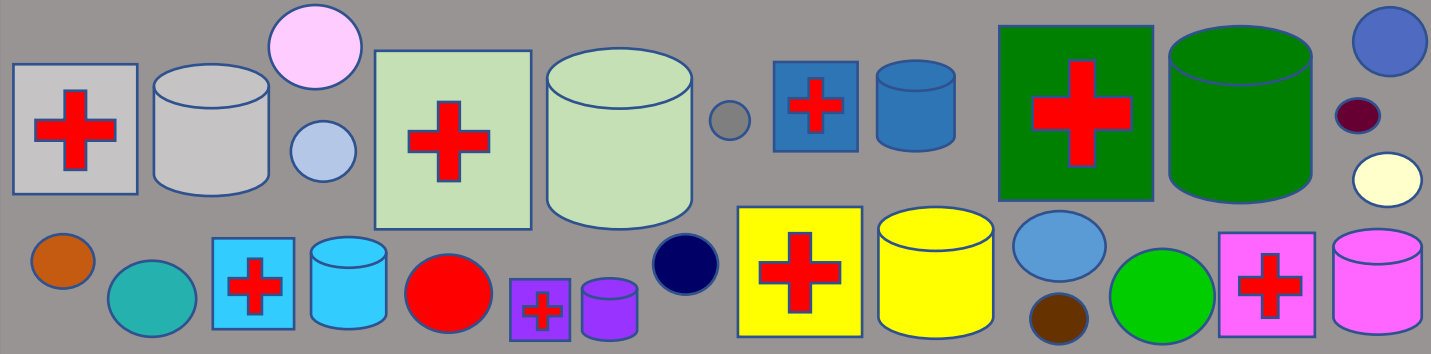
EHR platform



Other testing partners (e.g., public health departments, registries, health IT developers, etc.)

National Test Collaborative

Including a variety of clinical organizations and their EHR platforms



Evaluation Planning

Measure and Evaluate

PRODUCTS: Reference Architecture, Reference Implementation
(Open Source Software) & Balloted Implementation Guides,
Roadmap for Scalability and Sustainability

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

