

ORAL HEALTH INFORMATION TECHNOLOGY VIRTUAL CONVENING

Oral Health System Transformation: Healthcare Data and
Technology as a Driver for Health Improvement
November 19, 2020

Session Participation

Zoom Features

LISTEN ONLY



CHAT



Q&A



ORAL HEALTH SYSTEM TRANSFORMATION: HEALTHCARE DATA AND TECHNOLOGY AS A DRIVER FOR HEALTH IMPROVEMENT

November 19, 2020

Learning Objectives

1. Summarize how health data drives improvement in clinical care quality, and population health.
2. Describe how organizations can participate in managing, aggregating and using health data for quality and care improvement.
3. Identify how providers and payors can partner in electronic information exchange.

Housekeeping

- Participants are in audio only mode. If you have questions for the panel please use the Q/A feature.
- A copy of the slides and a link to the recording will be shared after the webinar concludes. They will also be available on the dentaquestpartnership.org website under the **Learn** tab. Select **Webinars**.
- In order to receive CE credit you must fill out the webinar evaluation, which will be shared at the end of the presentation. The evaluation must be completed by **EOD Wednesday, November 25** to receive CE credit. CE certificates will be distributed a few days after the webinar takes place.
- Your feedback is also greatly appreciated.



The DentaQuest Partnership is an ADA CERP Recognized Provider. This presentation has been planned and implemented in accordance with the standards of the ADA CERP.

*Full disclosures available upon request

DentaQuest Partnership Online Learning Center

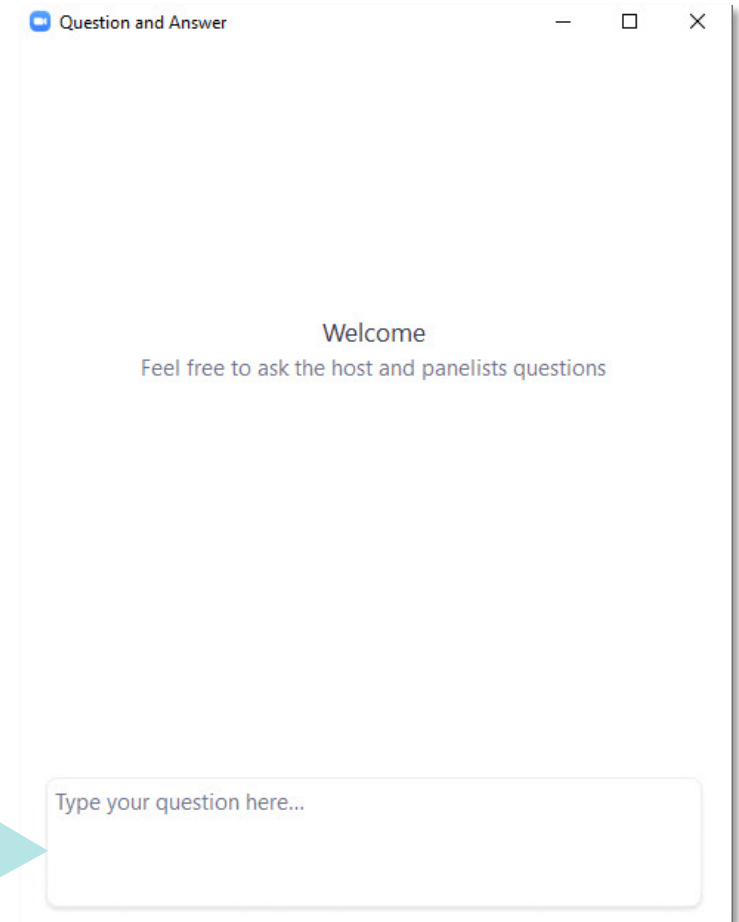
- Visit our website to access past webinar recordings and earn CE credits upon completion of the online learning modules.
- Sign up for our newsletter to get more information on upcoming webinars.
- <https://www.dentaquestpartnership.org/learn>

The screenshot displays the DentaQuest Partnership website's online learning center. At the top left is the logo: "DentaQuest Partnership for Oral Health Advancement". On the top right, there are buttons for "Register" and "Sign In", and a link to "Sign up for News and Updates" with a red arrow pointing to it. Below the navigation bar, the "Learn" tab is selected. The main content area features a large image of a smiling dentist in blue scrubs. To the right of the image, the text reads: "ONLINE LEARNING CENTER. The DentaQuest Partnership Online Learning Center strives to provide engaging resources for anyone looking to implement practice improvement and/or prevention-focused care within their unique environment." Below this, a teal banner contains the text: "If you missed the webinars related to Best Practices for Re-Opening Dental Clinics or Teledentistry you can view the recordings and download the slides. You will also have the option to earn CE credits upon completion of these webinars." At the bottom, a white navigation bar includes "Webinars", "My Learning", "Online Courses", and "Resource Library", with a red arrow pointing to "Webinars".

Question and Answer Logistics

- After the presentations we have time allocated for audience Q&A.
- We are not going to take any questions in between presentations. We will be monitoring the Zoom Q&A box through the entire presentation and we will do our best to answer all of your questions at the end.

Type your question in the **Question and Answer** box.



ORAL HEALTH SYSTEM TRANSFORMATION:



Healthcare Data and Technology as a Driver for Health Improvement



Matt Gigot, MPH

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Manager, Care Coordination and Interoperability, DentaQuest Partnership for Oral Health Advancement



— WISCONSIN —
COLLABORATIVE *for*
HEALTHCARE QUALITY

WCHQ Oral Health Collaborative

November 19, 2020

DentaQuest Oral Health
Information Technology Virtual
Convening

Outline

- WCHQ Background
- Measurement and Data Collection
- Oral Health Collaborative
- Future Directions



Mission

WCHQ publicly reports and bring meaning to performance measurement information that improves the quality and affordability of health care in Wisconsin, in turn improving the health of individuals and communities.



WCHQ History

Founded in 2003, the Wisconsin Collaborative for Healthcare Quality (WCHQ) is a voluntary, statewide, collaborative with a mission to “help health care professionals improve the quality and affordability of health care through collaboration and public reporting which, in turn makes health care more affordable and improves the health of individuals and communities.” Initially started with seven founding members, WCHQ’s membership has expanded. Today, 35 health systems and 5 dental practice are members of WCHQ.



WCHQ Member Organizations

Wisconsin health systems, physician practices, and dental practices

Access Community Health
Centers

Advocate Aurora Health Care

Ascension Wisconsin

Aspirus

Associated Physicians

Bellin Health

Beloit Health System

Children's of Wisconsin

Dental Associates

Divine Savior Healthcare

ForwardDental

Fort HealthCare

Froedtert Health

Gundersen Health System

HealthPartners, MN

Holy Family Memorial

Marshfield Clinic Health

System

Mayo Clinic Health System

Medical College of Wisconsin

Mercyhealth

OakLeaf Medical Network

Prairie Clinic

Prevea Health

Primary Care Associates of
Appleton

ProHealth Care

Reedsburg Area Medical Ctr.

Richland Medical Center

Sauk Prairie Memorial Hospital
& Clinics

Sixteenth Street Community
Health Centers

SSM Health

ThedaCare

UnityPoint Health

UW Health

Vibrant Health Family Clinics

Watertown Regional Medical
Center

Wildwood Family Clinic



WCHQ Core Competencies

- Development, collection and public reporting of performance measures
- Data asset created for and by members:
 - Repository comprised of member-submitted data that is provider-specific, includes more than 45 performance measures across more than 1.9 million patients
- Creation and dissemination of quality improvement strategies
- Facilitation of collaborative learning groups and sharing of best practices across the WCHQ membership



Performance Measurement

- WCHQ data is submitted from member organizations' EHRs and EDRs, and including data on all patients
- Statewide benchmarking
- Customized facility-specific score cards are sent to members
- Data reports can be downloaded by members at any time



WCHQ medical practices report performance at both the practice site and health system level at WCHQ.org

Measure results

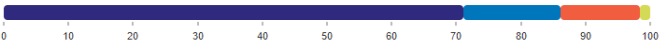


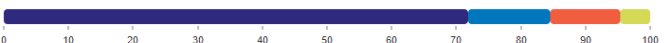








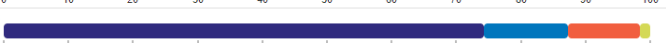


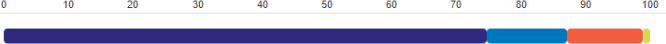


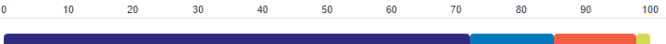


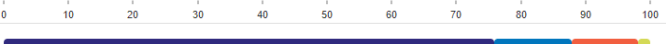




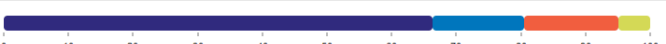













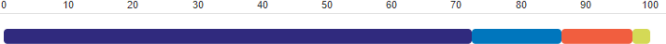


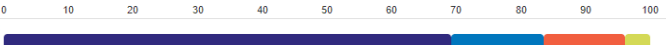


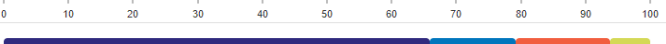


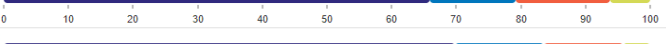


Measure
Diabetes: Blood Sugar (A1c) Control 1

Hover over chart to view performance rate

Reporting period
Q3 2018 - Q2 2019

Preferred →

SYSTEM RESULTS | CLINIC RESULTS

Name ↓	Result	Patients	Historical	Clinic
Agnesian Healthcare		4575		
Ascension North Region and Fox Valley		11163		
Ascension Columbia St. Mary's		8694		
Ascension Wheaton Franciscan Healthcare		15288		
Aspirus Clinics, Inc.		9873		
Associated Physicians		351		
Aurora Health Care Medical Group		61221		
Bellin Medical Group		11037		
Divine Savior	Did not report	N/A		
Fort HealthCare		1230		
Froedtert & The Medical College of Wisconsin		12586		
Gundersen Health System		9664		
Holy Family Memorial	Did not report	N/A		
Marshfield Clinic		14762		
Mayo Clinic Health System - Franciscan Healthcare		5590		
Mayo Clinic Health System in Eau Claire		6934		
Mercyhealth		12910		
Monroe Clinic		2536		



Oral Health Collaborative

Five oral health members joined the collaborative in 2019-2020. Together, they represent more than 190 dentists in Wisconsin and Minnesota.

- Children's Wisconsin
- ForwardDental
- HealthPartners
- Marshfield Clinic Health System
- Dental Associates



Quality Measures

Three new measures serve as a standardized starter set of oral health measures to benchmark performance, including:

- Topical Fluoride Application in High Risk Children
- Caries Risk Assessment in Children
- Ongoing Care in Adults with Periodontitis





- Home Reports
- Measures ^
 - Behavioral health
 - Cancer care
 - Cardiac surgery
 - Cardiovascular specialty care
 - Diabetes
 - Heart care
 - Oral health
 - Pediatrics
- Measure results
- Dental practices

Measures

Name ↓	Clinical topic
Caries Risk Assessment In Children	Dental
Ongoing Care In Adults With Periodontitis	Dental
Topical Fluoride Application In High Risk Children	Dental





- Reports
- Measures
- Behavioral health
- Cancer care
- Cardiac surgery
- Cardiovascular specialty care
- Diabetes
- Heart care
- Oral health
- Pediatrics
- Measure results

Measure results

Measure
Caries Risk Assessment In Children

Hover over chart to view performance rate

Reporting period
Q3 2018 - Q2 2019

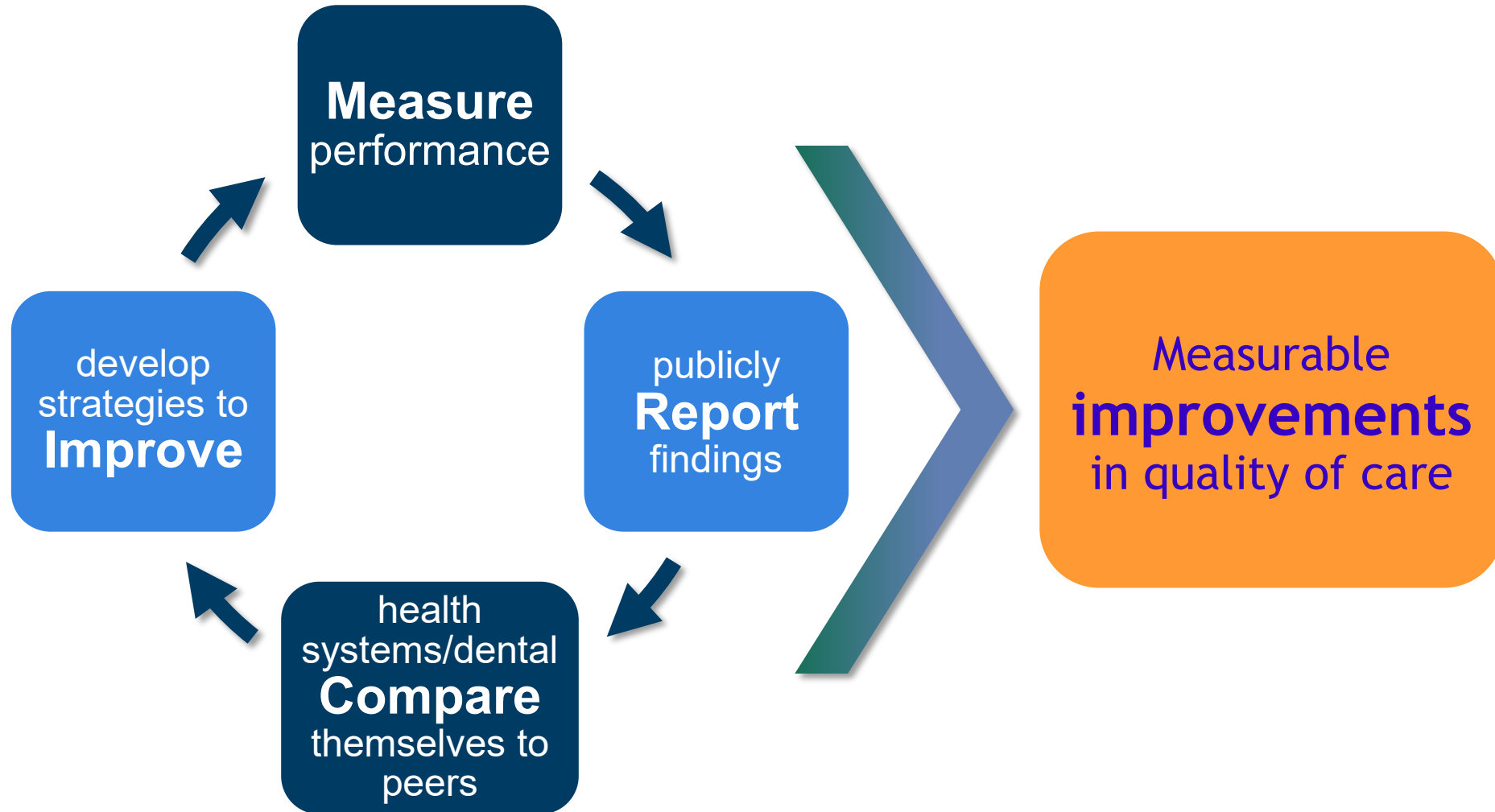
Preferred

SYSTEM RESULTS CLINIC RESULTS

Name	Result	Patients	Historical	Clinic
Children's Hospital of Wisconsin		13638		
Forward Dental		22423		
HealthPartners		24903		
Marshfield Clinic Health System		50488		



Mechanism for Improving Performance



Future Integrated Measure Topics

WCHQ collects data on several medical conditions that are influenced by or impact oral health care. These include measures in the following areas:

- Cardiovascular Disease
- Diabetes
- Cancer
- Pregnancy
- Tobacco Use



Next Steps

- WCHQ staff is working with dental members on data collection
- Members will continue to share data within the Oral Health Collaborative to:
 - Identify opportunities for improvement
 - Refine measures
 - Identify additional analysis to support quality improvement (stratified by payer or risk)
 - Develop medical/dental cross-cutting measures
- Work to increase dental transparency in 2021



For more information contact:

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608-826-6719



Oral Health System Transformation: Healthcare Data and Technology as a Driver for Health Improvement

Maria Michaels

Centers for Disease Control and Prevention



November 19, 2020

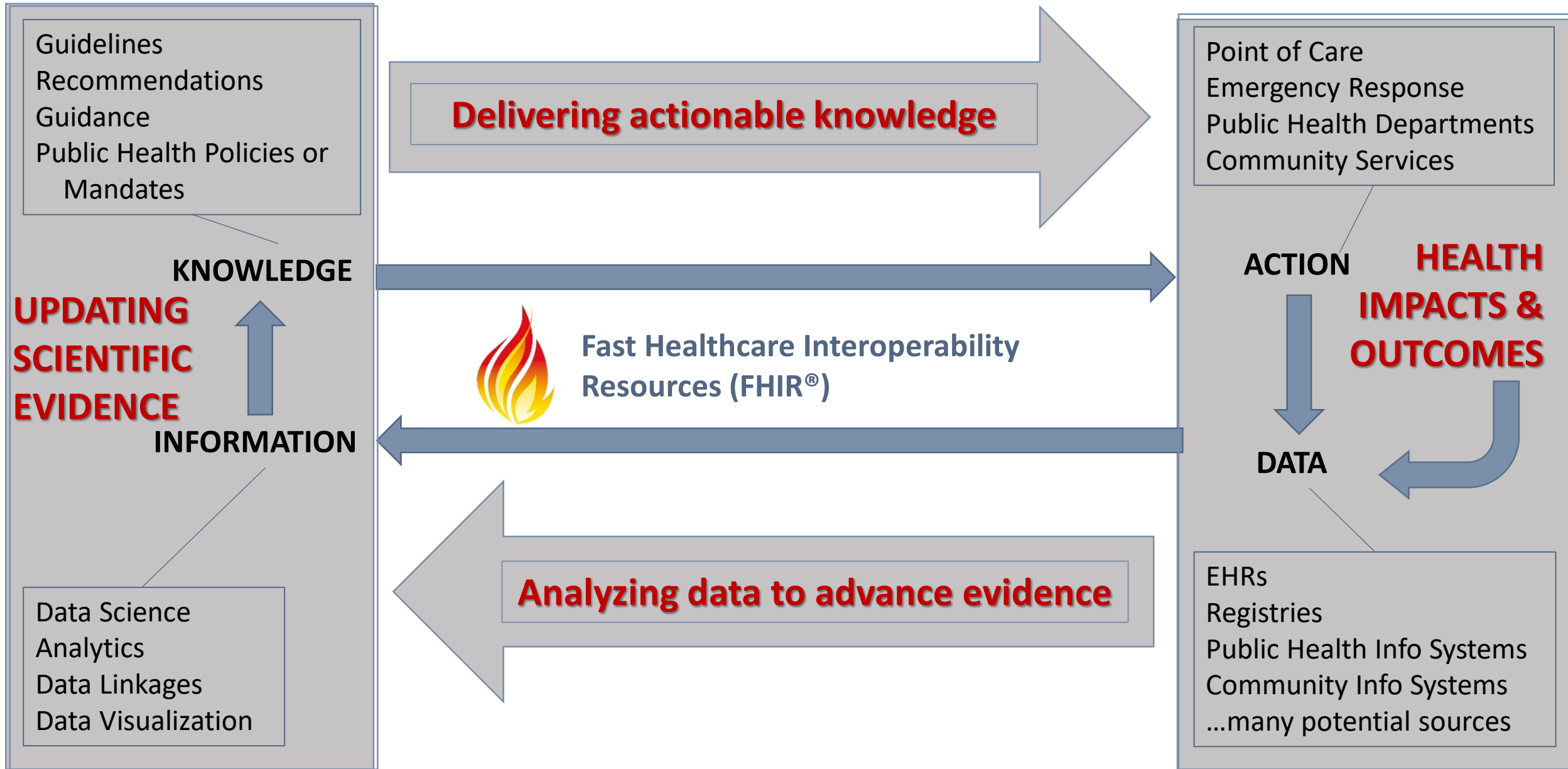


**U.S. Department of
Health and Human Services**
Centers for Disease
Control and Prevention

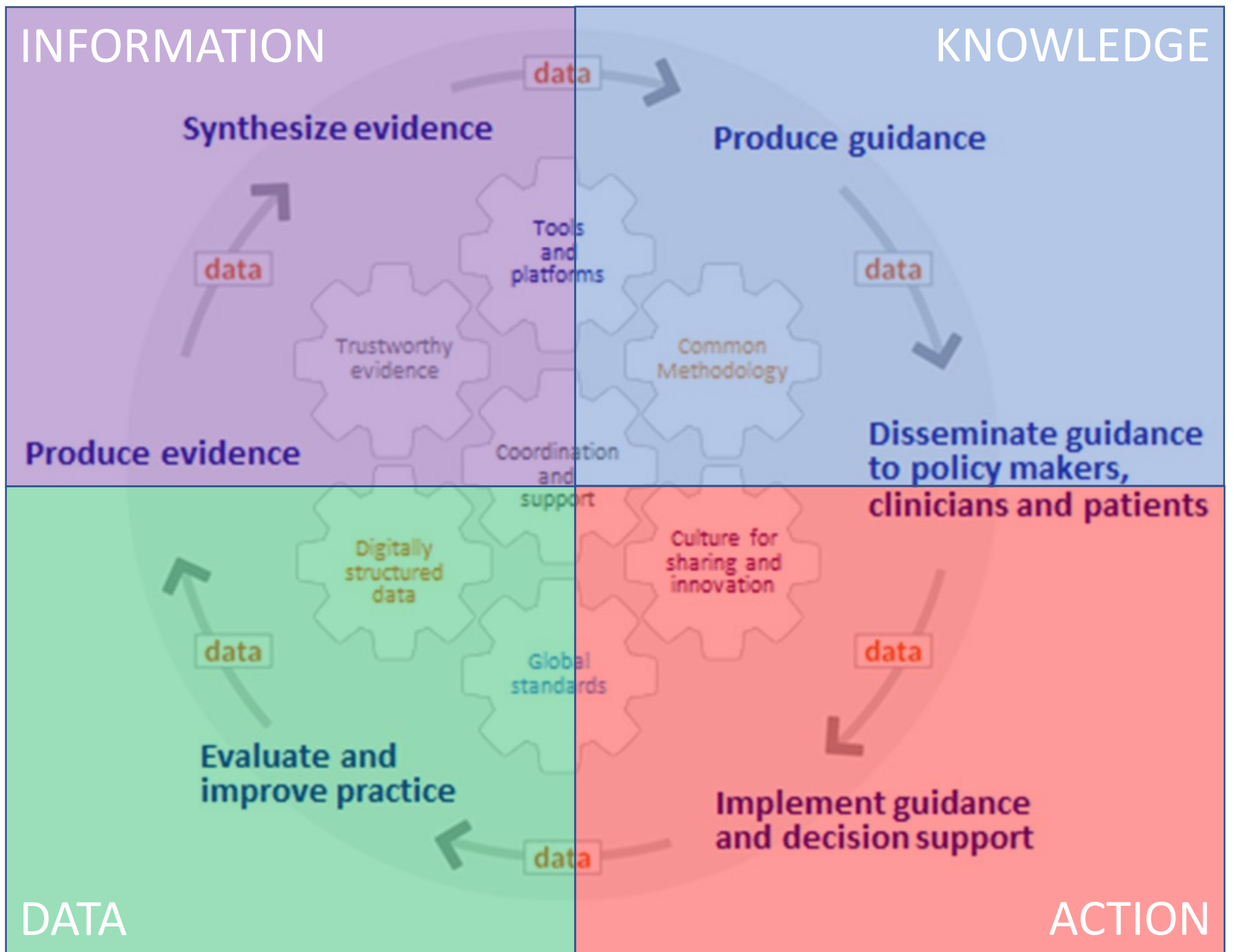
Objectives

- Understand the data lifecycle and its impacts on health
- Describe what computable guidelines are and how they can help patients
- Describe why standardizing data exchange is critical in healthcare

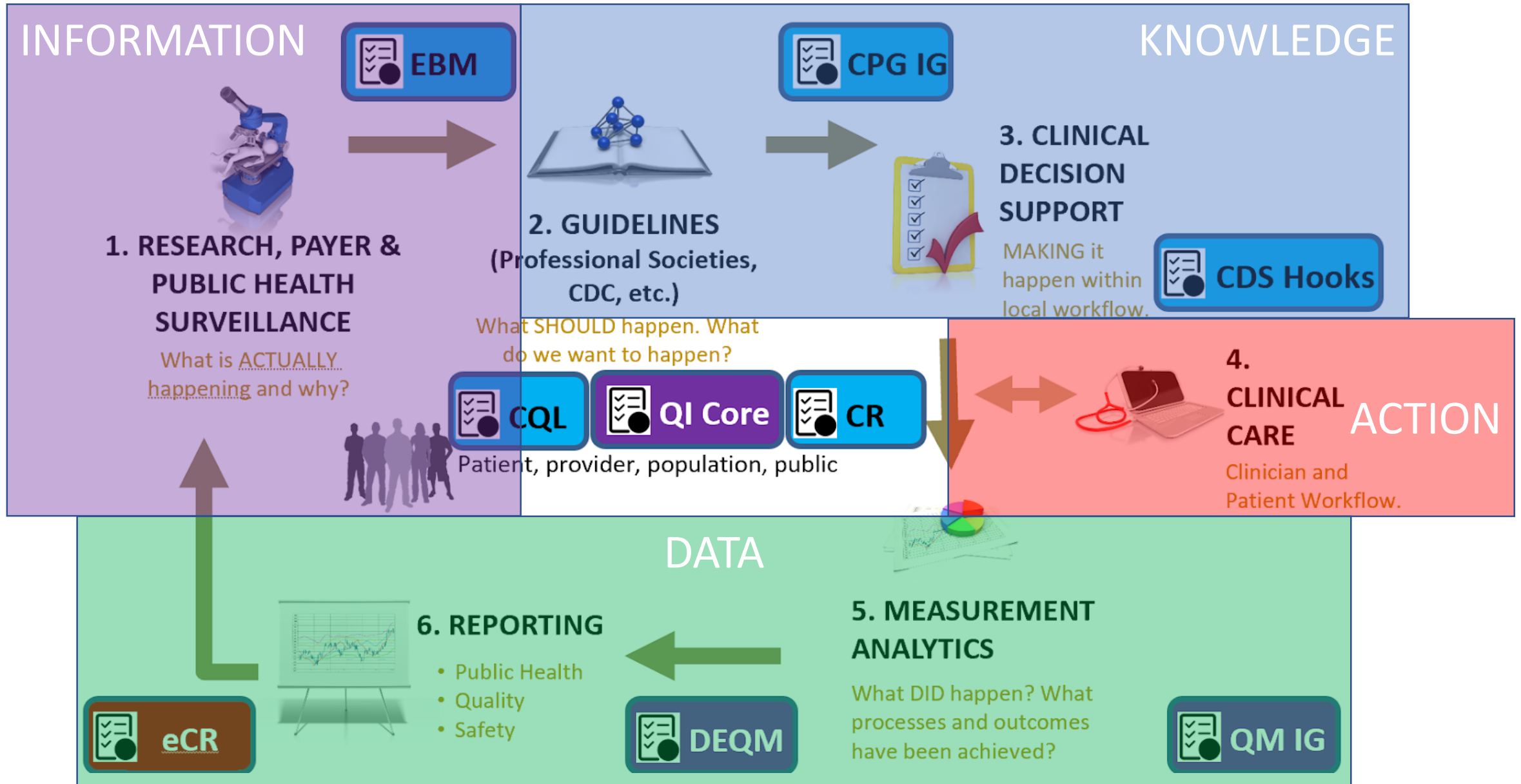
The Data Lifecycle & Impacts to the Public's Health



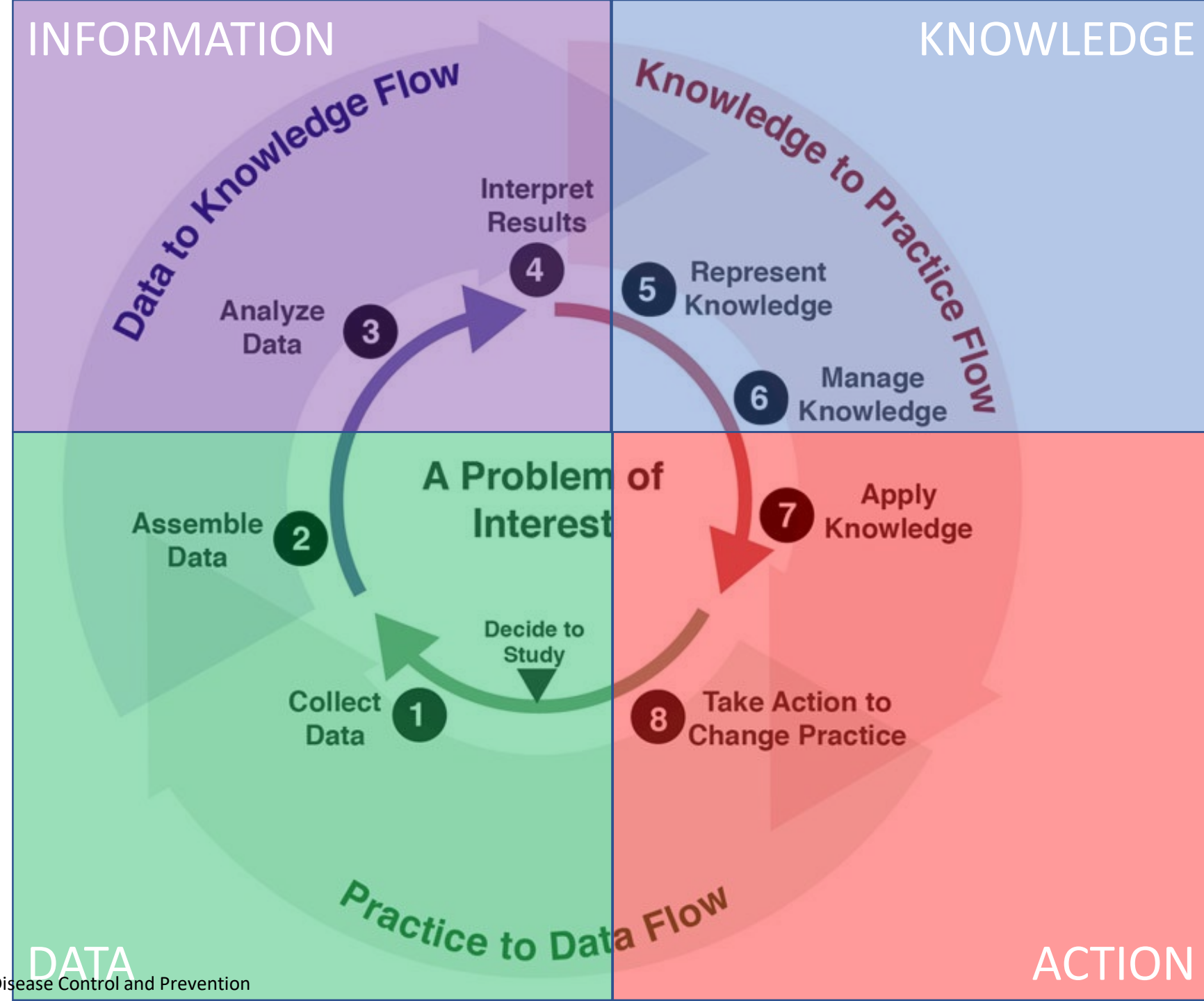
Evidence Ecosystem



Clinical Quality Lifecycle with Situated Standards



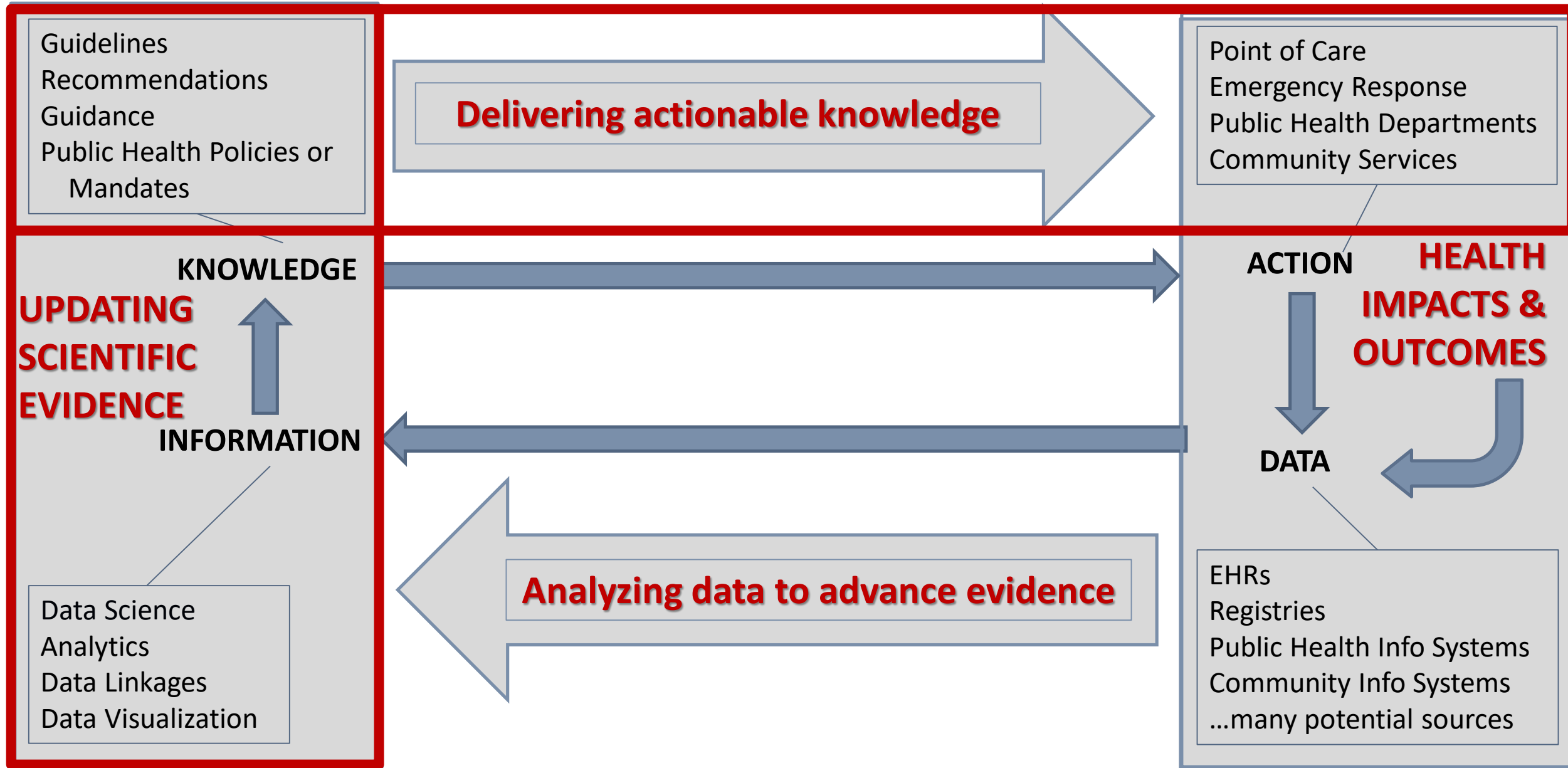
The Learning Health System



Computable Guidelines

What are they, and how can they help patients?

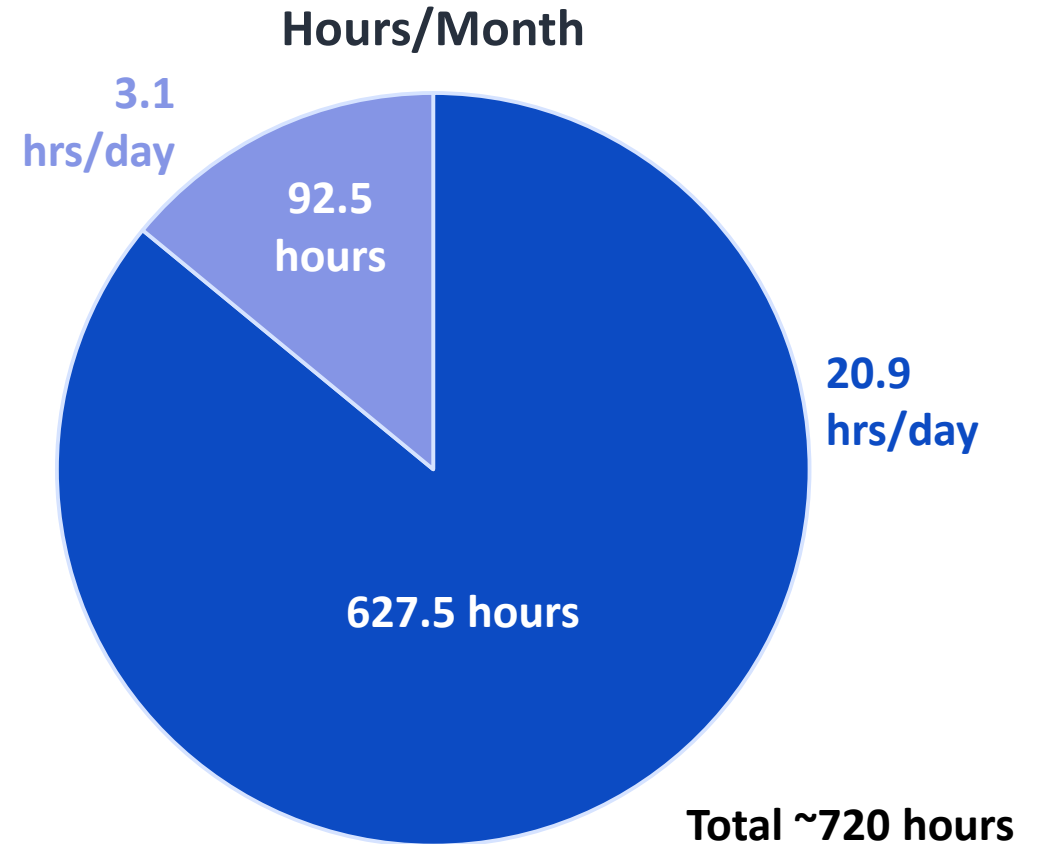
The Data Lifecycle & Impacts to the Public's Health



Need More Hours in a Day...

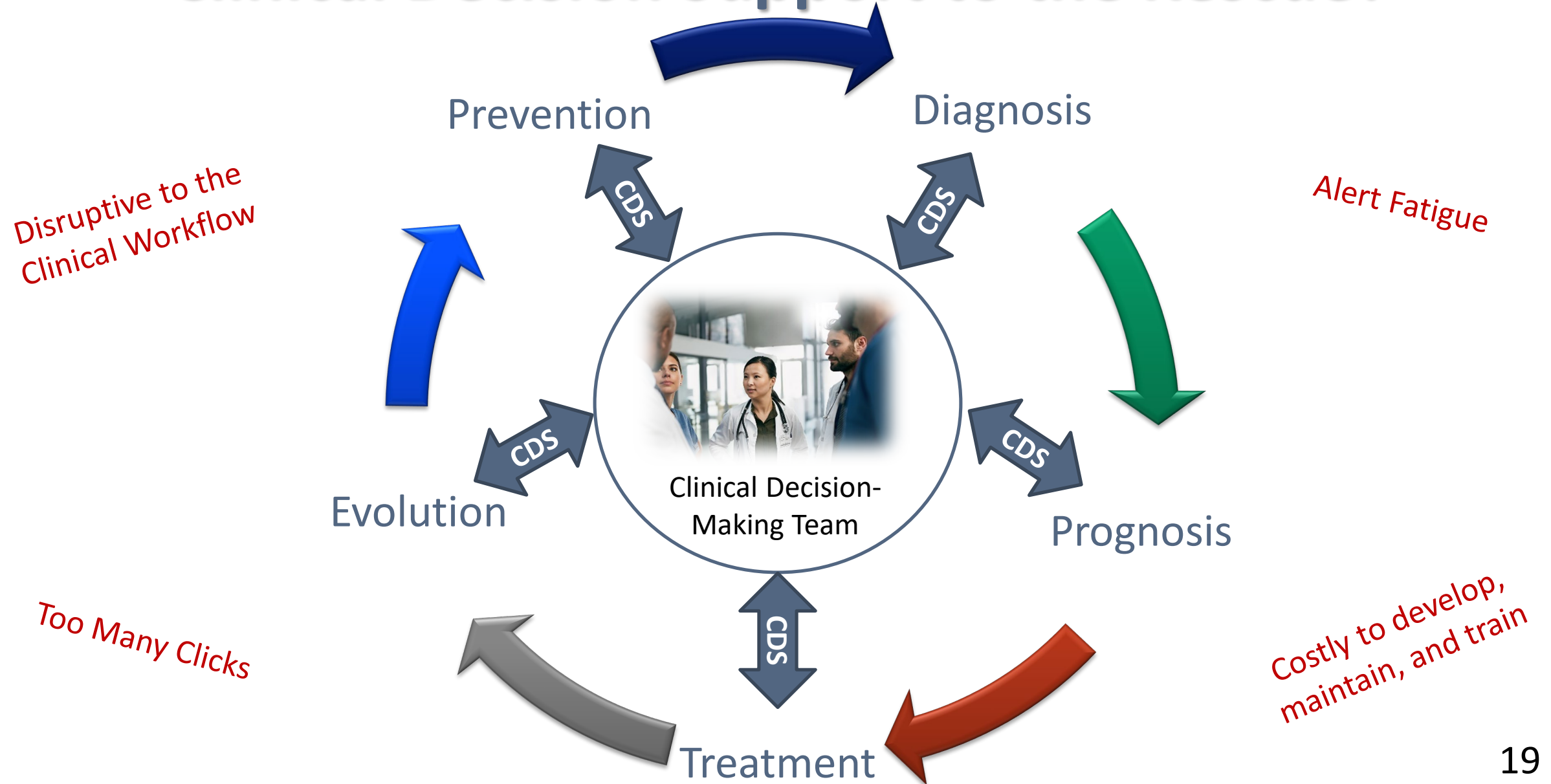


It would take an estimated **627.5 hours/month** to evaluate the volume of information in published literature.



- Read Published Literature
- Sleep, Eat, Family/Friends Time, See Patients, Complete Clinical Documentation, Etc.

Clinical Decision Support to the Rescue?



Multi-stakeholder CDC Kaizen Event



- [“Adapting Clinical Guidelines for the Digital Age Meeting”](#) – Feb 5-9, 2018
- Incorporates all relevant perspectives in both a strategic and tactical method FROM THE BEGINNING
- Achieves big changes in short order (i.e., weeks instead of years)
- Provides transparency among participants, which contributes to high level of buy-in & better understanding of the challenges from each perspective



Participating Stakeholder Groups

- Guideline authors
- Health IT developers
- Communicators
- Clinicians
- Patients / Patient Advocates
- Medical Societies
- Public Health Organizations
- Evaluation experts
- Standards experts
- Clinical decision support developers
- Clinical quality measure developers
- Policy or technical support for implementation



Adapting Clinical Guidelines for the Digital Age

Problem: Long Lag Time, Inconsistencies, and Inaccuracies in Translation



Leads to an average of 17 years for scientific evidence to apply in patient care

Reason: Playing the “Telephone Game”



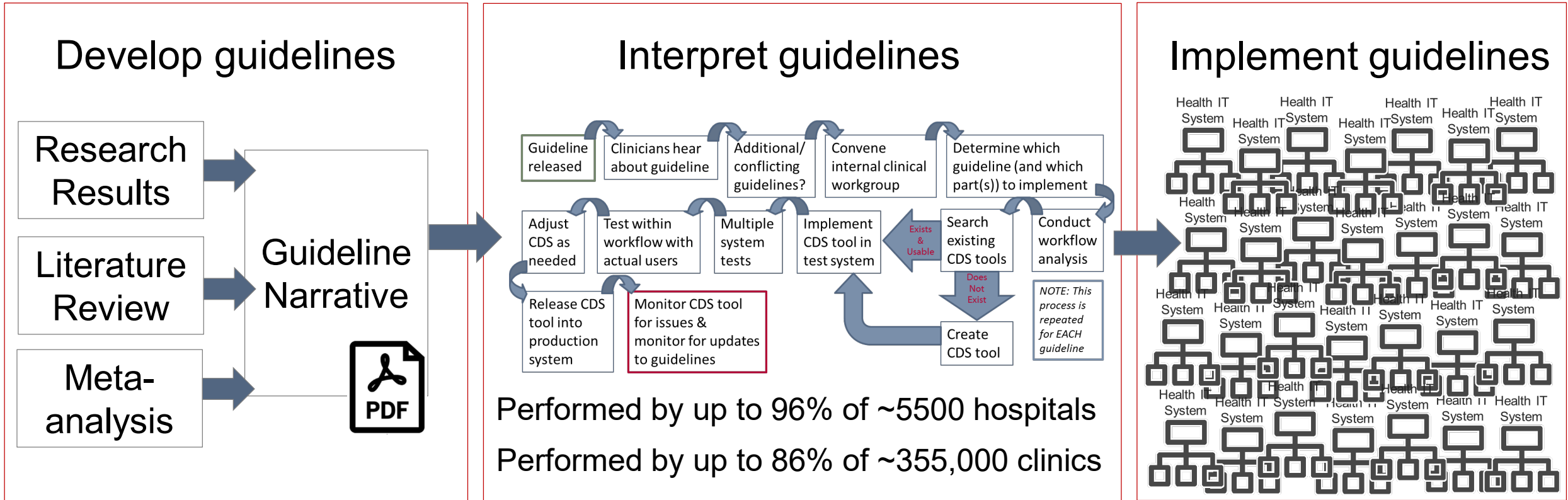
Multiple translations of guidelines add complexity, opportunity for error, and variation across sites/providers

Solution: Developing Tools and Guidelines Together



Can help evidence apply to patient care more easily, quickly, accurately, and consistently

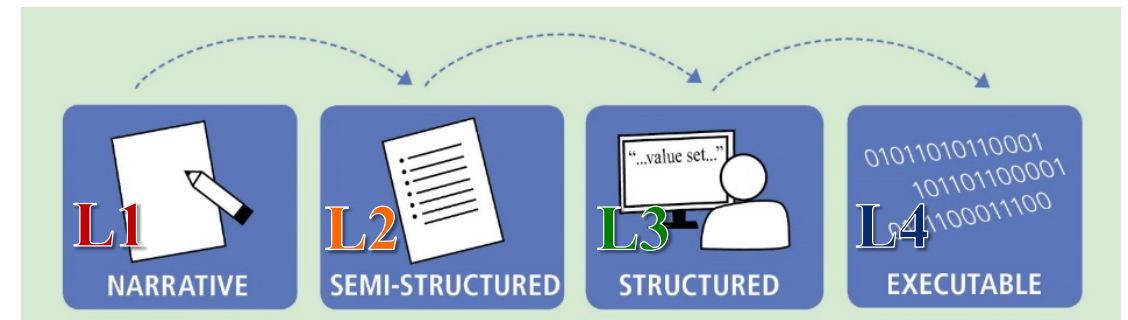
Today's Guideline Development and Implementation



Performed by up to 96% of ~5500 hospitals
 Performed by up to 86% of ~355,000 clinics

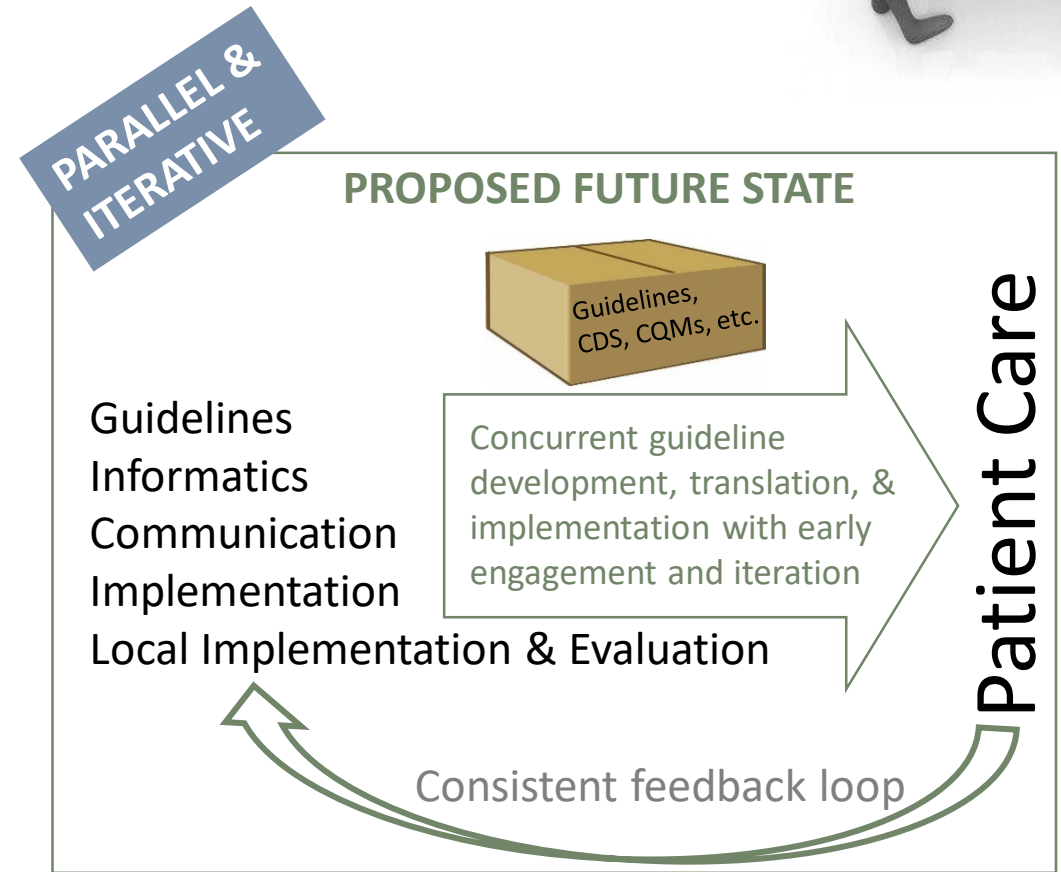
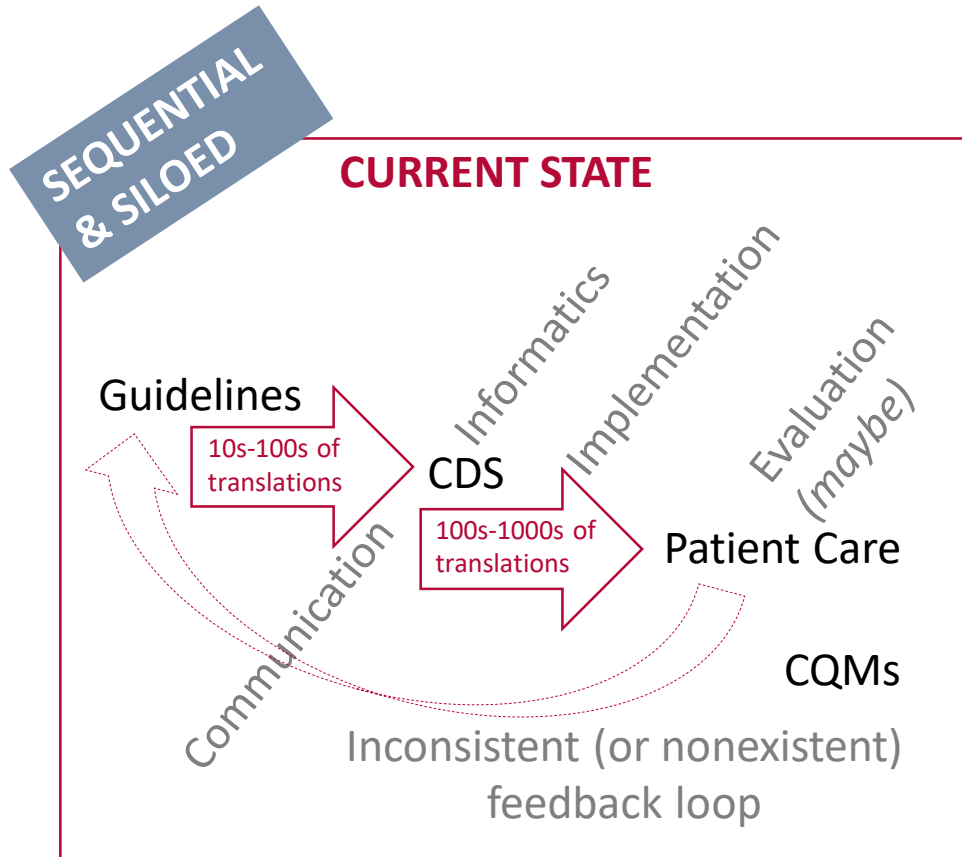
<https://dashboard.healthit.gov/quickstats/quickstats.php>

Translating Evidence to Executable CDS

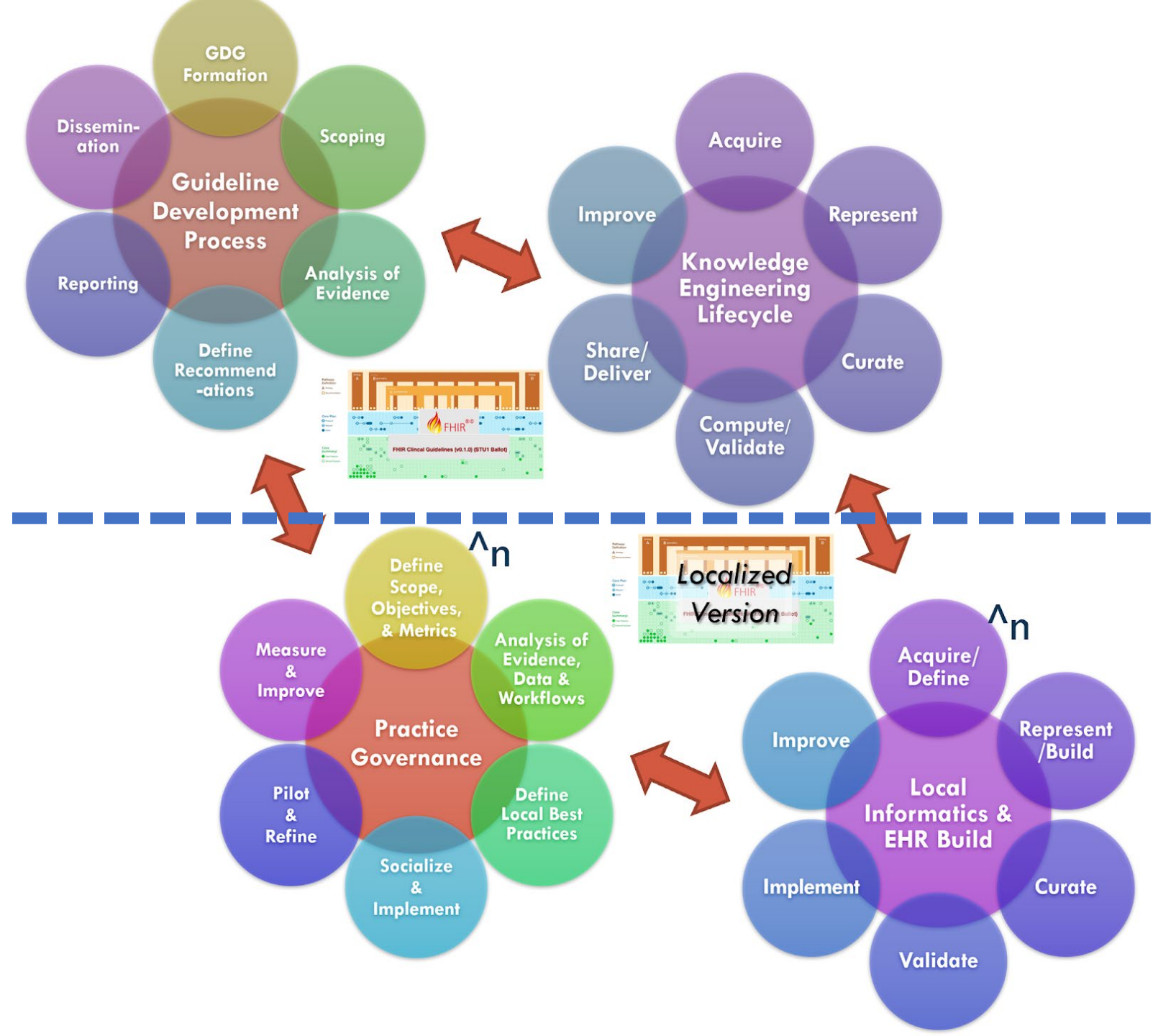


Knowledge Level	Description	Example
L1	Narrative	Guideline for a specific disease that is written in the format of a peer-reviewed journal article
L2	Semi-structured	Flow diagram, decision tree, or other similar format that describes recommendations for implementation [HUMAN READABLE]
L3	Structured	Standards-compliant specification encoding logic with data model(s), terminology/code sets, value sets that is ready to be implemented [COMPUTER READABLE]
L4	Executable	CDS implemented and used in a local execution environment (e.g., CDS that is live in an electronic health record (EHR) production system) or available via web services

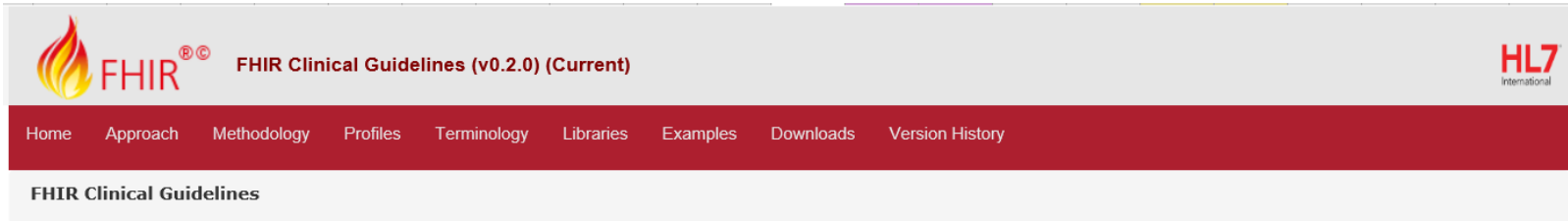
Redesigning Guideline Development and Implementation



Integrated Process for Developing and Implementing Guidelines



Implementation Guide for Computable Guidelines



“CPG-on-FHIR®”

Clinical Practice Guidelines, published by Clinical Decision Support WG. This is not an authorized publication; it is the continuous build for version 0.2.0). This version is based on the current content of <https://github.com/HL7/cqf-recommendations/> and changes regularly. See the [Directory of published versions](#)

1.0.0 FHIR Clinical Guidelines

The FHIR Clinical Guidelines Implementation Guide (CPG IG) provides a means of creating a computable representation of a clinical guideline that is faithful to guideline intent and supports the derivation of downstream capabilities such as cognitive and decision support, quality measures, case reporting, and documentation templates that direct clinical documentation in support of determining guideline compliance.

This implementation is organized into the following sections, accessible via the menu bar at the top of every page:

- [Home](#): The home page provides summary, introductory, and background information
- [Approach](#): The approach page documents the overall approach to representing computable guideline content
- [Methodology](#): Describes methodologies for developing computable guideline content
- [Profiles](#): Describes expectations for use and an index of the profiles and extensions used in representing computable guideline content
- [Terminology](#): Describes expectations for the use of terminology as part of computable guideline content
- [Libraries](#): Describes expectations for the use of libraries as part of computable guideline content
- [Examples](#): Index of examples and example artifacts
- [Downloads](#): Downloads for the specification
- [Version History](#): Index of all versions of this implementation guide

1.1.0 Introduction

This implementation guide supports the development of standards-based computable representations of the content of clinical care guidelines. Its content pertains to technical aspects of digital guidelines implementation and is intended to be usable across multiple use cases across clinical domains as well as in the International Realm.

This implementation guide has been developed through a multi-stakeholder effort, holistically involving a range of stakeholders, including those who work at the beginning of the process (e.g., guideline developers) to the end users (e.g., clinical implementation team representatives, health IT developers, patients/patient advocates), and others in between (e.g., informaticists, communicators, evaluators, public health organizations, clinical quality measure and clinical decision support developers).

[FHIR®: Fast Healthcare Interoperability Resources](#)

FHIR is an interoperability standard intended to facilitate the exchange of healthcare information between organizations.

What is CPG-on-FHIR®?

- **INTERNATIONAL standard** (HL7, Universal Realm), including a standardized and scalable approach, to help translate and implement clinical practice guidelines and other types of guidance more efficiently and effectively
- **Framework for improving the knowledge ecosystem** using FHIR® and related common health IT standards
- **Key aspects** include:
 - **Integrated Process**
 - An integrated guideline/guidance development and implementation process
 - **Common standards**
 - Across the entire data lifecycle (a.k.a. learning health system) and different electronic health record (EHR) platforms
 - **Closed-loop** guideline content and information flow
 - Inclusive of feedback and feedforward processes





MEET PAUL

a 30-year-old male who has mild hypertension, Type 1 Diabetes for which he has an insulin pump, and is on Xanax for anxiety. He lives in a rural area, his home has no potable water, and he does his primary grocery shopping at the town convenience store. He receives health care at a Federally Qualified Health Center which is more than 30 miles away.



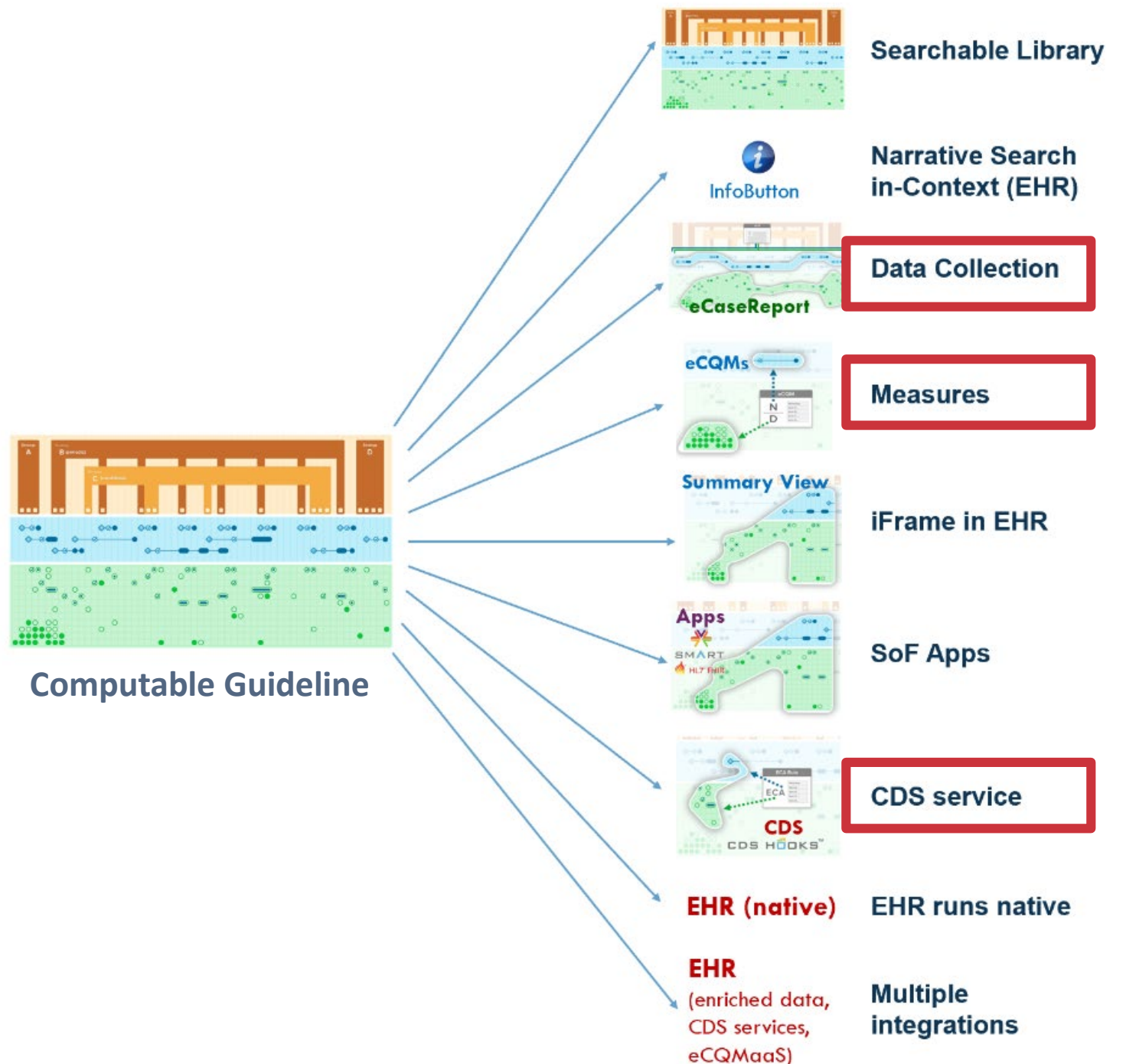
DR. JOHN



DR. DREW

One Translation

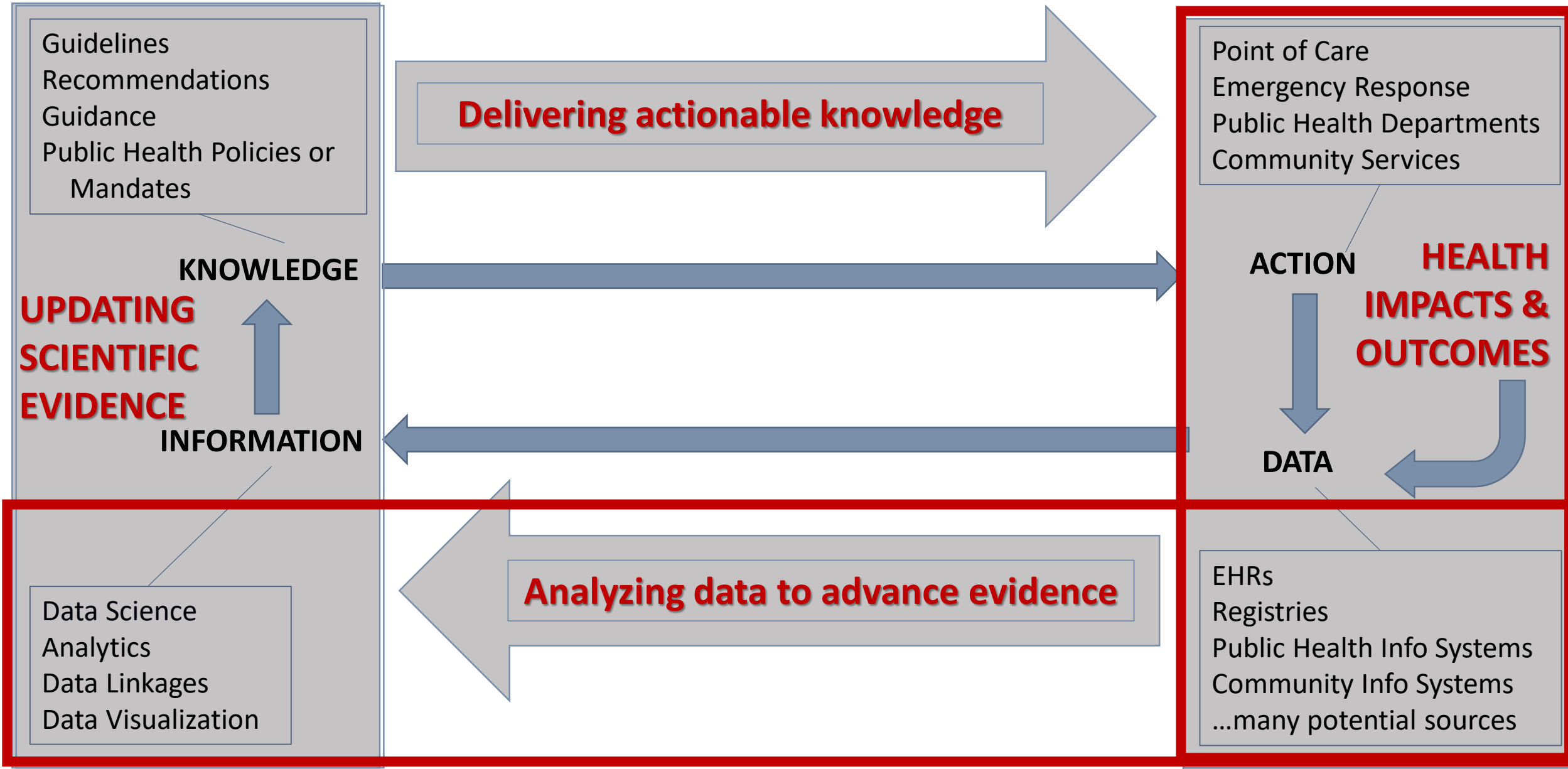
Many Ways to Implement It



Making Data More Available

Why standardizing data exchange is critical in healthcare

The Data Lifecycle & Impacts to the Public's Health



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

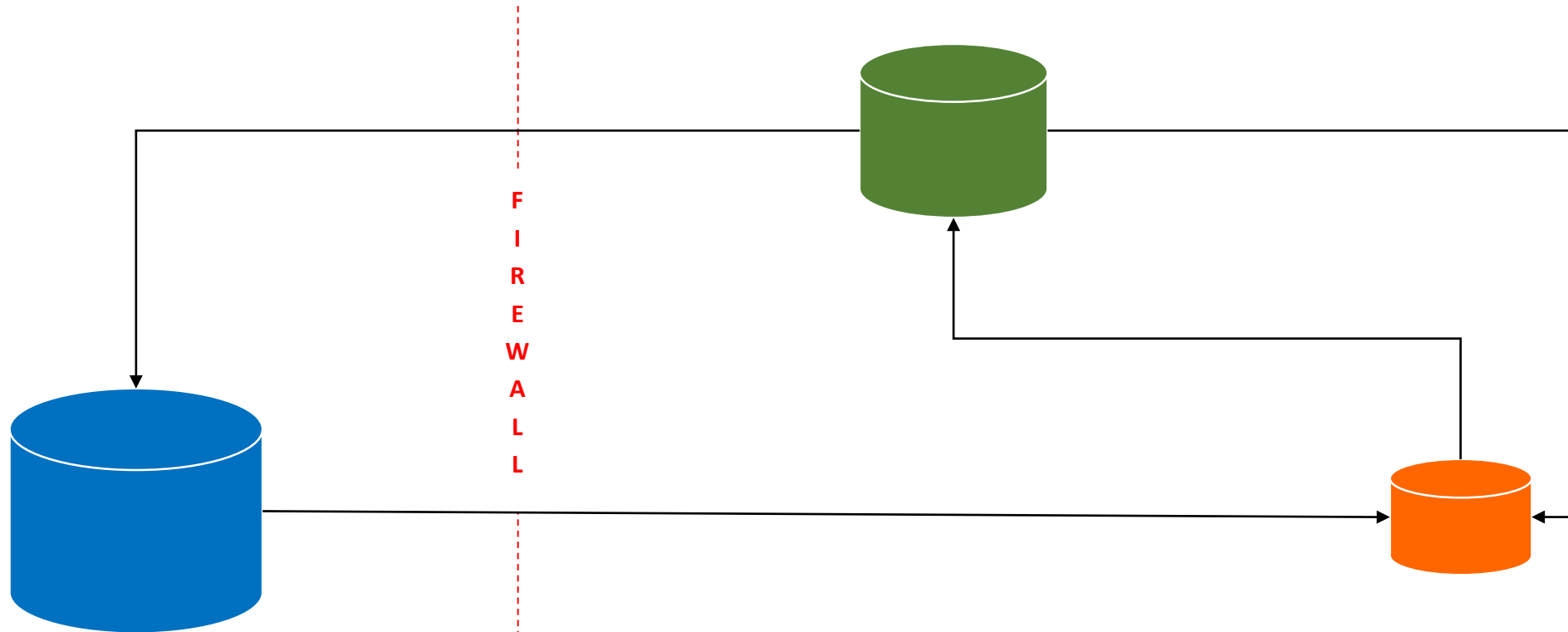
- Funded by the **Patient-Centered Outcomes Research Trust Fund (PCORTF)** via the U.S. Department of Health and Human Services (HHS) Assistant Secretary for Planning and Evaluation (ASPE)

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)

What is a Reference Architecture?

A template of recommended systems, functions, and interfaces integrated to form a generalized set of solutions based on accepted industry best practices.



Technical Expert Panel (TEP): Participating Stakeholder Groups

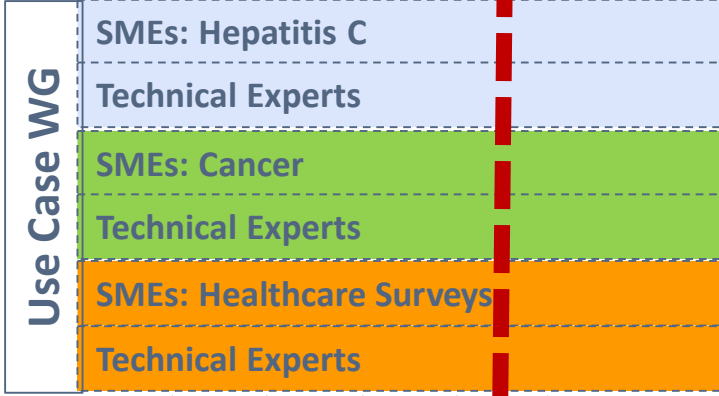
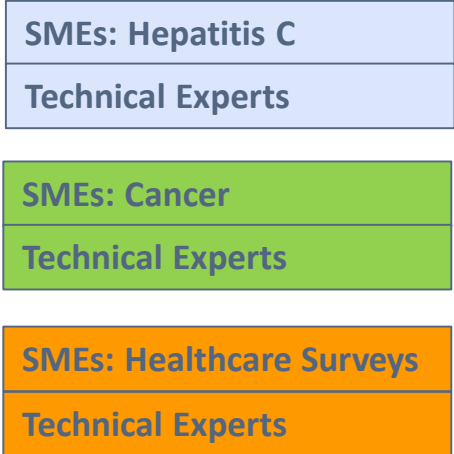
- Federal Partners
- Health IT developers
- Clinicians/ Healthcare Organizations
- Medical Societies
- Public Health Organizations
- Evaluation experts
- Laboratory Professional Groups
- Standards experts
- Clinical decision support developers
- Clinical quality measure developers
- Policy or technical support for implementation



WE ARE HERE

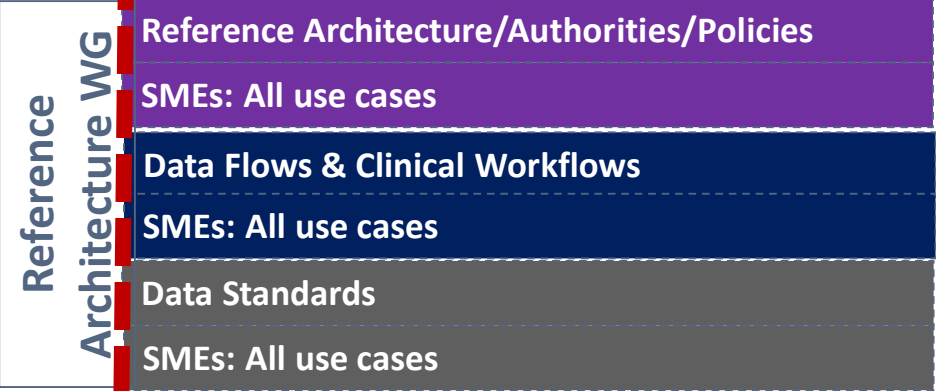
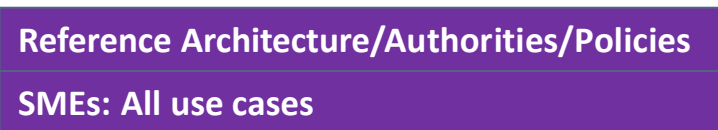
MedMorph Workgroups

Use Cases
(Public Health & Research)



Roadmap

Evaluation



Technical Requirements



Making EHR Data More Available for Research and Public 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

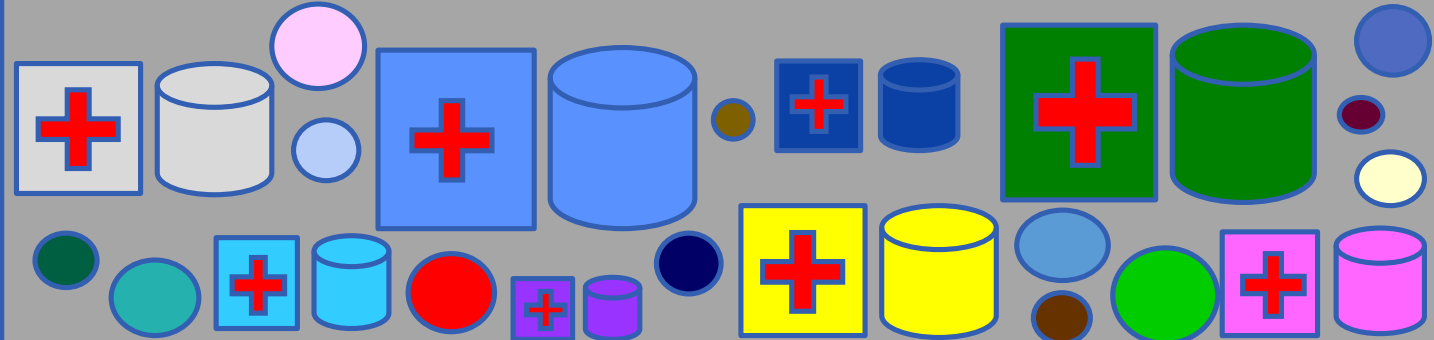
FHIR: Fast Healthcare Interoperability Resources

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



National Test Collaborative

Including a variety of clinical organizations and their EHR platforms



Software



Clinical organization



EHR platform



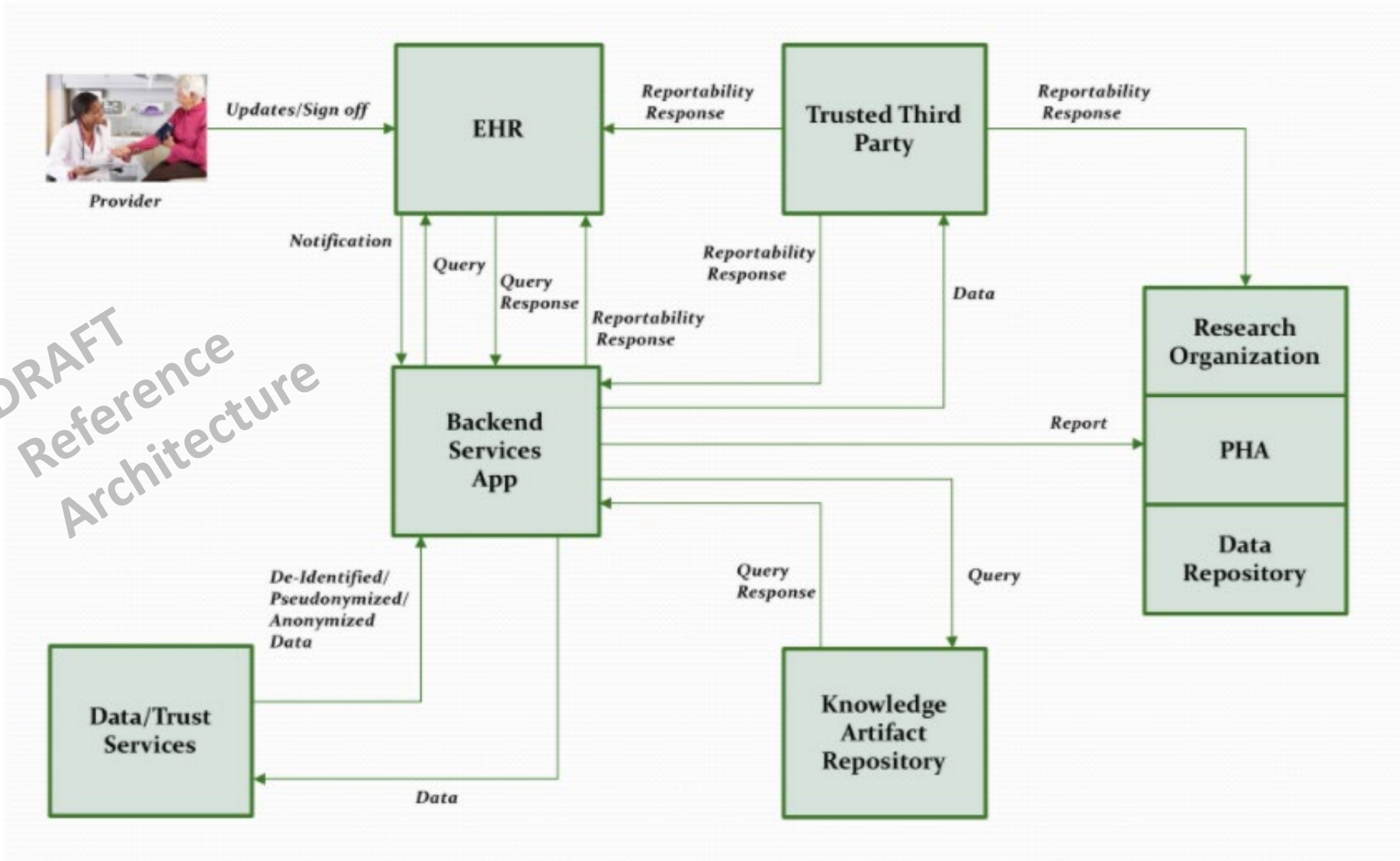
Other testing partners (e.g., public health departments, registries, health IT developers, etc.)

Evaluation Planning

Measure and Evaluate

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

MedMorph Abstract Model Actors and Systems



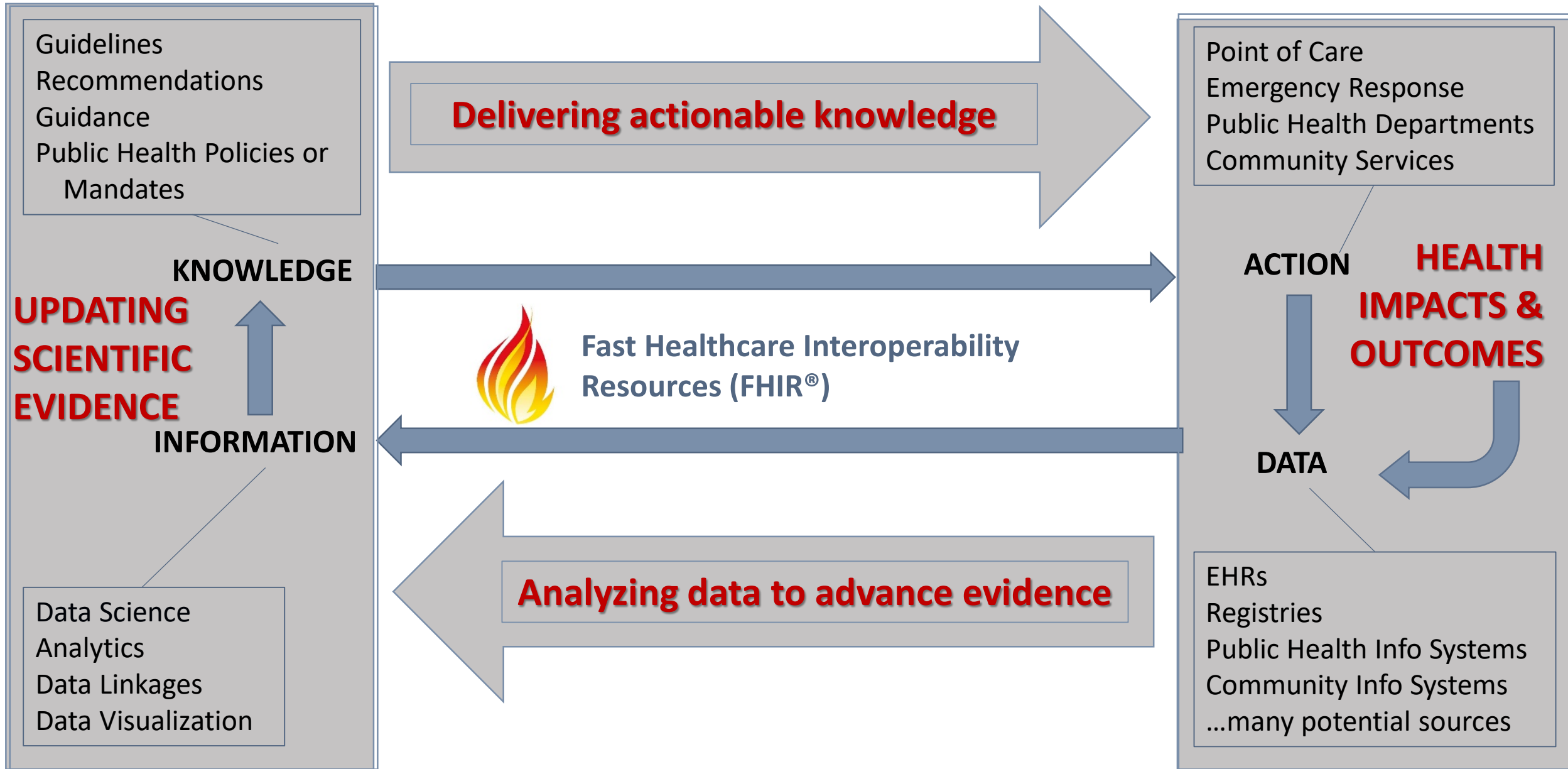
DRAFT
Reference
Architecture

The abstract model actors and systems will be used to define the various workflows identified in the use cases. The workflows identified in the use cases include

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

Summing It Up

The Data Lifecycle & Impacts to the Public's Health



Transforming the health data landscape with FHIR

Current: Multiple Different Methods/Approaches

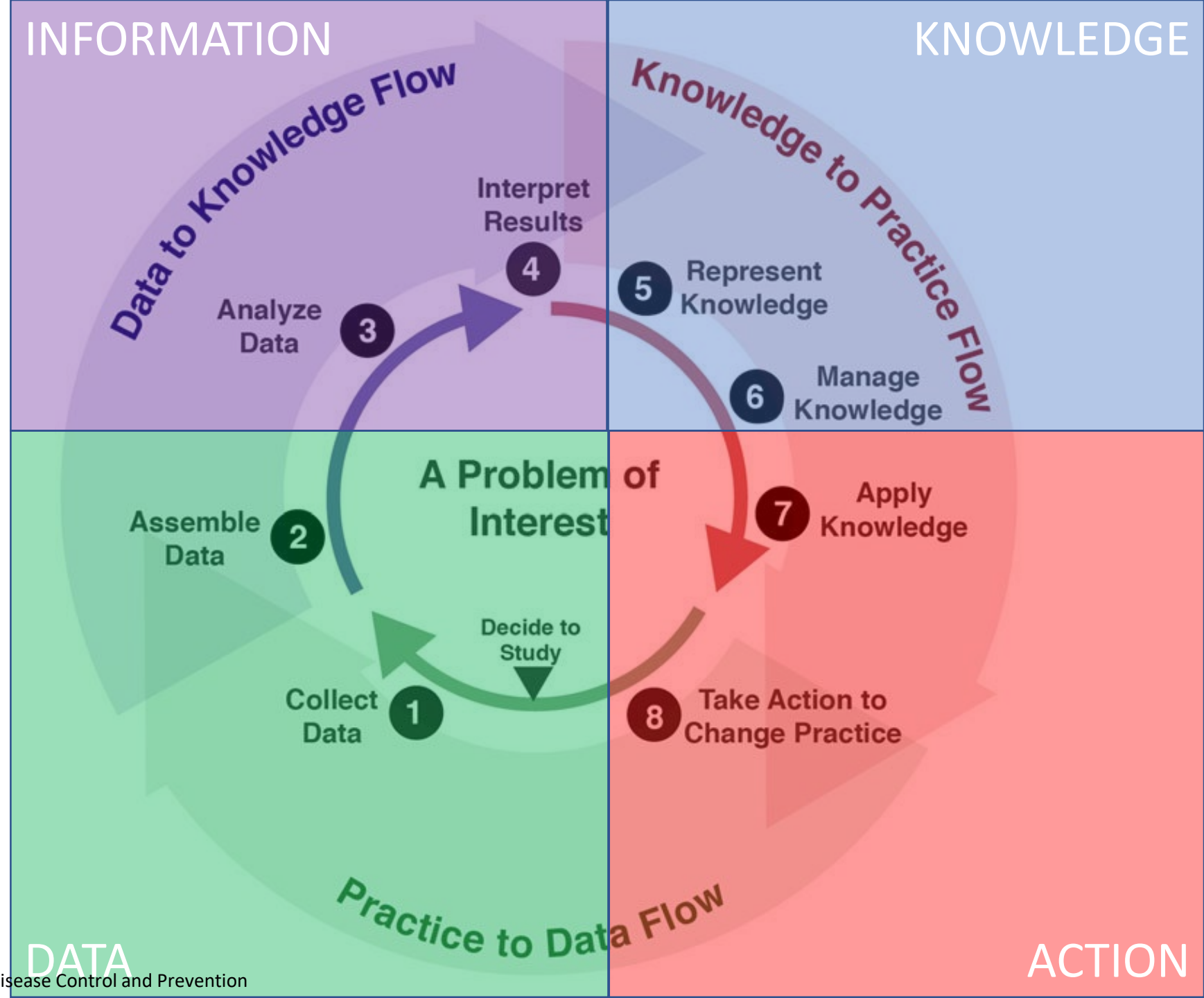
Future: Common Method/Approach



The Learning Health System

INFORMATION

KNOWLEDGE



DATA

ACTION

For questions or more information please contact:
Maria Michaels – maria.michaels@cdc.gov

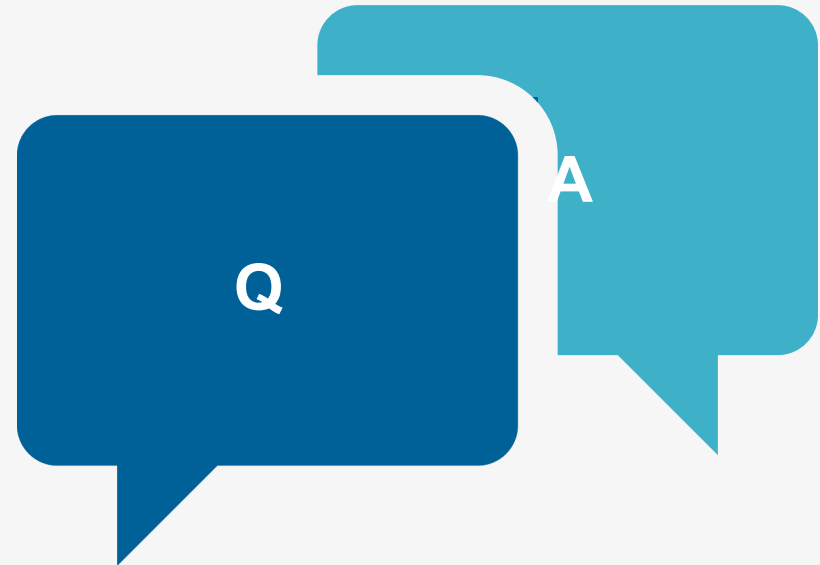
For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

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.



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

Panel Discussion and Audience Questions



Webinar Evaluation

<https://www.dentaquestpartnership.org/content/survey-oral-health-system-transformation-healthcare-data-and-technology-driver-health>

Must complete by **EOD Wednesday, November 25 in order to receive CE credit*

Upcoming Webinars:

- School-Based Oral Health Programs and COVID-19 – Thursday, December 3
1pm ET

Sign up to receive our newsletter to get more information on future webinars!

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