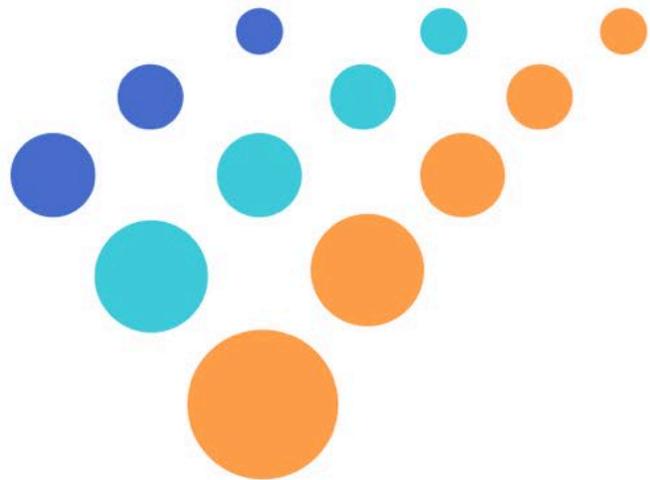




AGENCY FOR HEALTHCARE RESEARCH AND QUALITY



# February 2021 CDS Connect Work Group Call



# CDS Connect

# Meeting Agenda

Schedule	Topic
3:00 - 3:02	<ul style="list-style-type: none"><li>• Roll Call, Michelle Lenox (MITRE)</li></ul>
3:02 - 3:05	<ul style="list-style-type: none"><li>• Review of the Agenda, Maria Michaels (CDC)</li></ul>
3:05 - 3:50	<ul style="list-style-type: none"><li>• Discussion: Supporting Implementers of Shareable CDS with the Implementation Guide (RTI International and MedStar Health)</li></ul>
3:50 - 3:55	<ul style="list-style-type: none"><li>• What's New with CDS Connect This Month (MITRE)</li></ul>
3:55 - 4:00	Open Discussion and Close Out, Maria Michaels (CDC) <ul style="list-style-type: none"><li>• Open discussion and announcements</li><li>• Concluding comments, review next steps and adjourn</li></ul>

# Objectives



- Hear from WG members on their use of Implementation Guides
- Share new features and resources available for CDS Connect
- Discuss topics of interest to members relating to opportunities for CDS Connect

# Supporting Implementers of Shareable CDS with Implementation Guides

Clinical Decision Support for  
Chronic Pain Management (CDS4CPM)

RTI International



Tapering and Patient Reported  
Chronic Pain Management (TAPR-CPM)

MedStar Health National Center for Human Factors in Healthcare



# Agenda

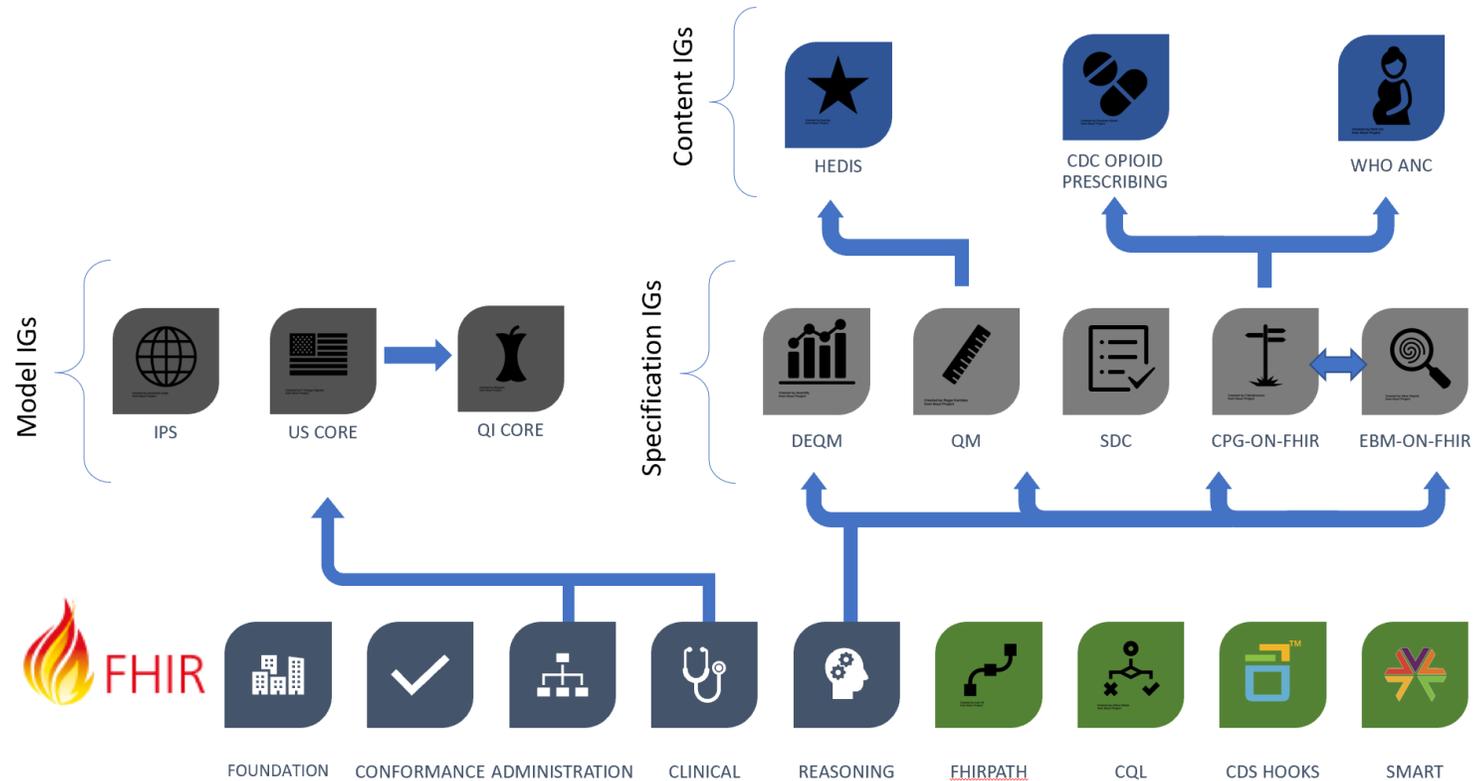
- Introductions – 2 minutes
- Data exchange Implementation Guides (IG) – 5 minutes
- Pilot experience – 5 minutes
- Extending the IG – 10 minutes
- **Discussion** (20 – 30 minutes)

# DATA EXCHANGE IMPLEMENTATION GUIDES (IG)

Do we have a shared understanding of what an implementation guide is or should be?

# Current Structure and Behavior of an IG

- FHIR IGs depend on existing specifications to create new content
- This means FHIR IGs extensively reference other IGs
- FHIR IGs are written for a system integrator audience



Source: <http://build.fhir.org/ig/HL7/cqf-recommendations/methodology.html#content-igs>

# Current Structure of an HL7 IG



A FHIR Implementation Guide (IG) provides rules and guidance on how to use FHIR tooling to use and exchange health data. It typically includes:

- **Introduction**
- Gap Analysis
- System Design
- **Logic Assessment**
- Analytics Plan
- **Data Elements**
- **Core Implementation**
- Testing Plan
- **Artifact Summary**

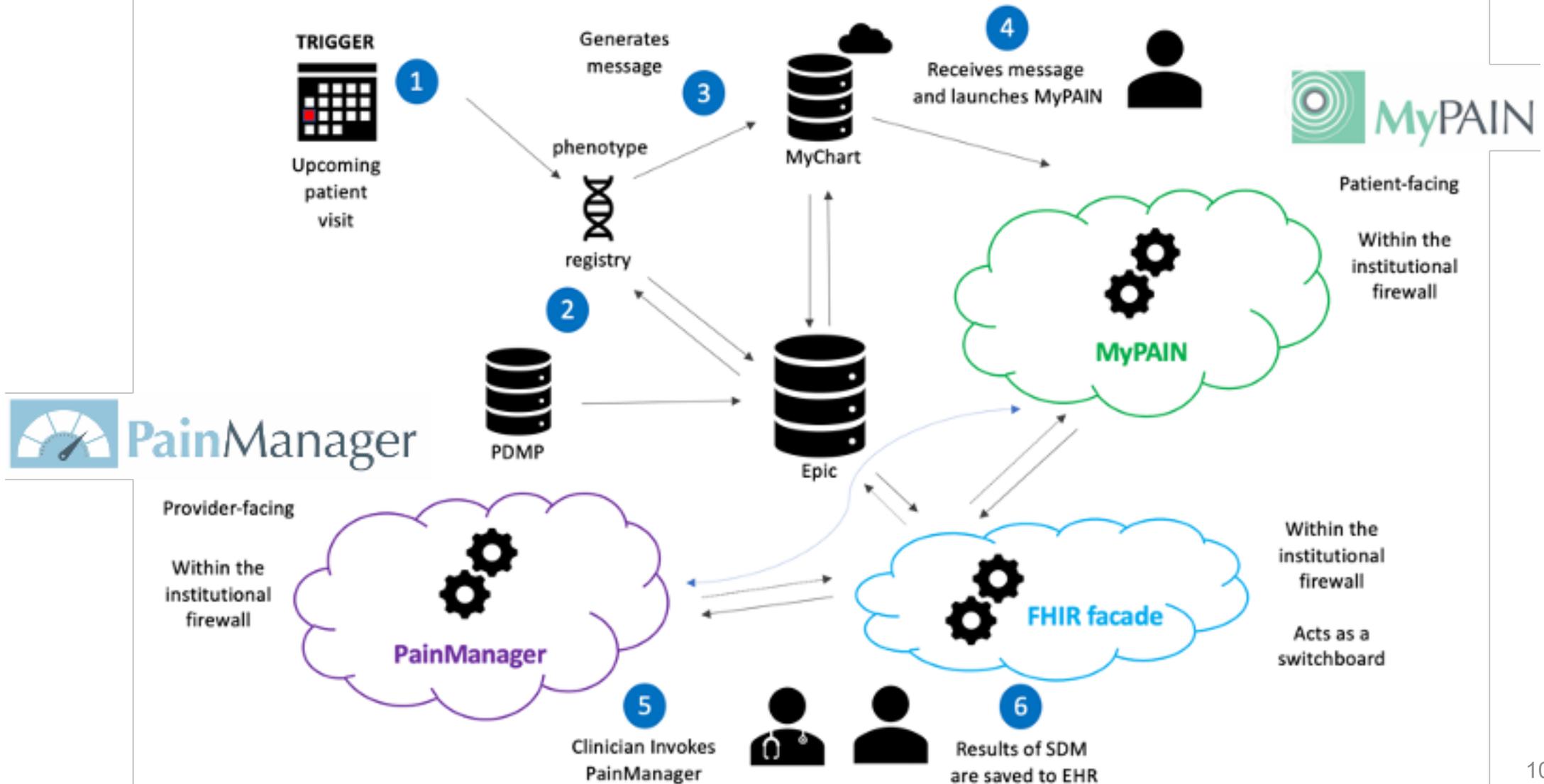
Of this list, Introduction, Logic Assessment, Data Elements, Core Implementation and Artifact Summary are the most routinely described.

# SHAREABLE CDS FOR CHRONIC PAIN PILOT EXPERIENCES

How can hands-on experiences which reveal the complexities of data exchange inform an implementation guide?

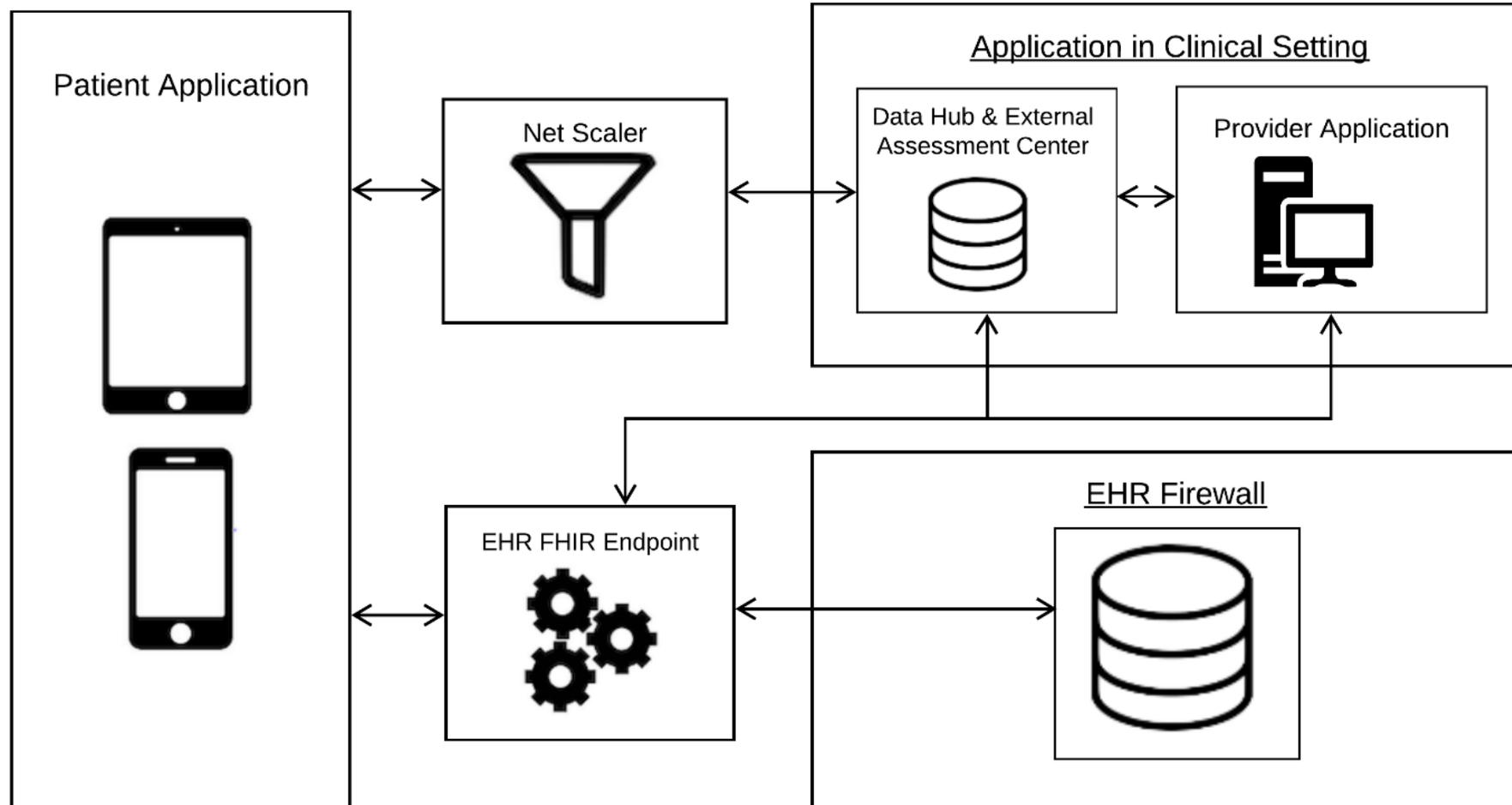
# CDS4CPM Solution

CDS for Chronic Pain Management



# TAPR-CPM Solution

Tapering in Patient Reported Outcomes - Chronic Pain Management



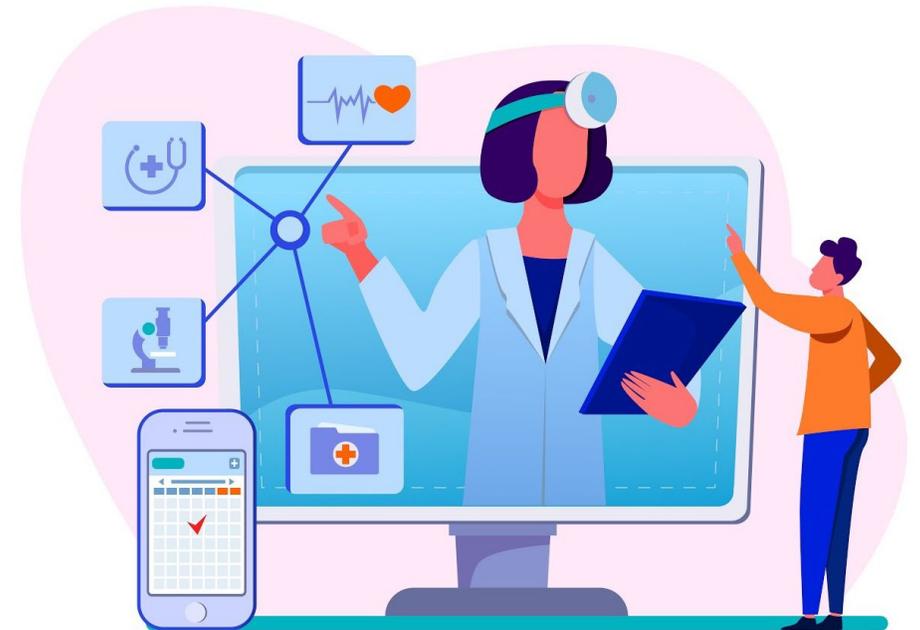
# Designing for Different Stakeholders

## Three Stakeholder Groups

- Clinicians (primary care providers and pain specialists)
- Patients
- Technical Integration Team

## Two Core IG produced for two audiences

- Clinical Practice
- Technical
  - Implementers
  - Integrators



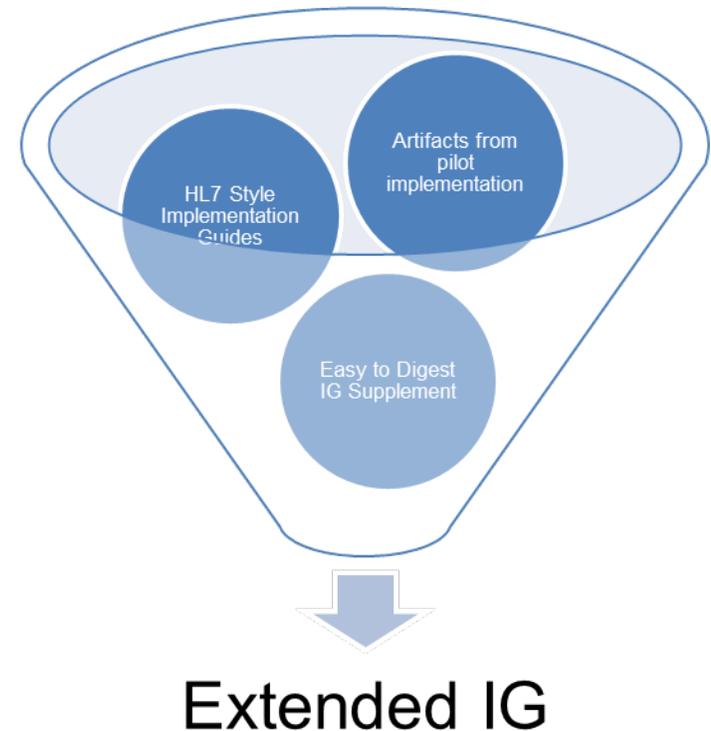
# CONTEXT FOR EXTENDING THE IG

How can pilot implementation experience help enrich an implementation guide to support future implementations?

# Proposed Elements in an Extended IG

- Artifacts developed during pilot implementation

- Personas
- Use Cases
- Test Cases & Scripts
- Wireframes
- Evaluation Components
- Additional Implementation Materials:
  - Tip Sheets
  - Quick Start Guides
  - Workflow Diagrams
  - Training Slides
  - Project Fact Sheet
  - CPG Documentation
  - Supporting Training Materials



- HL7 Style Implementation Guide (IG)

- Needed: Easy to Digest IG Supplement & Bridge to CDS Connect Artifact

# Broader Implementation Context



- Interoperability standards present unique challenges for health systems and often result in critical trade-off decisions
- IT departments within healthcare systems have varied levels of experience with interoperability standards
  - Steep learning curve for a non-standards implementer to use a FHIR IG to stand up new FHIR tooling
- IT departments are at capacity maintaining their vendor system
  - Adding ramp up and implementation of new FHIR tooling in this environment is often a huge ask when they are already at capacity

# Stakeholder Context



- Standards developer:
  - A FHIR IG comprises the building blocks of an implementation and details the extensible, reusable components at a high level
  - Assumes FHIR experience and access to the interoperability levers
- Funding agencies and Rule-making organizations (like AHRQ, CDC, FDA, etc.):
  - An IG is a shareable resource for other interested parties to further work/implementation/adoption
  - A comprehensive toolkit
- Implementing site:
  - An IG should include:
    - Standards literacy building blocks for the logic and application
    - Explanation of the setup of the application (agnostic to EHR type and standards experience)
    - Explain the connection to data via FHIR and the messy nature of EHR data
  - Supplemental implementation materials:
    - Training
    - Use cases
    - Testing resources
    - Clinical guidance

# Needed Content

## Personas

- Grounds development
- Confirms that the intended requirements meet the need of realistic users

## Use Cases

- First opportunity to look at data modeling and movement
- Starting point for the data element crosswalk
- Ensures system requirements are met and can be fully tested

## Test Scripts

- Provides implementing sites with the ability to run explicit tests to ensure the system produces the expected outcome or uncovers flaws preventing the proper execution of scripts

## Wireframes

- Wireframes are the connection between the system integrators and the rest of the project

## Evaluation Components

- Provides the evidence that informs the revision of an artifact
- There needs to be a mechanism for how evaluation data will inform updates to the IG

## Implementation Materials

- Robust training materials that show the artifact in the environment in which it is used
- Detailed operations manual to make it possible for an organization to support the tool

# SEEKING YOUR INPUT ON BALANCING GOALS AND DECISIONS

How can these additional components be incorporated into our shared understanding of what an implementation guide is or should be?

# Key Implementation Goals and Decisions



## Implementation Goals

- Ensure Interoperability
- Leverage FHIR
- Meet Security Standards
- Provide External Assessment Capabilities
- Utilize Computer Adaptive Tests
- Develop Computing Resources
- Establish Server Roles
- Manage Data Hub

## Implementation Decisions

- Focus on chronic pain SDM or on tapering opioids
- Leverage web app technology
- Store PROs in a dedicated server or in the EHR
- Use SMART and OAuth to handle authentication
- Leverage the patient portal

# Trade-Off Considerations to Document

For many components of a standards-based implementation, there is a corresponding trade-off decision to be made. Examples include:

- Determine what to do if the standard is immature, unclear or incomplete
- Decide what to do when support for a FHIR request or response is limited
- Consider a practice preference versus a standards expectation
- Balance functionality and usability for maximum effectiveness
- Understand the impact of a decision on sustainability beyond the pilot
- Manage expectations for a pilot based on known or discovered limitations
- Understand that implementing sites must be able to maintain the implementation post pilot period

# Additional Needs for Successful IG Use



- Detail examples of past implementation experiences of the FHIR tooling (or similar)
- Step-by-step guide to navigating the toughest friction points of data exchange (see trade-off considerations)
- Actual examples, documentation, related resources, and test cases & scripts
- FHIR may be established but implementation is fairly new
- Move beyond demonstration projects into the production environment
- Reveal the work done to ramp up and implement
  - Including system architecture, security setup, access and permissions details, testing infrastructure, etc.
- Include the perspectives of additional stakeholders, especially the patient
- Consider the need for vendor-specific IG “+” materials

# Content IG

- How does a content IG meet these needs?
- How does this relate back to other IG efforts?
- How might we navigate this IG world effectively



Source: <http://build.fhir.org/ig/HL7/cqf-recommendations/methodology.html#content-igs>

# Additional IG Considerations

## Tactical Questions:

- How do you want us to document the decisions we encounter?
- How might an IG more effectively provide end-to-end support for implementers?
- How can an IG provide guidance that moves beyond the sandbox?
- What should we call this IG?

## Conceptual Questions:

- What makes a useful IG from your perspective?
- How does an IG mature over time?
- How can an IG be more fully leveraged to bridge gaps between standards and practice?

# Thank You!



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# WHAT'S NEW WITH CDS CONNECT

Matt Coarr and Chris Moesel, MITRE

# Updates and New Features



- Authoring Tool
  - Continued updates to support reusability and maintainability
- Prototype Tools
  - Continued work toward support for Clinical Quality Language (CQL) 1.4/1.5
- CDS Artifacts
  - [Immunization Calculation Engine \(ICE\)](#) updated, includes COVID-19
- Repository
  - Added checks to account signup form to reduce spam
  - Fixed content moderation bug when new drafts were saved
  - CPG-on-FHIR work continues
  - User documentation update continues
  - Software updates
  - Technical support for Repository contributors
- Link to CDS Connect: <https://cds.ahrq.gov/cdsconnect>

# ANNOUNCEMENTS, OPEN DISCUSSION AND CLOSE-OUT

Maria Michaels

Office of Public Health Scientific Services  
Centers for Disease Control and Prevention

# Announcement

## Clinical Quality Language for Clinical Decision Support Seminar



- **Date:** February 24, 2021 @ 3PM ET (2 hours)
- **Venue:** Sign up here: [Eventbrite page](#) and join the call here: [Zoom videoconference](#)
- **Brief:** This event will be a 2 hour webinar and working session focused on practical experience and discussion about use of CQL standards within CDS application design. This has direct applicability to several AHRQ funded initiatives that RTI is involved in or leading. Invitees include a targeted group of project managers and development leads from a number of current and upcoming project teams. Follow hashtag **#CQL4CDS** for real-time updates.
- **Cost:** This seminar is free and open to everyone.
- **Recording:** A recording of this event will be made available for those who cannot attend.