Using Specific COVID-19 Targets and Patient Care Settings to Drive Global Improvements in the Evidence/Guidance Ecosystem Cycle

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ACTS COVID Collaborative
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Webinar Goals

- Provide an **overview** of the AHRQ Evidence-based Care Transformation Support (ACTS) Initiative's COVID-19 Evidence to Guidance to Action Collaborative
- Discuss **synergies with COVID-END/partner efforts** and **cultivate** steps to **realize** them

What Is This All About?

Case Presentation

- MB is a 38 year-old physician who was in her usual good health until 8/20; developed cough/fever, loss of taste & smell
- Diagnosed with COVID-19, managed conservatively at home. Symptoms improved but experiencing continuing, **debilitating fatigue**
- 6 months after diagnosis, **significant fatigue continues**. Some days she's **not able to work**; **requires help** taking care of her home.

Question Sampling

- What workup is appropriate? Symptom management?
- Benefits/risks/costs given uncertainty?
- Expected course?

Broadly supporting patient/care team decisions and actions for **many** COVID clinical issues given **evolving evidence & guidance**

ACTS and Collaborative Overview

- ACTS began January '19 to develop **stakeholder-driven roadmap** for making **flow from evidence to guidance to action to data and back** to evidence more:
  - FAIR (findable, accessible, interoperable, reusable)
  - Computable
  - Useful in supporting Learning Health Systems, achieving quadruple aim
- **Stakeholder Community and Workgroup efforts** produced Draft Roadmap
  - Path from Current State to shared Future Vision
- Roadmap development efforts focused on **ACTS COVID Collaborative** in 2020
- Goal = **help participants address the pandemic** while **accelerating progress** toward a **high functioning global evidence/guidance ecosystem cycle**.
  - COVID-END has been a participant since its inception

ACTS Stakeholder Community (n = 301* as of 2/18/21)

Care Delivery Organizations (89)		Quality Organizations/ Consultants (45)	HIT/CDS Suppliers (57)	
• Adventist Healthcare • ASU • Cedars-Sinai • Children's Hospital of Atlanta (2) • Children's Hospital of Philadelphia • City of Hope National Medical Center • Emory University • George Washington University • Harvard Medical School/BWH • HealthPartners • Hennepin Healthcare • Inova Health System (2) • Intermountain Healthcare (3) • Kaiser Permanente • Kittitas Valley Healthcare • Lehigh Valley Health Network • Mayo Clinic (6) • Medical University of South Carolina • Montefiore Medical Center • Northwestern Medicine • Ochsner Health • Oregon Health & Science University (3)	• Peninsula Regional Medical Center (2) • RWJBarnabas Health/Rutgers Health (2) • Sparrow Health • Texas Health Resources • Texas Tech University Health Sciences Center • University of Arizona • University of Chicago/ Cochrane US Network (2) • University of Connecticut • University of Kansas Medical Center • University of Minnesota (4) • University of Pennsylvania Medicine (3) • University of Utah (6) • University of Washington • VA (18) • Vanderbilt University Medical Center (9) • Virginia Commonwealth University (2) • Virginia Mason Medical Center	• Advanced Health Outcomes • Arizona Alliance for Community Health Centers • BHB Clinical Informatics • BookZurman • Carradora Health • Clinical Informatics, Inc. • Constable Consulting • Database Consulting Group • EBQ Consulting • ecGroup Inc. • Fusion Consulting • HLN Consulting • Interoperability Institute • IPO 4 Health • IPRO (2) • Jodi Wachs • KLAS • Klesis Healthcare • Mathematica • Mike Campbell • MITRE (2) • NACHC (4) • NCQA (7) • Overhage • Perspecta • Premier • Principled Strategies • RTI (5) • sEA Healthcare • Stratis Health	• AgileMD • AiCPG • Amazon Web Services • Apervita (2) • Cerner (2) • Clinical Architecture • Clinical Cloud Solutions • Cognitive Medical Systems, Inc. • Computable Publishing (3) • Crisp Health • Decisions/UMN • EHRA/Allscripts • Elimu Informatics, Inc. • Epic (2) • EunoChains • EvidenceCare (3) • GuidelineCentral • Health Catalyst (2) • Healthwise (2) • IBM • IMO (2)	• International Guidelines Center • Intersystems (2) • Logica (2) • MAGIC Evidence Ecosystem Foundation (2) • Medisolv Inc. • Meditech (2) • Microsoft (6) • Motive Medical Intelligence • Optum (2) • Semedy • Triostech • ValueMomentum • Verily Life Sciences • Visible Systems Corporation • Wolters Kluwer • ZeaMed Health

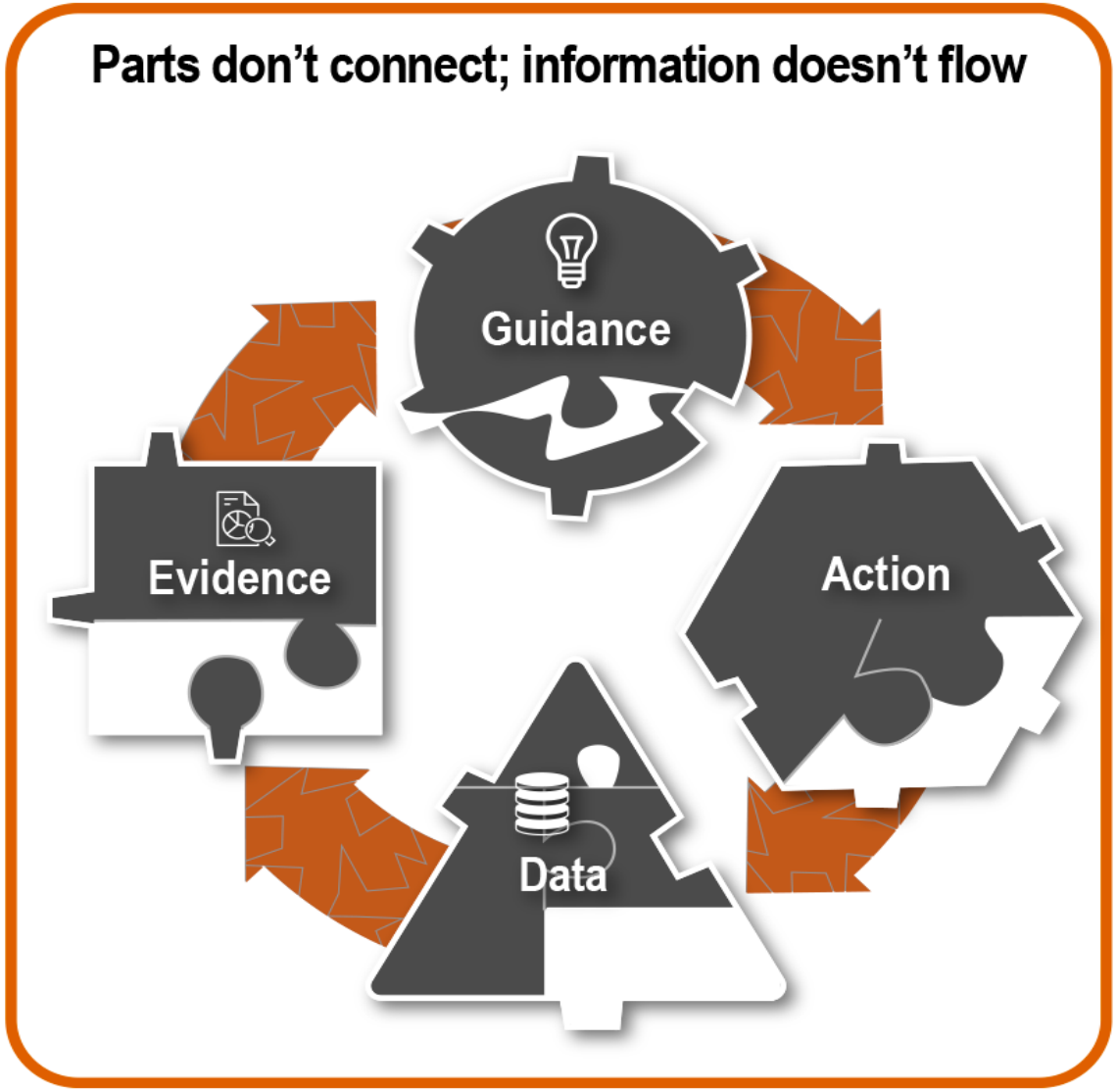
*Names in parentheses are counted elsewhere; numbers in parentheses are individuals

ACTS Stakeholder Community (n = 301* as of 2/18/21)

Informatics/ Researchers (18)	Specialty Societies (18)	Patient Advocates (4)	Other Govt Agencies (18)	AHRQ (26)	Payers (2)	International/ Standards/ Other (24)
• Brown University EPC (2) • Duke University • Idaho State University • Indiana University • Johns Hopkins EPC • (Mayo Clinic) • Northwell • Stanford University • UCSF • University of Michigan (4) • University of Pittsburgh (2) • (University of Utah) • UT Health at San Antonio • UT Southwestern • (Vanderbilt University) • West Virginia University	• AAFP • AAP (2) • ACCME (2) • ACEP (4) • ACP (2) • AMA • AMIA (2) • ASH (2) • CHEST • Society of Critical Care Medicine	• Engaging Patient Strategy • Hassanah Consulting • Health-Hats • Patient Safety Action Network	• CDC (5) • CMS (5) • Idaho Dept of Health • NIDDK - NIH (2) • NLM - NIH • ONC (2) • Pima County Health Department • (VA) • Washington State Dept of Health	• Center for Evidence & Practice Improvement (19) • Center for Financing, Access and Cost Trends (2) • Center for Quality & Patient Safety • Office of Management Services (2) • ACTS Project (2)	• (CMS) • BCBS CA • BCBS MN	• Australia Living Guideline Initiative (2) • COVID-END • ECRI Institute • HL7 • JBI/The University of Adelaide (2) • L*VE/Epistemonikos (2) • Librarian Reserve Corp • McMaster (3) • M. McGeehee • National Alliance of Healthcare Purchaser Coalitions • OMG/BPM+ • OHRI • Sejong University • UK National Health Service • University of Melbourne (5)

*Names in parentheses are counted elsewhere; numbers in parentheses are individuals

Current State: Can’t Get Information or Tools When, Where, How Needed



Obstacles in LHS/Knowledge Ecosystem Cycle

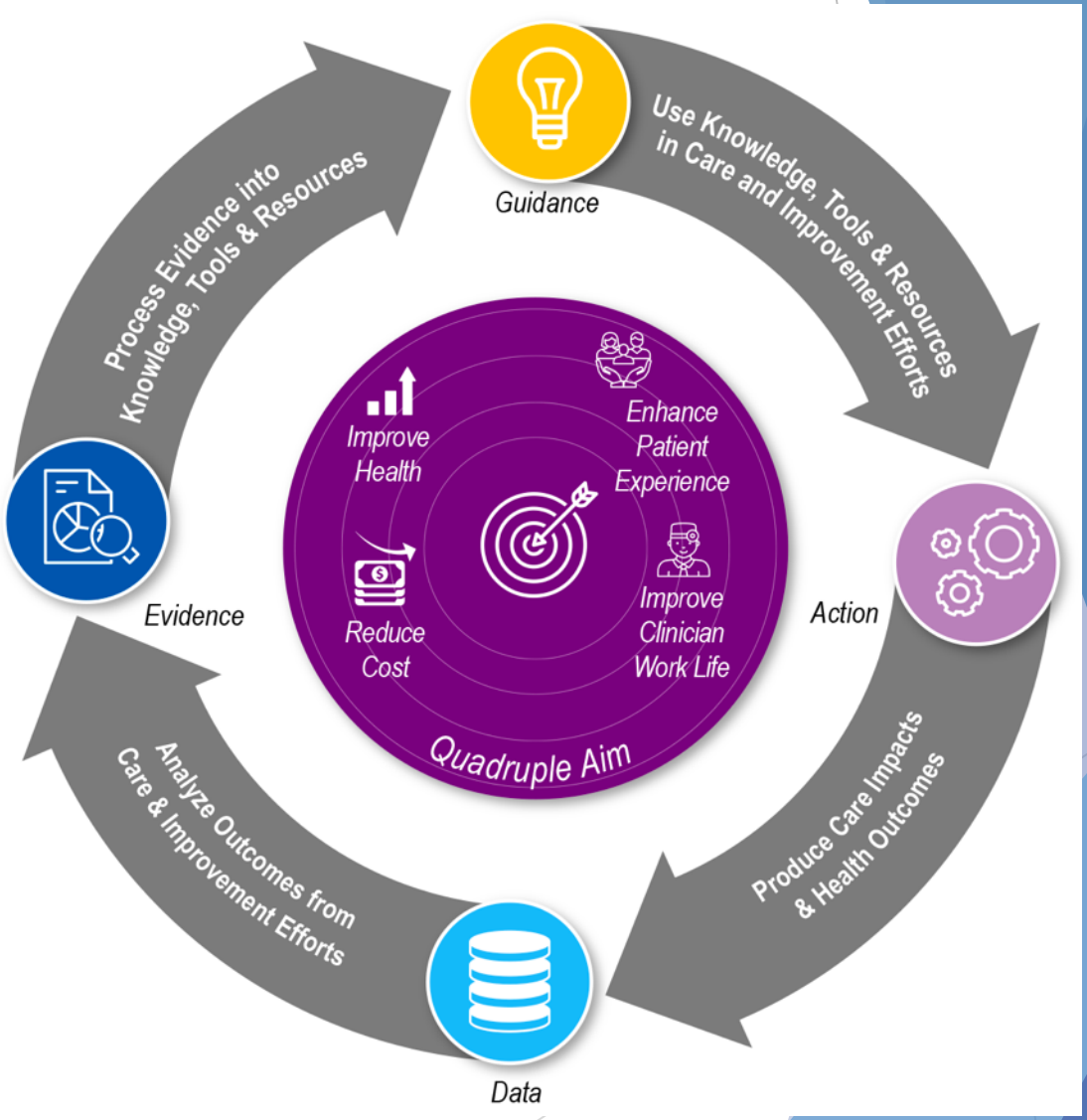
Need **Evidence/ <u>Knowledge Interoperability</u>**

to complement

<u>Clinical Data Interoperability</u>

Future Vision Overview

- Robust stakeholder-driven **Knowledge Ecosystem** =>
- Enables a collaborative, **virtuous improvement cycle** =>
- Where stakeholder **needs are met better** throughout the cycle =>
- = Learning Health Systems **(LHSs) Achieve the Quadruple Aim**



DRAFT ACTS Roadmap Approach to Achieve Future Vision

AHRQ evidence-based Care Transformation Support (ACTS) Roadmap

A Stakeholder-Driven Plan for Enhancing Evidence-based Care Delivery and Improving Outcomes

Aim: By 2031, realize a mature healthcare knowledge ecosystem that supports Learning Health Systems (LHSs) and delivers measurable improvements in health, costs, and provider and patient experience.

Create/Use Governance & Collaboration

Enhance/ Leverage Infrastructure

Enhance/ Develop Living Computable Guidance

Enhance Guidance Implementation & Assessment

Evaluate/ Plan Roadmap Execution

Phase 1: Concept Demonstrations 2021–2024

Phase 2: Pilots 2024–2027

Phase 3: Scaling 2027–2030

Phase 4: LHS/Quadruple Aim 2030–2031

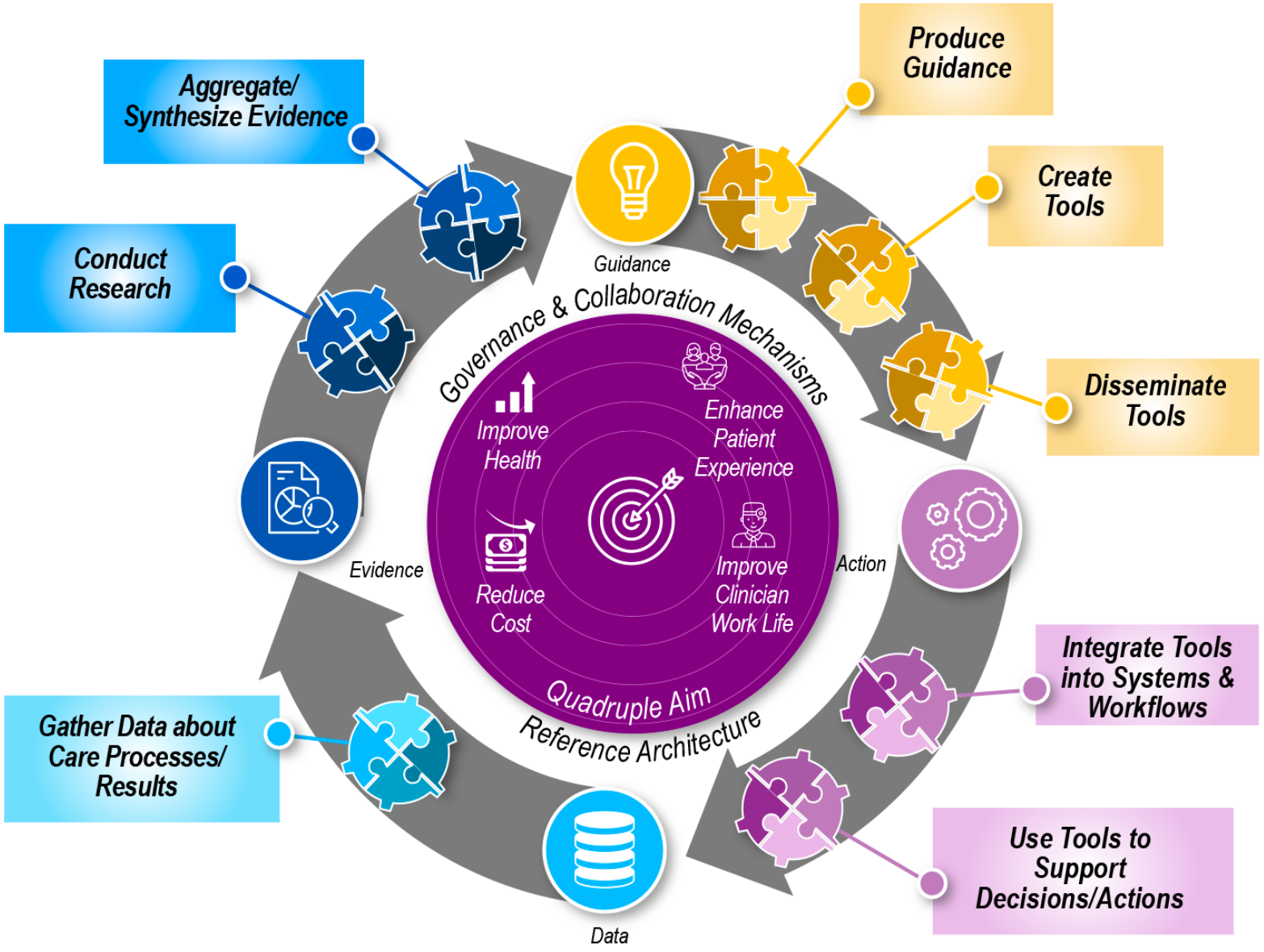
Steps Toward Future Vision: ACTS COVID-19 Evidence to Guidance to Action Collaborative*

Collaborative Goals

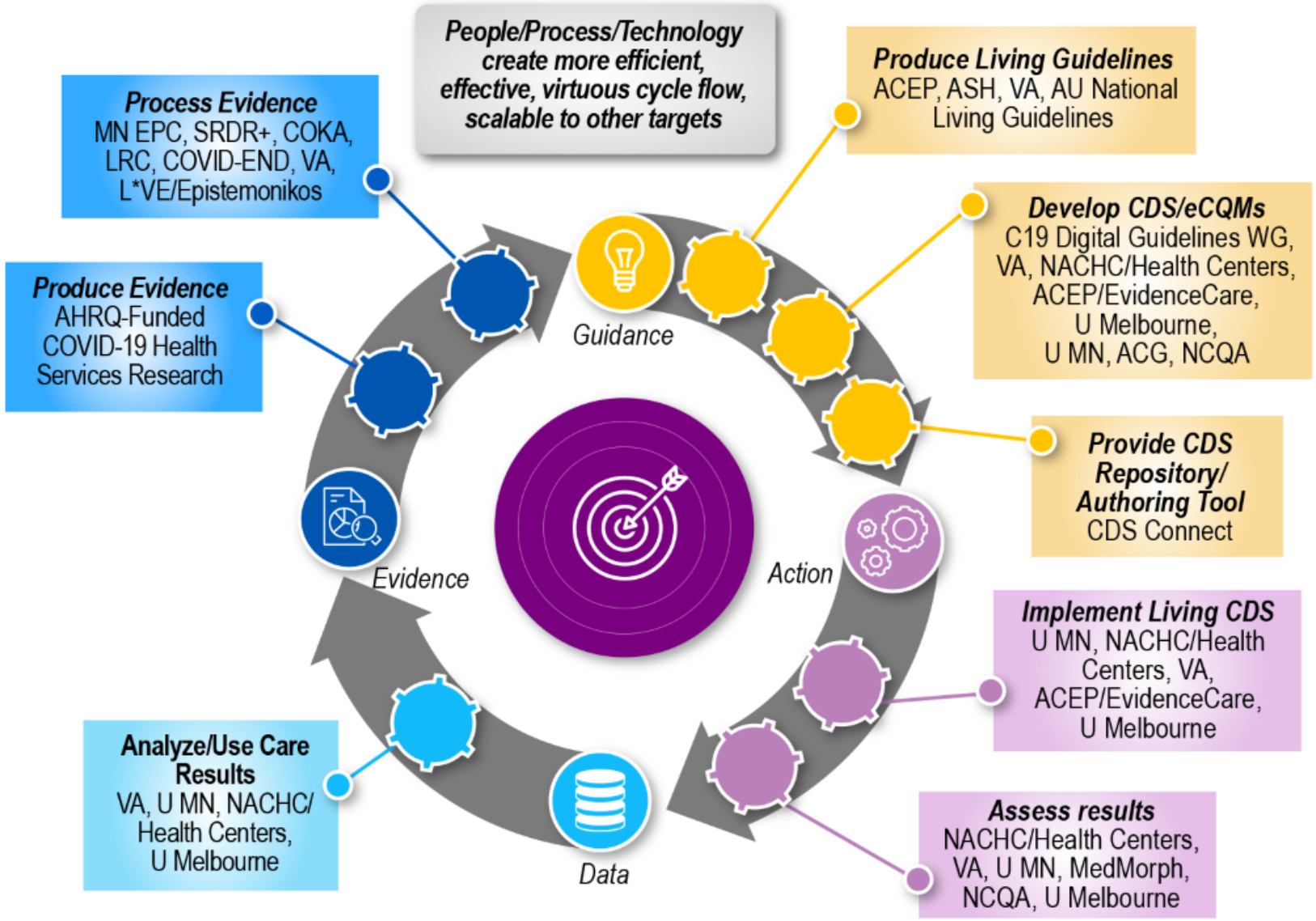
- Cross-fertilize/accelerate efforts to develop & deliver COVID-19 evidence-based guidance and tools to patients and care teams
- Measurably improve care & outcomes for *selected* targets & settings; support/promote scaling to *many others*
- Advance tools, standards, and collaborations needed for the knowledge ecosystem and LHSs

*see digital.ahrq.gov/covid-acts

Knowledge Ecosystem Cycle



Sampling of Collaborative Participants and Alignment with Ecosystem Cycle



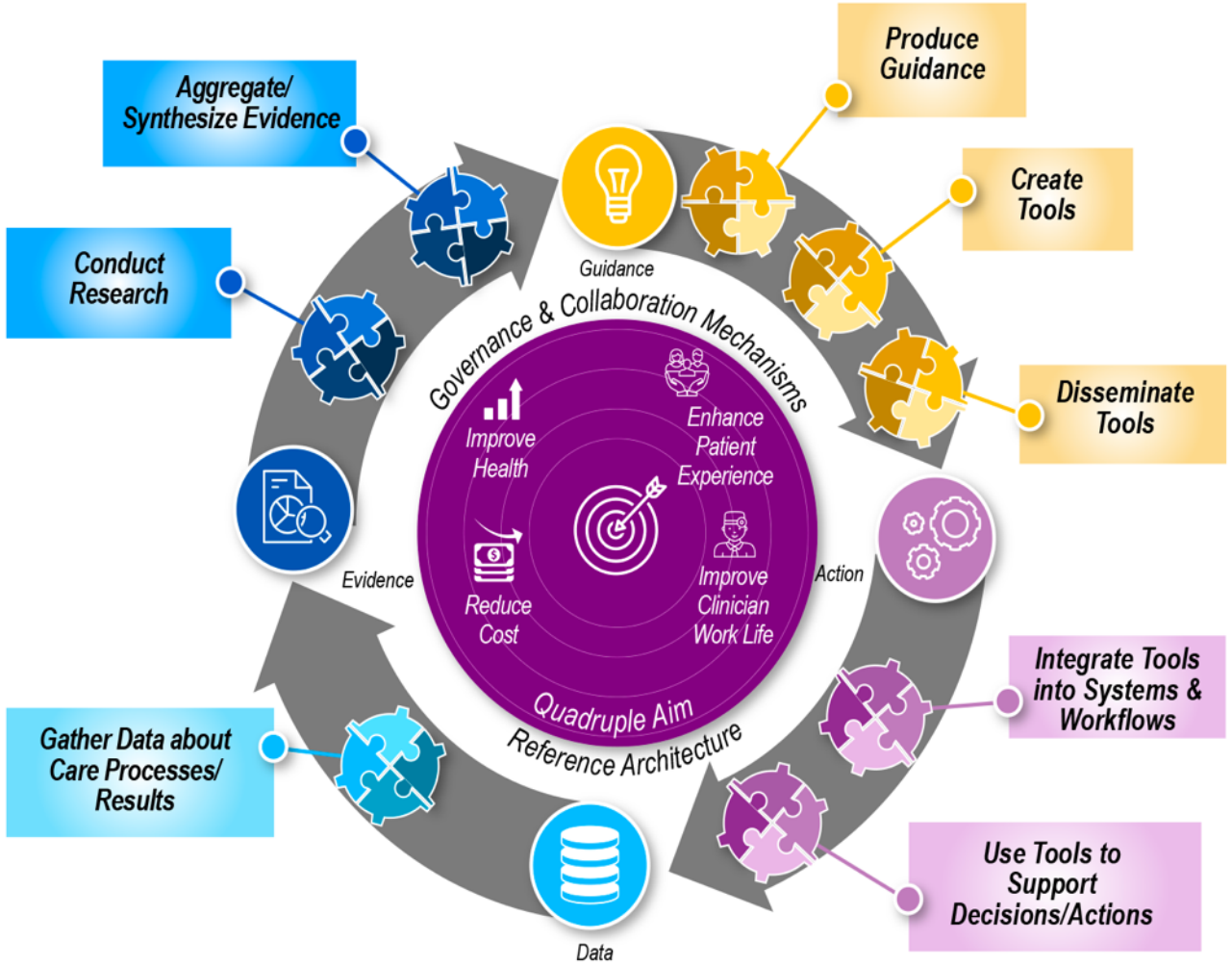
Ecosystem Enhancement Deep Dive: Approach

- Focus on **specific targets** being addressed by **specific care delivery organizations** (CDOs)
  - **Share** strategies, learning, challenges; **mutual support**
  - **Promote scaling** to other targets/CDOs

- Target areas and CDOs:
  - **Anticoagulation:** University of Minnesota
  - **Long COVID:** NACHC (health centers), OHSU
  - **Severity Assessment/Triage:** VA, NACHC

Ecosystem Enhancement Deep Dive: Sharing / Collaboration Template

- Target/Organization =
- For each cycle step:
  - Major Successes
  - Pressing Needs
  - Collaborative Support Asks
  - Insights/tools/approaches by others



Sampling of Ecosystem Enhancement Activities & *Potential* Partners

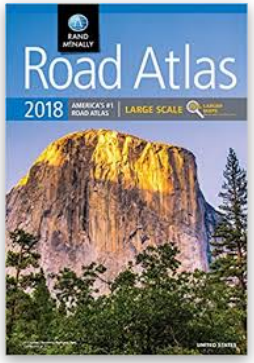
- **Identify studies**
  - Librarian Reserve Corps, Epistemonikos
- **Synthesize studies in living reviews**
  - COVID NMA, UMN EPC (anticoagulation), AU Living Guidelines, NIH, WHO
- **Make evidence executable** (ultimately computable):
  - SRDR+
- **Produce Living Guidelines**
  - AU Living Guidelines, ASH/ACCP (anticoagulation), NIH, WHO
- **Make guidelines executable** (ultimately computable)
  - MAGICapp

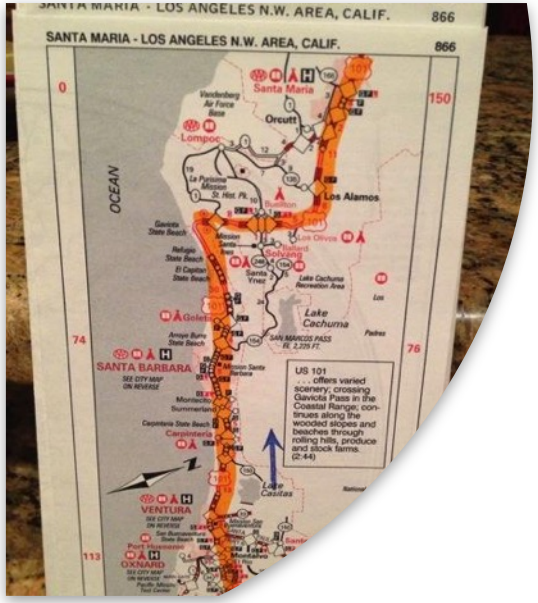
Sampling of Ecosystem Enhancement Activities & ***Potential*** Partners, cont.

- **Adapt Guidelines for local implementation**
  - Clinical sites
- **Express Guidelines as living CDS interventions/eCQMs**
  - C19 Digital Guideline WG's CPG on FHIR-based methods, clinical sites
- **Disseminate tools (CDS, eCQMs)**
  - CDS Connect
- **Integrate guidelines into systems/workflows; use in care**
  - clinical sites
- **Gather/analyze care results data; use for QI/new evidence**
  - clinical sites

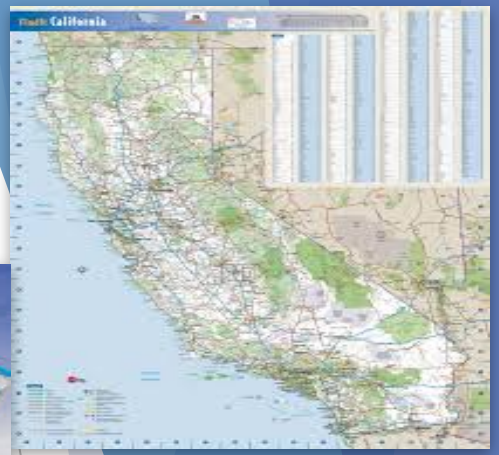
Location Knowledge - Societal Evolution

PRINT

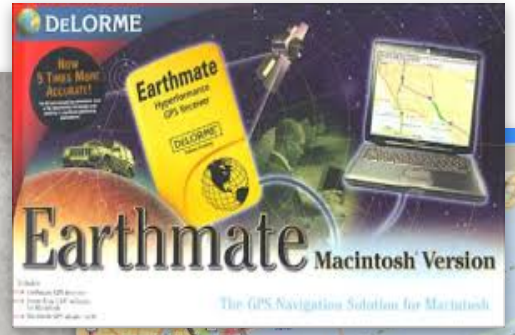


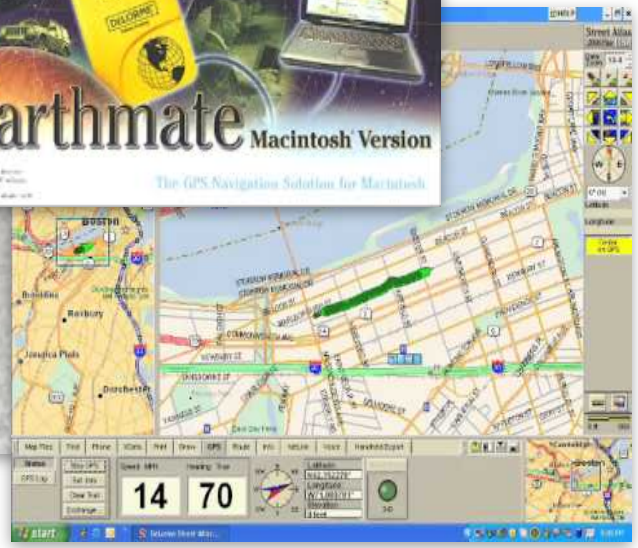


DIGITAL

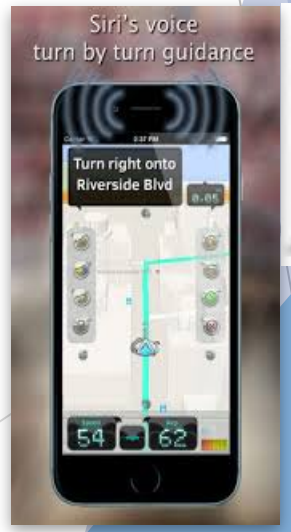


EXECUTABLE





COMPUTABLE



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Guidelines and Scientific Knowledge

PRINT

Familiar, conceptually organizing much of our workflow

Sharable Value Unit
Physical object, a relatively large unit for sharing many knowledge bits in one container

DIGITAL

Current PLATFORM for dissemination

Sharable Value Unit
Digital object (like a PDF), a relatively large unit for sharing many knowledge bits in one container

EXECUTABLE

Many specific software tools, but each tool limited to local execution

Sharable Value Unit
Small digital object (micro-content), but within the constraints of the executable environment

COMPUTABLE

Widely interactive, interoperable, integrated possibilities – PLATFORM of the near future
Sharable Value Unit
Small digital object, enabling contextualized selection, customizable presentation, and reusable dissemination

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Related Effort: Evidence/Guidance Computability Tool Requirements Project

Produce for 4 tools to make evidence & guidance computable

1. Research Results
2. Systematic Reviews
3. Recommendation Rationale
4. Coded Recommendation Terminology

Use Case Data Entry Form: ACTS Evidence to Guidance Computability Tool Requirements Project

This form is designed to capture Use Case data for tools that may be developed as a result of the ACTS Evidence to Guidance Computability Tool Requirements Project. For each field in the form, please provide detailed information as guided by each question.

* = Answer Required

Computability Tools

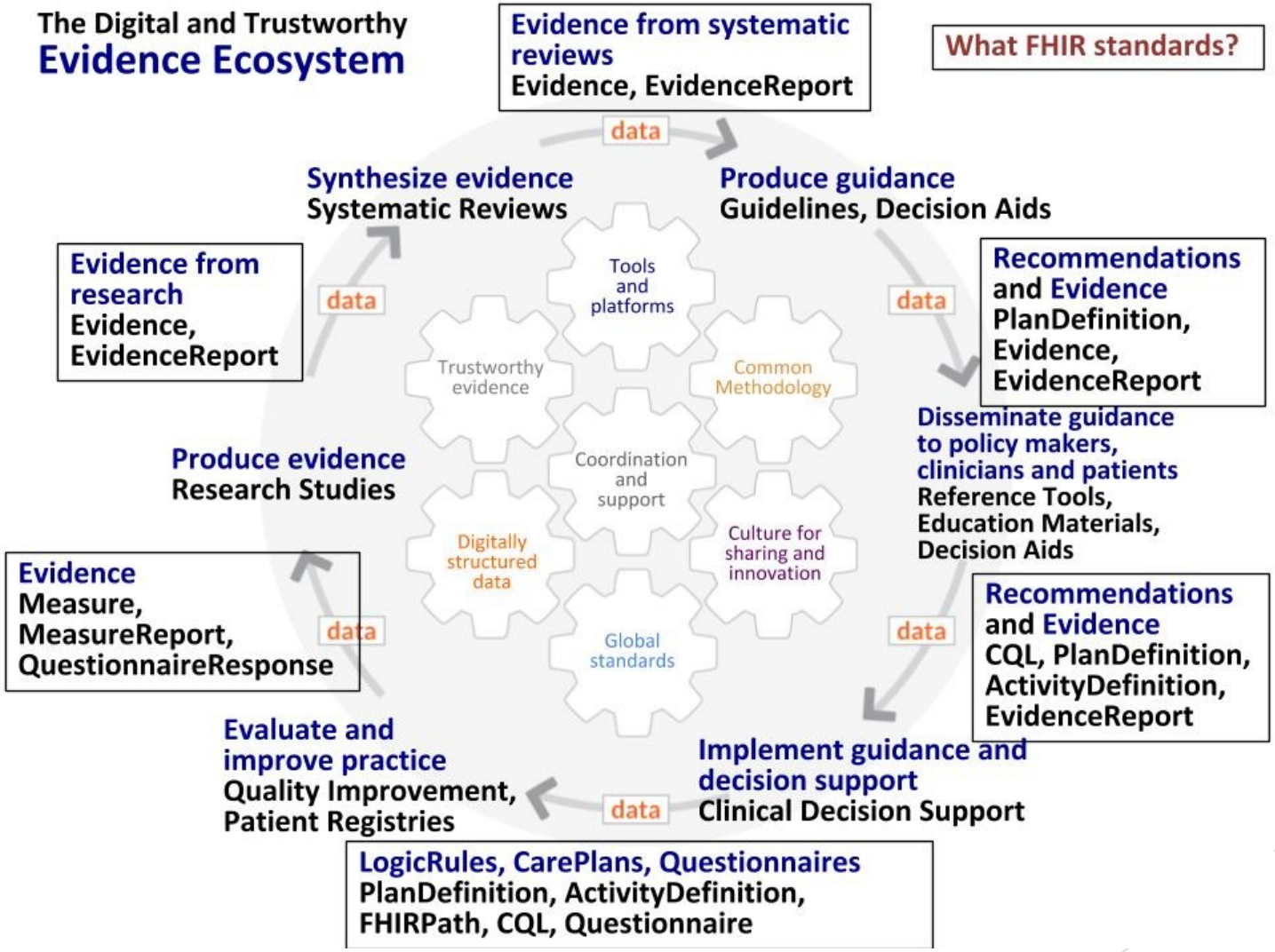
* Select the computability tool this use case is for	○ Research Results: Produce and Disseminate Computable Study Results ○ Systematic Reviews: Produce and Disseminate Computable Systematic Review Findings ○ Recommendation Rationale: Produce and Disseminate Computable Rationale for Recommendat ○ Recommendation Coded Terminology: Produce and Disseminate Computable Coding for Partici Intervention Factors for Recommendations

Name and Description

Create a name and enter basic information about the use case(s)

* Enter a short, descriptive name of the use case	
* Describe the goal(s)/objective(s) of the use case	

Examples of Pertinent FHIR Standards



Source: Brian S. Alper MD MSPH, Computable Publishing LLC, based on diagram from MAGIC Evidence Ecosystem Foundation

Collaborative is Taking Steps Toward Implementing Draft Roadmap Approach to Achieve Future Vision

	Phase 1: Concept Demonstrations	Phase 2: Pilots	Phase 3: Scaling	Phase 4: LHS/Quadruple Aim
Create/Use Governance & Collaboration	• Collaboration network & infrastructure (RESC, CC) • PPP plan	• Enhanced RESC, CC • Launched PPP	• Enhanced PPP, RESC, CC	• Mature PPP-driven collaboration network, infrastructure & CC
Enhance/ Leverage Infrastructure	• AHRQ Portal for **4 targets** • AHRQ DKP requirements & concept demo • Knowledge ecosystem cycle tooling concept demos & requirements (computable evidence & guidance, reference architecture, public marketplace)	• Production AHRQ DKP for **4 Phase 1 targets** • Production knowledge ecosystem tooling pilots (computable evidence & guidance, reference architecture, public marketplace)	• Production, enterprise-wide AHRQ DKP • Broadly used production knowledge ecosystem tooling	• Maintained Production, enterprise-wide AHRQ DKP • Enhanced Production knowledge ecosystem tooling
Enhance/ Develop Living, Computable Guidance	• Living guidance/evidence produced for **4 targets**: ○ Study directory ○ Systematic reviews ○ Clinical guidelines ○ **At least 1** CDS/eCQM • Living Guidance Playbook	• Living guidance, evidence, CDS/eCQMs produced with tooling for **8 targets** • Enhanced Living Guidance Playbook	• Living guidance, evidence, CDS/eCQMs produced with tooling for **>= 25 targets** • Enhanced Living Guidance Playbook	• Living guidance, evidence, CDS/eCQMs maintained with tooling for **25 Phase 3 targets** • Enhanced Living Guidance Playbook
Enhance Guidance Implementation & Assessment	• **5 CDOs**: AHRQ Portal, living CDS/eCQM system/workflow integration for **4 targets** • Implementation Playbook	• **20 CDOs**: AHRQ DKP, living CDS/eCQM system/workflow integration for **4–8 targets** • Enhanced Implementation Playbook	• **>= 50 CDOs**: AHRQ DKP, CDS/eCQM system/workflow integration for **8–25 targets** • Enhanced Implementation Playbook	• **>= 300 CDOs**: living CDS/eCQMs for **25 Phase 3 targets** • **>= 50 CDOs**: virtuous LHSs • Enhanced Implementation Playbook
Evaluate/Plan Roadmap Execution	• Analysis of Phase 1 • Requirements & project plans for pilots	• Analysis of Phase 2 • Requirements & project plans to scale AHRQ DKP and knowledge ecosystem pilots	• Analysis of Phase 3 • Requirements & project plans to scale AHRQ DKP & knowledge ecosystem to LHSs	• Summative analysis • Requirements & project plans for ACTS 2.0 enhancements & expansion over next 10 years

2021 2022 2023 **2024** 2025 2026 **2027** 2028 **2029** 2030 **2031**

Collaborative Steps Toward Future Vision

- COVID-19 is 1 of 4 **initial targeted conditions** to demonstrate knowledge ecosystem cycle improvements
- Collaborative/Learning Community is:
  - Seeding **cross-stakeholder coordination efforts**
  - Laying foundation for **enhanced ecosystem cycle infrastructure** (best available, 2.0 requirements)
  - Concept demos for **enhanced/computable evidence/guidance content & processes**
  - Concept demos for **enhanced guidance implementation**
  - Laying foundation for **evaluation, planning, piloting, scaling**

Stakeholder Engagement in Draft Roadmap

Thirty-one organizations whose staff participated in Draft Roadmap Development have provided support letters indicating plans to align their efforts and investments with Roadmap execution.

Federal Agencies: 1
VHA (Nebeker)

Care Delivery Organizations: 7
VCU/ACORN (Krist)
M Health Fairview (Melton-Meaux/Tignanelli),
U Chicago Medicine (Umscheid),
Rutgers RWJBarnabas Health (Sonnenberg)
MUSC (Lenert)
Hennepin Healthcare (Pandita)
AACHC-CVN (Frick)

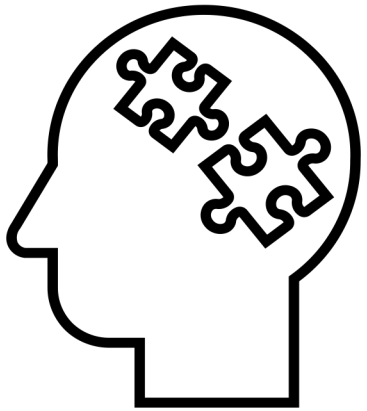
Professional Societies/Accrediting Bodies/Institutes: 7
American Medical Association (Rakotz)
AMIA (Dykes)
ACMQ (Casey)
ACCME (Singer)
NCQA (Barr)
RTI (Richardson)
ACP (Qaseem)

Health IT Vendors/Initiatives: 7
Cognitive Medical Systems (Burke/Bormel)
Health Catalyst (Rimmasch)
Apervita (Middleton)
U Mich/MCBK (Friedman/Richesson/Flynn)
Logica Health (Huff)
EBM on FHIR/COKA/Computable Publishing (Alper)
BPM+ Health (Rubin)
HL7 (Jaffe)

Clinical Evidence/Guidance Organizations: 7
Cochrane Collaboration
COVID-END (Grimshaw)
GIN (Harrow)
JBI (Jordan)
Epistemonikos (Rada)
MAGIC Evidence Ecosystem Foundation (Vandvik/Brandt)
McMaster University (Iorio)

Patient Advocates: 1
Hassanah Consulting (Tufte)

ACTS Collaborative and COVID-END/Partner Synergies



- Where on the Ecosystem Cycle are ***you*** concentrating?
  - Care delivery
  - Evidence processing
  - Guidance processing
  - Other?
- How can the **Collaborative activities advance *<u>your</u>* efforts**, and **vice versa**?

Do You Have Resources, Tools, Expertise, Networking, Evidence, Guidance, etc. that Can Help:

- Patients with targeted conditions?
- People that care for these patients?
- Care Delivery Organizations in which this care is delivered?
- Organizations that produce tools to help the CDOs, care teams, and patients?

What would **win-win-wins** look like for you to provide these in ways that **advance progress toward your objectives**?

Next Steps

- **Brainstorm opportunities**
  - Please **share thoughts in chat now**!
  - Seeding discussion (David, Per, Camila)
  - Open mic
  - Follow-up meetings (TBD)
- Engage in **Collaborative concept demo** efforts
  - e.g., calls, website sharing, related projects
- Engage in related **evidence/guidance computability** efforts
  - ACTS Pilot to Define use cases/requirements for tools
  - Related efforts (e.g., COVID Knowledge Accelerator COKA)

Thank You!

Collaborative Website:

https://covid-acts.ahrq.gov

Let's connect:

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support@ahrq-acts.org