



Using Specific COVID-19 Targets and Patient Care Settings as a Springboard for Driving Global Improvements in the Learning Health System Cycle for COVID-19 and Beyond

Session S60

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Panel Learning Objective

After participating in this session, the learner should be better able to:

- Describe components of a continuously improving learning health system (LHS) cycle, and international efforts to improve the efficiency and effectiveness of this cycle for COVID-19 and beyond

AHRQ's Goals and Context for ACTS and the COVID-19 Evidence to Guidance to Action Collaborative

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Disclosure



I and my spouse have no relevant relationships with commercial interests to disclose.

AHRQ's Mission and Challenge

Mission:

- Produce evidence to make health care safer, higher quality, more accessible, equitable, and affordable
- Work within the US DHHS and with other partners to make sure that the evidence is understood and used

Challenge:

- AHRQ (and others) produce many valuable, evidence-informed resources to support care delivery and transformation and LHSs
- *However*, these resources are not used as widely or effectively as they could be by those who could benefit significantly from them
- *Because* they aren't findable, accessible, interoperable, re-usable, computable...

ACTS Context: Problems Addressed

- \$ Billions/year spent on care evidence/ guidance/ tools that aren't optimally accessed/used/useful
- Efforts to address this are fragmented/ siloed and without clear path to a comprehensive solution
- Care Delivery Stakeholders can't get information when, where, and how it's needed

Waste from Poor Info Flow

- \$210 billion wasted on unnecessary services and \$130 billion on inefficient services/year (1)
- 80-90% Healthcare costs influenced by physician decisions (2)

Sub-Optimal Patient Outcomes

- NEJM - patients get only 50% recommended care (3)
- Preventable harm results in many deaths/day (4)

Clinician Burnout

- Physician turnover/reduced clinical hours costs \$ billions/ year, lowers care quality (5)
- "Public health crisis: ... pressure to meet quality measures without resources/support" (6)

The pandemic highlighted and exacerbated all these challenges

(1) [Hung; Healthcare Leadership; 2018; July 15](#); (2) [Crosson; Commentary The Commonwealth Fund 2009; April 27](#); (3) [McGlynn NEJM 2003; 348:2635-45](#); (4) [Bernazzani; Costs of Care; 2015; Oct 5](#)
(5) [Han; ACP Annals of Internal Medicine; 2019; June 4](#) (6) [Vajracharya; Physician Burnout: A Public Health Crisis panel; 2018; April 4](#); (7) [Shrank; JAMA 2019; 322\(15\):1501-1509](#);

ACTS Objectives

- Establish requirements for a potential AHRQ Digital Knowledge Platform to make AHRQ and other resources more FAIR (*Findable, Accessible, Interoperable, and Reusable*), computable, useful
- Ensure public and private knowledge platforms interoperate seamlessly in an integrated knowledge ecosystem to improve knowledge creation, interoperability and use at point of need
- Build stakeholder-driven Roadmap to ensure that the knowledge ecosystem supports the mission and priorities of AHRQ and others, and fosters learning health systems and achieving the quintuple aim

Deeper Dive: Knowledge Ecosystem for Fairness and Computability



Findable

- o Readily discoverable and available (e.g., via a repository, marketplace and/or portal)
- o Indexed (using metadata about content, type, use, etc.) to enable discovery based on need



Accessible

- o Readily delivered/retrieved (proactively or responsively for need) through defined mechanisms
- o Has defined terms of use, user authentication, authorization, rights management



Interoperable

- o Can be processed/used ("plug and play") on different systems (e.g., EHR, CDS system, web)
- o Uses broadly accepted standards for content representation, search, access



Reusable

- o Can be easily combined/recombined in different configurations to meet needs
- o Has well-specified metadata and generic rather than localized components



The NEW ENGLAND
JOURNAL of MEDICINE

ORIGINAL ARTICLE

Use of Heparin in Noncritically Ill Patients with
Covid-19

The ATTACC, ACTIV-4a, and REMAP-CAP Investigators*



Standard Data Definitions (e.g., FHIR Resources, value sets) and data entry tools enable encoding of narrative text/concepts into standards-based, computable code

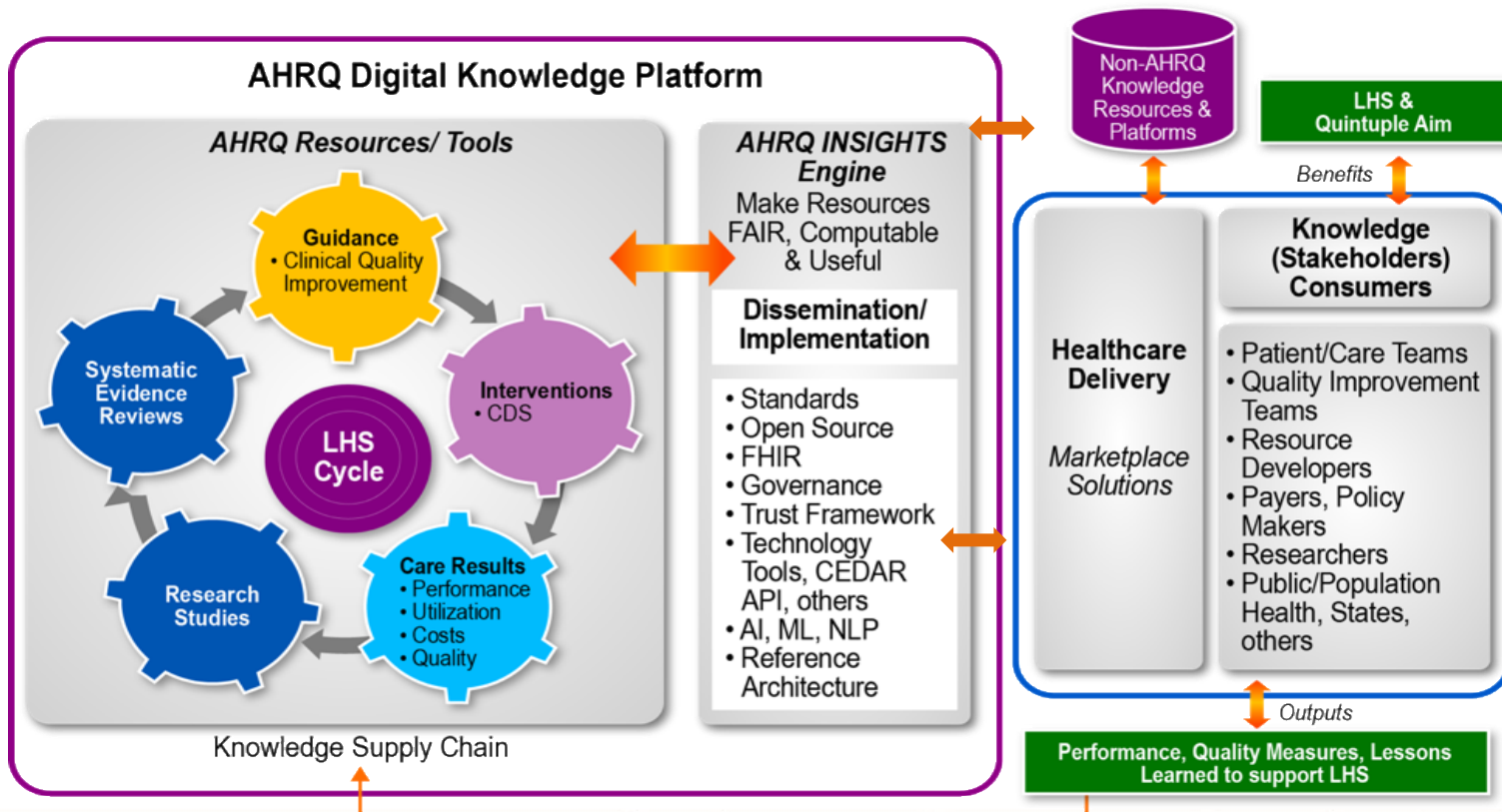
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From [ACTS Recommendation Summary Browser Demo](#)

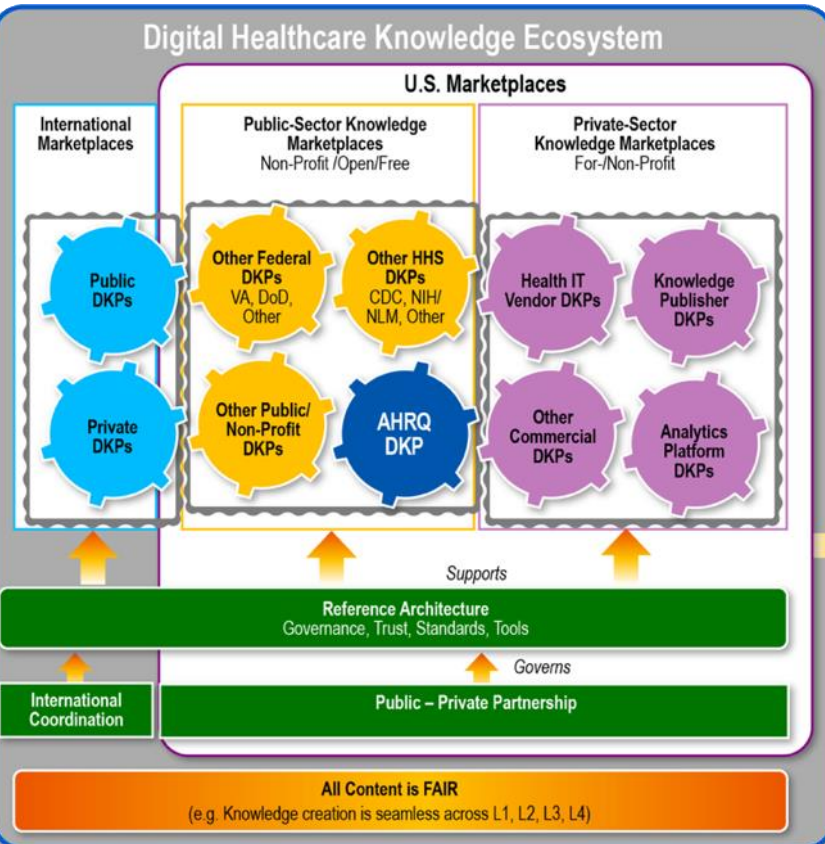
AHRQ-Funded ACTS Efforts

- Roadmap Development
- Pilot efforts toward Roadmap Execution
 - ACTS COVID-19 Evidence to Guidance to Action Collaborative
 - Evidence / Guidance Computability Tool Requirements
 - App Development/Implementation for patient-driven care planning
 - Initial use case=preventive care, tools/approaches scalable to COVID and other targets

Roadmap Vision for Making AHRQ Resources More FAIR, Computable



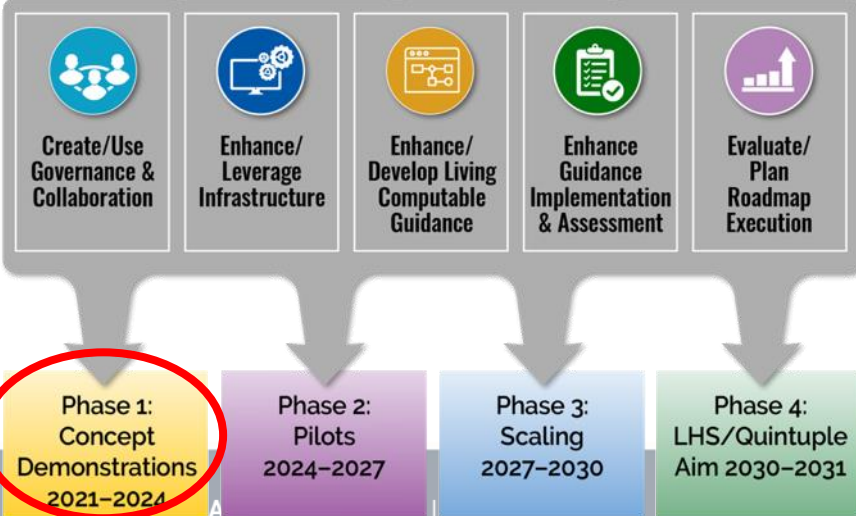
Roadmap Vision For a Broader Knowledge Ecosystem



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.



ACTS Roadmap:

4 Phases Over 10 Years to Achieve Vision

ACTS Results

- ACTS COVID-19 Collaborative and related pilots

Which produced

- Concept demonstration of knowledge ecosystem-enabled future vision

Which led to

- Stakeholder-driven LHS Plan (Phase 1 of ACTS Roadmap)

Which organizations are beginning to execute

- For AHRQ, this ACTS-generated LHS Phase 1 plan will help improve access to & use of AHRQ's offerings *in the context of a broader, integrated knowledge ecosystem*

Other presenters will share additional details about the ACTS future vision and plans and activities to realize it