Ecosystem Gaps and Steps to Close

Provide a high level overview – we described a future vision, we've talked about the knowledge ecosystem needed to make the cycle work and we discussed some of the tools needed to deliver the future vision. Refer to the image – we are missing the necessary people, processes and technology.

People – agreements and standards to make information interchangeable – get people out of their silos – no incentive to collaborate or coordinate.

Process – everyone works differently and uses different tools, producing information that doesn't fit together and cannot be easily shared. It's not computable or interoperable or easy to find and act on.

Technology – We need tools and standards to make information (data) more computable – see the LHS Case Study and the Work in progress pages for the tools.

While progress is being made, there are still major gaps.

Gaps specific to the tools are addressed on the tools pages and in the pages in this section, we address overarching gaps – the need for better DKPs, what a digital knowledge ecosystem contributes, and we identify some of the pieces currently in place or being built.

The <link> pages address current efforts that are in progress by AHRQ and by others; a key need is to pull these efforts together and build collaboration toward the a cohesive solution that supports and eventually delivers the future vision.

In 2006 the ONC-commissioned Roadmap for National Action on Clinical Decision Support was released publicly. That year this Roadmap was presented in person to - and formally accepted by - the HHS secretary and public and private healthcare leaders, and it drove subsequent investments and actions. However, 'critical path' recommendations in this Roadmap on "developing and maintaining an ongoing forum for dialogue, consensus, and action by ... stakeholders" and "funding ... a set of coordinated, collaborative projects aimed at ... a focused, top priority target" were not followed. Hopefully the time is ripe now to more effectively address the disastrous consequences [link to details in Roadmap] of not putting healthcare knowledge into action effectively, and this ACTS LHS proposal will help drive the needed change.

Initial Working DRAFT for Stakeholder Input and Refinement

[The information on this page is being reorganized, and stakeholder input will be used to help optimize presentation]

Patient Journey CDS Intervention Gaps and Steps

The following tables describe the gaps and next steps to address the necessary improvements to the interventions defined in the table below. Interventions Underlying the Future Vision and necessitated by the Mae scenario. They also list some existing resources from AHRQ and others that could be leveraged or enhanced to realize the future vision for those interventions.

The goal is to activate patients, establish a shared care plan based on the latest evidence and guidance, aligned with patient goals - taking a holistic approach to care; including considerations based on cost transparency.

Additional pages

AHRQ Offerings & the Knowledge Ecosystem Cycle (Appendix F of Roadmap)

Interplay With a Sampling of Other Strategic Plans, Priorities & Initiatives (Appendix A)

What a Digital Knowledge Ecosystem Will Enhance

Why Better DKPs are Needed

Workgroup Report 2019: Standards and Infrastructure (Appendix C of Roadmap)

Gaps to Address / Next Steps

Interventions that Underlie Future Vision

#	Intervention	Gaps to Address / Next Steps
1	Patient Portal	Reduce the number of portals with which patients must interact (ideally to one) and enforce interoperability between separate portals operated by different health provider organizations.

2	Patient Education / Self-Management Tool	Redirect patients if/when appropriate and match material to specific patient condition and situation.
3	Referrals to Community Support Resources	There is no “Google Maps” of community support resources. Have community resource specialists or social workers readily available to assist in identifying and connecting with these resources.
4	Symptom Evaluation Tool	Integrate with patient portal, EHR, and care plan generators. Automatically trigger appropriate tool based on the complaint or problem being addressed.
5	Patient Parameter Tracking Journal	Integrate with patient portal and any automated devices (e.g., blood pressure monitors, glucose monitors, physical activity trackers, symptom diaries, food diaries).
6	Screening /Assessment Tool	Automatically suggest screening/assessment tools when and where appropriate (e.g., depression screening at annual visit) and automatically import results into the EHR as discrete data.
7	Pre-Visit Questionnaire	Seamlessly interface pre-visit questionnaire and clinician’s view and incorporate responses into clinical notes and address those responses dismissed.
8	Care Guidelines	Make available, transparent, appropriate to the patient, and non-interruptive to workflow.
9	Telehealth	Provide appropriate access in remote locations with the ability to include family members and caregivers.
10	Documentation Template	Provide SMART and flexible templates.
11	Shared Decision-Making Tool	Suggest decision-making tools automatically when specific decisions are considered (e.g., screening modalities or selection of alternate treatments with different adverse effect profiles).
12	Patient Monitoring / Management Dashboard	Allow the patient and all members of the care team to determine “at a glance” how the patient is doing with regard to control of chronic conditions, completing recommended testing and treatment, and keeping up-to-date with preventive health measures.
13	Condition Management Policy / Procedure / Protocol	Dynamically link to knowledge sources integrated with the EHR so that patient-specific data can be used to determine the recommended actions and these recommendations can be displayed to providers at the point of care and inserted into the integrated care plan.

14	Care Plan	This is the least developed of the technologies needed to support the future vision for care delivery, but rapid progress is being made. Many questions need to be answered and gaps need to be solved for a care plan as described in this document to be feasible: · Ownership, access, and privacy (e.g., Who has access to the care plan and to which parts? Can patients dictate who sees each piece of information? Who can make changes?). · How are data shared across settings? Through the HIE? Carried by the patient on a smartphone app? · Data standards are lacking for many important data elements. (This is an area of rapid progress, especially for social determinants.) · Many health systems use internal/proprietary coding systems rather than common standards (e.g., LOINC, RxNorm). · How accurate is data when pulled from the EHR to inform the care plan? · How will the care plan fit into existing clinical workflows?
15	Clinical Calculator	These should be readily available at the point of care and the results should be inserted into the EHR as discrete data. Although some calculations have clear best practices, providers should have the ability to select preferred calculators when alternatives are available.
16	PDMP Tool	Provide seamless access to patient's prescription drug dispensing data. To be useful, this must be available within the EHR without requiring a separate sign-in and must be able to pass context-specific data (e.g., the patient's name and birth date) to the PDMP so providers do not have to re-enter the information.
17	Order Set	Increase physician awareness and ease of use of existing order sets (i.e., ordering a la carte). Maintain order sets in keeping with current standards important to address.
18	Patient Registry	Set up registries for all conditions that the healthcare organization wants to track and automatically enroll patients when certain conditions are met. For example, all patients with a diabetes diagnosis should be included in a diabetes registry. All patients with precancerous colon polyps should be entered into a registry for future surveillance.
19	Care Gap, Need, or Issue Detection and Notification Tool	Not just a notification tool, but a facile way to queue the suggested interventions for physician one-step approval. Care coordinators must be available to carry out this work outside of traditional office visits.
20	Provider Selection Tool	Enable patients to become a key market driver of QI. High-performing clinicians will tend to receive more patients, which will drive lower performers to improve their outcomes. To get to this stage, we need standards for service definitions. What defines a colonoscopy? Does it include a biopsy or polypectomy? Does it include anesthesia or pathology review? Do we need cost bundles (the entire "colonoscopy service bundle") even if we define service quality independently? What quality measures are needed to support patients making informed choices? This requires a conversation with patients and new thinking about how to get the data that will allow our health systems to serve patient needs.

Assets Currently Available Related to the Future Vision

Table B-3.Current AHRQ Assets That Support Future Vision Interventions (View References pointed to by numbers in parentheses)

#	Intervention	Current State/AHRQ Guidance, Evidence, Tools
1	Patient Portal	Funded research on patient portals (209)
2	Patient Education and Self-Management Tool	Consumer information from AHRQ's Effective healthcare (210) (based on EPC reports (77)) and USPSTF recommendations (78)
3	Referrals to Community Support Resources	AHRQ challenge to visualize/address SDOH (211) (212); Case study of online social service referral platform (213)
4	Symptom Evaluation Tool	Funded evaluation of symptoms checkers (214)
5	Patient Parameter Tracking Journal	AHRQ Step-up Challenge: Advancing Care Through Patient Self-Assessments (215); PROMIS Reporting and Insight System from Minnesota (PRISM), a winning tool for gathering patient-reported outcomes (216) (217)
6	Screening/Assessment Tool	Guide for health assessments in primary care (218)
7	Pre-Visit Questionnaire	AHRQ Step-up Challenge: Advancing Care Through Patient Self-Assessments (211) (see also Intervention 5, Patient Parameter Tracking Journal); AHRQ pre-visit question builder (219) and related patient involvement resources (220)
8	Care Guidelines	EPC reports (221)
9	Telehealth	AHRQ Project ECHO (222) (223)
10	Documentation Template	Pediatric documentation templates funded by AHRQ (224); Eye care documentation template (on CDS Connect) (225)

11	Shared Decision- Making Tool	AHRQ SHARE Approach training on shared decision making (226)
12	Patient Monitoring/ Management Dashboard	Patient-specific Pain Management Summary (CDS intervention available on CDS Connect) (227) see also Intervention 8, Care Guidelines)
13	Condition Management Policy/ Procedure/ Protocol	AHRQ EPC Program (228) (229)
14	Care Plan	AHRQ/NIDDK Initiative: Building Data Capacity to Conduct Pragmatic, Patient-Centered Outcomes Research by Developing an Interoperable Electronic (eCare) Plan (143); Care plan for preventing falls in hospitals (230)
15	Clinical Calculator	Heart Risk Calculator (231)
16	PDMP Tool	AHRQ-funded PDMP toolkit for community pharmacy (232); AHRQ-funded effort to integrate PDMP data with Pain Management Dashboard (ref)
17	Order Set	Order sets on CDS Connect (233)
18	Patient Registry	Registries for Evaluating Patient Outcomes: A User's Guide: 3rd Edition (234)
19	Care Gap, Need, or Issue Detection and Notification Tool	(see Intervention 8, Care Guidelines)
20	Provider Selection Tool	Creates transparency by providing information on care quality, care experience and cost to the patient of alternative care providers, allowing patients to select a provider based on these attributes.

Patient Journey CDS Intervention Gaps and Steps

The following tables describe the gaps and next steps to address the necessary improvements to the interventions defined in the table below. Interventions Underlying the Future Vision and necessitated by the Mae scenario. They also list some existing resources from AHRQ and others that could be leveraged or enhanced to realize the future vision for those interventions.

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