Digital Healthcare Research
Advancing Today's Discoveries, Transforming Tomorrow's Care

20 YEARS

AHRQ

Funding Opportunities in Health Sciences and AI

Edwin Lomotan, MD, FAMIA

Agency for Healthcare Research and Quality (AHRQ)

Heartland Workshop on Heart Sounds and AI

June 21, 2024

Overview

- AHRQ and its mission
- Funding highlights and recent activities
- Current funding opportunities
  - Notice of Intent: AI and patient safety
- Q/A

Resources

Examples

Agency for Healthcare Research and Quality (AHRQ)

Our mission is to produce evidence to make health care <u>safer</u>, higher <u>quality</u>, more <u>accessible</u>, <u>equitable</u> and <u>affordable</u>

To work with HHS and other partners to make sure that the evidence is understood and used
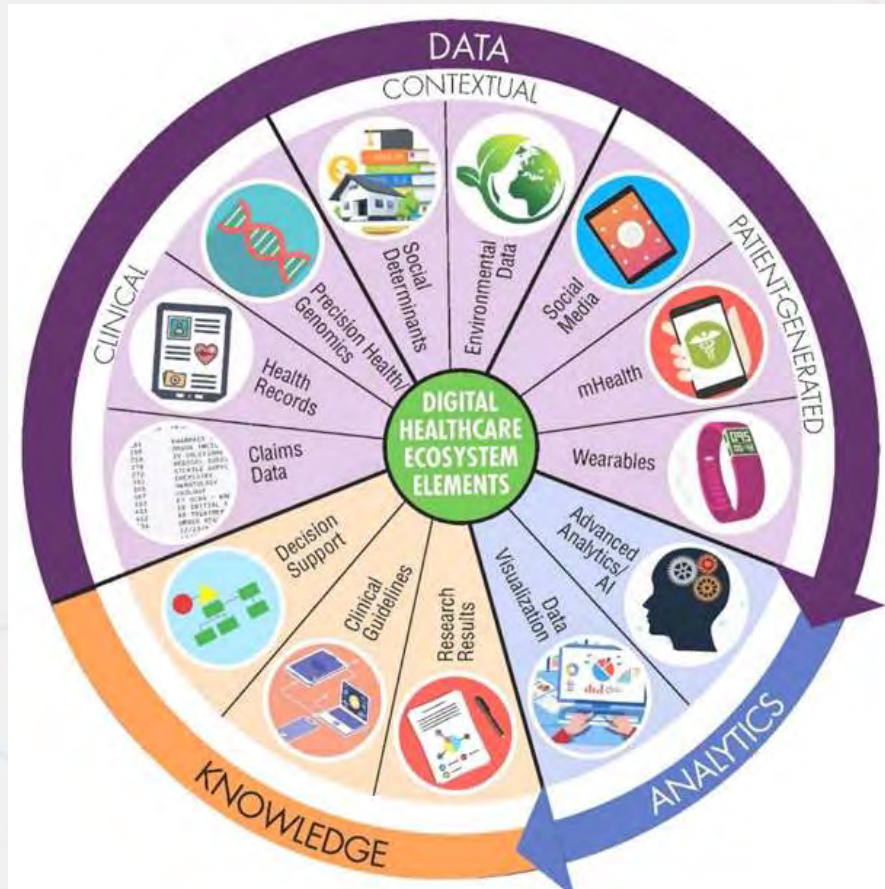
www.ahrq.gov

AHRQ's Unique Role

- **AHRQ focuses on healthcare improvement**
- **Dissemination and implementation of actionable knowledge is necessary** for the adoption and delivery of innovative therapies
- **"Real world" settings**

AHRQ Improves Healthcare Delivery

- **Generating scientific evidence and actionable knowledge**: Funding health services research to understand how care is delivered and how it can be delivered better (quality, safety, equity, value)

- **Moving evidence into practice**: Developing tools, training, resources, and (non-regulatory, non-punitive) assistance

- **Monitoring and feedback**: Measurement, data, analytics, and reporting for state and federal policymaking

AHRQ Digital Healthcare Research

How can the various components of the ever-evolving digital healthcare ecosystem best come together to positively affect healthcare quality, safety, accessibility, and effectiveness?

https://digital.ahrq.gov/
Recent Annual Report!

https://digital.ahrq.gov/dhr-20

A History of Innovation

Highlight: Heart Failure Care, Clinical Decision Support, and Shared Decision-making

- "A Multi-Site Trial to Test Benefits of Adding a Personalized Risk Calculator to an Online Decision Aid for Left Ventricular Assist Device" (**R01**, Blumenthal-Barby, Baylor College of Medicine)

- Recognizes growing need for more personalized approaches to risk prediction and shared decision making (SDM) for patients, caregivers, and providers

- Will **identify** patient and provider views, **translate into a CDS platform** that facilitates **SDM**, **evaluate** the quality of the collaborative process

  https://digital.ahrq.gov/ahrq-funded-projects/multi-site-trial-test-benefits-adding-personalized-risk-calculator-online

Highlight: Scaling Clinical Decision Support Innovations

- "Dissemination and Implementation of QT Risk Clinical Decision Support" (**R18**, Malone, University of Utah)

- **Adapt, implement, and distribute** a **validated CDS** tool across urban and rural inpatient care facilities of varying acuity levels.

- Develop and include an **educational program**

- **Conduct evaluation** with respect to process changes within facilities, patient-focused clinical outcomes, and end-user satisfaction.

https://digital.ahrq.gov/ahrq-funded-projects/dissemination-and-implementation-qt-risk-clinical-decision-support

Highlight: Natural Language Processing

- "Natural Language Processing To Identify and Rank Clinically Relevant Information for EHRs in the Emergency Department" (**R21**, Goss, University of Colorado-Denver)

- Used NLP and machine learning to automatically process, filter, and rank free-text information needed for a given patient's complaint

- Focused on **initial development and testing** of an AI-based tool for clinical decision making

https://digital.ahrq.gov/ahrq-funded-projects/natural-language-processing-identify-and-rank-clinically-relevant-information

AHRQ Investments in AI

- Over 60 funded projects
  - 46 completed projects
  - 18 active projects
- Domains of Research:
  - Engage and empower patients and caregivers
  - Optimizing care delivery for clinicians
  - Supporting health systems for care delivery

https://digital.ahrq.gov/ahrq-funded-projects/search?f%5B0%5D=technology%3A10437

Spotlight on AI

Improving Healthcare Through AHRQ's Digital Healthcare Research Program

2022 Year in Review

Research Spotlight

The Algorithm Is In: Is Adoption of Healthcare AI Outpacing Understanding?

Our Nation's strategy for better healthcare hinges on putting digital technologies to work.

Today's powerful tools make it easier to capture and share patient information, coordinate care, and streamline clinical workflows. However, these technologies also have created some unintended consequences. Health systems have massive data sets to manage, and providers face burdensome documentation requirements, voluminous charts to review, and overflowing inboxes.

As the healthcare industry looks for relief, artificial intelligence (AI) may offer solutions. AI-enabled systems can help humans perform key functions—diagnostics, decision support, administrative tasks—faster and, in some cases, with enhanced accuracy. At the same time, AI's risks warrant serious consideration.

As healthcare AI moves from promise to practice, we must mitigate its potential to exacerbate biases, privacy violations, access divides, and health inequities. We must also ensure that AI-enabled health technologies are safe for patients.

> To steer the healthcare industry toward a safe, effective rollout of AI technologies, we need rigorous research and evaluation.

Interest, Adoption, and a Window for Gathering Evidence

[The Algorithm Is In: Is Adoption of Healthcare AI Outpacing Understanding?](#)

Algorithms and Disparities

JAMA Network Open.

Special Communication | Health Informatics

Guiding Principles to Address the Impact of Algorithm Bias on Racial and Ethnic Disparities in Health and Health Care

Marshall H. Chin, MD, MPH; Nasim Afsar-Manesh, MD, MBA, MHM; Arlene S. Bierman, MD, MS; Christine Chang, MD, MPH; Caleb J. Co...
Prashila Dullabh, MD; Deborah Guadalupe Duran, PhD; Malika Fair, MD, MPH; Tina Hernandez-Boussard, PhD, MPH, MS; Maia Hightow...
Anjali Jain, MD; William B. Jordan, MD, MPH; Stephen Konya; Roslyn Holliday Moore, MS; Tamra Tyree Moore, JD; Richard Rodriguez, M...
Lynne Page Snyder, PhD, MPH; Mithuna Srinivasan, PhD; Craig A. Umscheid, MD, MS; Lucila Ohno-Machado, MD, PhD, MBA

https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2812958

https://effectivehealthcare.ahrq.gov/products/racial-disparities-health-healthcare/research

Comparative Effectiveness Review Number 268

Impact of Healthcare Algorithms on Racial and Ethnic Disparities in Health and Healthcare

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Digital Healthcare Equity Framework and Practical Guide

Evidence- and Consensus-Based
Digital Healthcare Equity Framework
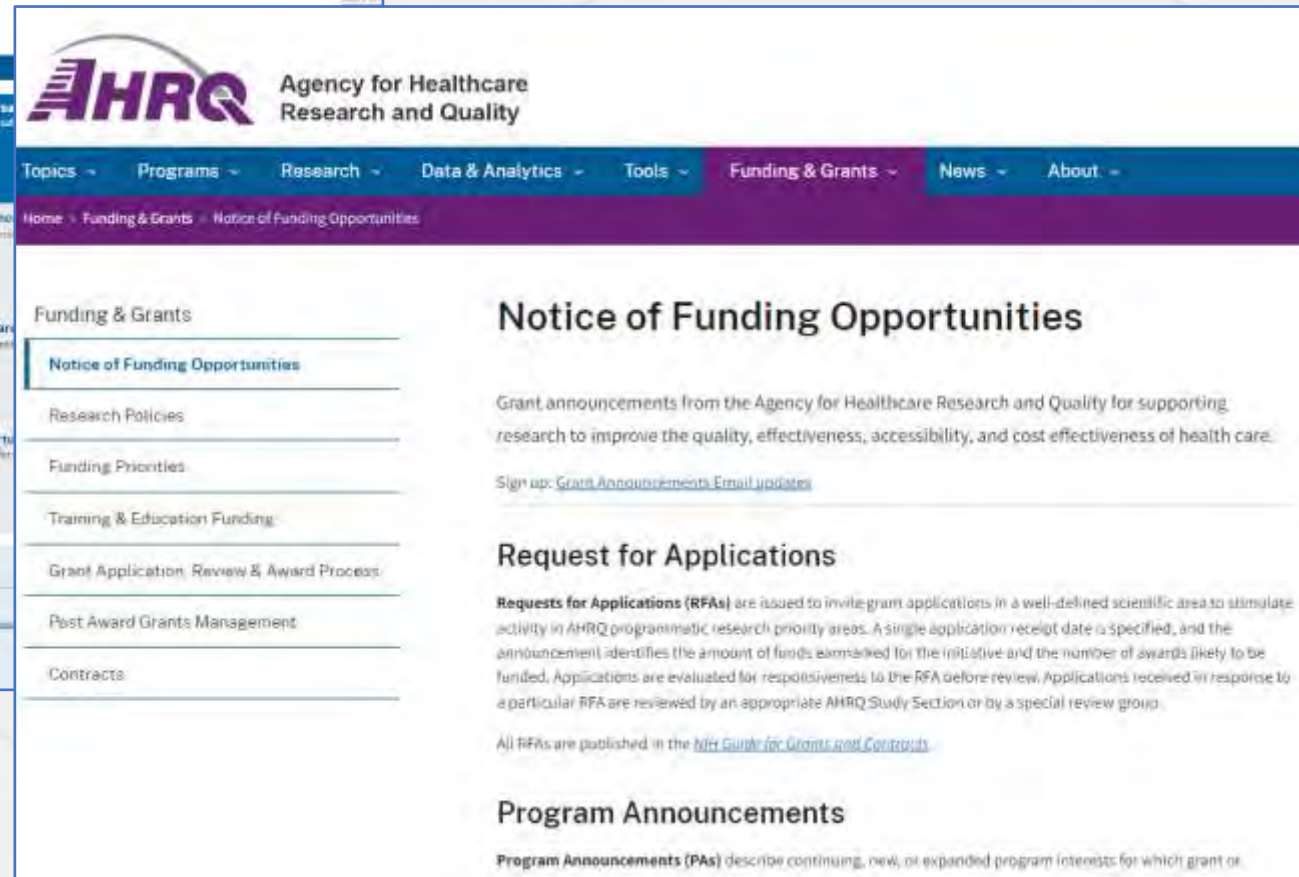A PRACTICAL GUIDE FOR IMPLEMENTATION

- Intended users
  - Digital healthcare developers and vendors
  - Health systems, health plans, and clinical providers

https://digital.ahrq.gov/health-it-tools-and-resources/digital-healthcare-equity/digital-healthcare-equity-framework-and-guide

AHRQ Funding

https://www.ahrq.gov/

https://www.ahrq.gov/funding/fund-opps/index.html

Notices of Funding Opportunities, Program Announcements, and Requests for Applications

Program Announcements

Program Announcements (PAs) describe continuing, new, or expanded program interests for which grant or cooperative agreement applications are invited. Applications in response to PAs are reviewed in the same manner as unsolicited grant applications (i.e., by peer review committees of the AHRQ Initial Review Group [IRG]).

All PAs are published in the *NIH Guide for Grants and Contracts*.

PA Number	Title
PA-24-205	Research to Advance the Science of Primary Care (R01)
PA-24-156	AHRQ Health Services Research Demonstration and Dissemination Grants (R18)
PA-24-155	AHRQ Small Health Services Research Grant Program (R03)
PA-24-154	AHRQ Health Services Research Projects (R01)
PA-24-093	Systems-Based Approaches to Improve Patient Safety by Improving Healthcare Worker Safety and Well-Being (R01 Clinical Trial Optional)
PA-23-291	AHRQ Understanding and Improving Diagnostic Safety in Ambulatory Care: Incidence and Contributing Factors (R01)

	Research Scientist Career Development Award (K01)
PA-22-048	Large Health Services Research Demonstration and Dissemination Projects for Combating Antibiotic-Resistant Bacteria (CARB) (R18) • Notice of Clarification • Notice of Change: Clarification
PA-22-047	Large Research Projects for Combating Antibiotic-Resistant Bacteria (CARB) (R01) • Notice of Clarification • Notice of Change: Modification of Application Review Information
PA-21-265	Large Research Projects for Prevention of Healthcare-Associated Infections (R01) • Notice of Clarification
PA-21-264	Large Health Services Research Demonstration and Dissemination Projects for Prevention of Healthcare-Associated Infections (R18) • Notice of Clarification
PA-21-164	Using Innovative Digital Healthcare Solutions to Improve Quality at the Point of Care (R21/R33 - Clinical Trial Optional)

https://www.ahrq.gov/funding/fund-opps/index.html

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Reaching Out with Questions

Department of Health and Human Services

Part 1. Overview Information

Participating Organization(s)	Agency for Healthcare Research and Quality (AHRQ)
	NOTE: The policies, guidelines, terms, and conditions stated in t... Where this Funding Opportunity Announcement (FOA) provides ... guidance provided in the grant application form, please follow th...
	Also note that AHRQ has different page limits than NIH for the a... each individual FOA.
Components of Participating Organizations	Agency for Healthcare Research and Quality (AHRQ) https://www...
Funding Opportunity Title	Using Innovative Digital Healthcare ... the Point of Care (R21/R33 - Clinica...
Activity Code	R21/R33 Phased Innovation Award
Announcement Type	New
Related Notices	April 08, 2024 – Notice of Intent to Publish a Funding Opportun... Solutions to Improve Quality at the Point of Care (R21/R33 – Cli...
	NOT-OD-23-012 Reminder: FORMS-H Grant Application Forms ... January 25, 2023 - New Grant Application Instructions Now Ava...
	NOT-OD-22-190 - Adjustments to NIH and AHRQ Grant Applicat... 2022
	October 28, 2021 - Reminder: FORMS-G Grant Application For... January 25, 2022 - New Grant Application Instructions Now Ava...
	August 5, 2021 - New NIH "FORMS-G" Grant Application Form...

Section VII. Agency Contacts

We encourage inquiries concerning this funding opportunity and welcome the opportunity to answer questions from potential applicants.

Application Submission Contacts

eRA Service Desk (Questions regarding ASSIST, eRA Commons, application errors and warnings, documenting system problems that th... submission issues)

Finding Help Online: http://grants.nih.gov/support/ (preferred method of contact)
Telephone: 301-402-7469 or 866-504-9552 (Toll Free)

Grants.gov Customer Support (Questions regarding Grants.gov registration and Workspace)
Contact Center Telephone: 800-518-4726
Email: support@grants.gov

Grants Info (Questions regarding application instructions and process, finding NIH grant resources)
Email: GrantsInfo@nih.gov (preferred method of contact)
Telephone: 301-480-7075

Scientific/Research Contact(s)

Agency for Healthcare Research and Quality
Center for Evidence and Practice Improvement (CEPI)
Division of Health Information Technology
Telephone: 3301-427-1505
Email: DigitalHealthcareResearch@ahrq.hhs.gov (preferred method of contact)

Peer Review Contact(s)

Boris Aponte
Agency for Healthcare Research and Quality
Office of Extramural Research, Education and Priority Populations
Division of Scientific Review
Telephone: 301-427-1396
Email: Boris.Aponte@AHRQ.hhs.gov

Examine your eRA Commons account for review assignment and contact information (information appears two weeks after the submissi...

Financial/Grants Management Contact(s)

Brian Campbell
Agency for Healthcare Research and Quality

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Special Emphasis Notices

- Particular areas of study in which AHRQ would like to see applications
  - Not necessarily tied to any specific funding announcement

- Examples
  - Advancing health and healthcare equity
  - Patient-reported outcomes and patient contextual data to improve quality and outcomes in ambulatory care through health information technology
  - Digital healthcare safety

https://www.ahrq.gov/funding/priorities-contacts/special-emphasis-notices/index.html

Notice of Intent: AI and Patient Safety

- Examining the Impact of Artificial Intelligence (AI) on Healthcare Safety (R18)

- Research that supports healthcare safety by determining:
  - Whether and how certain breakthrough AI systems can affect patient safety
    - Significant advance, development, or achievement that removes a hazard or barrier to progress in healthcare processes
  - How AI systems can be safely implemented and used
    - Workflow integration, usability, human-computer teaming, and governance

https://grants.nih.gov/grants/guide/notice-files/NOT-HS-24-014.html

Questions?

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