

AHRQ Digital Healthcare Research Program

AT A GLANCE 2023



Our Purpose

AHRQ's Digital Healthcare Research (DHR) program's mission is to determine how the various components of the ever-evolving digital healthcare ecosystem can best come together to positively affect healthcare delivery and create value for patients and their families.

Our vision is that every patient and care team will have ready access to all applicable data and knowledge, mediated by advanced analytics and understandable visualizations, to address a patient's health and healthcare.

Our Focus

The DHR program funds research that demonstrates how digital healthcare solutions can be designed and implemented to improve healthcare system performance and patient health outcomes. In 2023, AHRQ-funded studies and projects focused on digital technologies that engage and empower patients and optimize and advance care delivery—with an emphasis on improving digital healthcare equity, exploring artificial intelligence and scaling evidence-based practice.

Our Impact

The DHR program funds research that demonstrates how digital healthcare solutions can be designed and implemented to improve healthcare system performance and patient health outcomes. In 2023, AHRQ invested \$30 million, including:

- > \$14 million in funding from DHR appropriation;
- > \$15 million in funding from the Patient-Centered Outcomes Research Trust Fund; and
- > \$1 million in funding from General Health Services Research appropriation.

The [Improving Healthcare Through AHRQ's Digital Healthcare Research Program 2023 Year in Review](#) highlights 16 research stories that capture the breadth and depth of our efforts to advance digital healthcare technologies to meet the evolving needs of patients, clinicians, and health systems.

Research Themes for 2023



Engaging and
Empowering
Patients



Optimizing
Care Delivery
for Clinicians



Supporting Health
Systems in Advancing
Care Delivery

In 2023, the DHR
program supported:



107

GRANTS AND RESEARCH
CONTRACTS AT



70

INSTITUTIONS IN

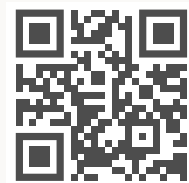


25

STATES AND THE
DISTRICT OF COLUMBIA
WITH A

\$30

MILLION TOTAL
INVESTMENT



LEARN MORE ONLINE AT
digital.ahrq.gov

RESEARCH THEME

Engaging and Empowering Patients

Story Title	Impact Statement	Principal Investigator(s)	Type
Studying the Accuracy of Symptom-Checker App in Diagnosing Strokes in a Real World Setting Research Investment: \$1,812,513	Rigorously evaluating a popular, patient-facing symptom-checker app will improve understanding around app safety, accuracy, and ability to prompt patients to seek care.	Hamish S.F. Fraser <i>Brown University</i>	Emerging
Connecting NICU Parents with Mental Health Support via a Mobile App Research Investment: \$1,005,115	A novel mobile application may improve NICU parents' mental health by providing screening and connecting parents with customized referrals and resources.	Pamela A. Geller <i>Drexel University</i>	Emerging
Advancing Patient-Centered Clinical Decision Support Research Investment: \$3,464,447	Working closely with patients to design and implement clinical decision support is important. The uptake of evidence into clinical practice depends on trust, interoperability, and awareness of patient preferences and goals.	Prashila Dullabh <i>NORC at the University of Chicago</i>	Completed
ASTHMAXcel Voice Mobile Application to Improve Chronic Disease Management and Patient Outcomes Research Investment: \$1,021,893	A mobile app that uses voice biomarkers to assess asthma symptoms has the potential to improve self-management, shared decision making, and health outcomes for people with asthma.	Jonathan M. Feldman and Sunit Jariwala <i>Albert Einstein College of Medicine</i>	Emerging

RESEARCH THEME

Optimizing Care Delivery for Clinicians

Story Title	Impact Statement	Principal Investigator(s)	Type
Improving Safety in Postoperative Handoff Communication with Telemedicine and Machine Learning Research Investment: \$1,996,227	Implementing a postoperative handoff intervention augmented with telemedicine and machine learning technologies will promote effective and efficient communication, foster interdisciplinary collaborative team workflows, and ultimately, improve patient care and safety during care transitions.	Joanna Abraham <i>Washington University</i>	Emerging
An App to Help Rural Paramedics Improve Timeliness to Deliver Life-Saving Care for Patients Experiencing Heart Attacks Research Investment: \$1,015,840	Developing and implementing a point-of-care clinical decision support mobile application for paramedics in rural areas has the potential to improve timeliness to deliver life saving care and outcomes for patients experiencing a heart attack.	Jason P. Stopyra and John D. Manning <i>Wake Forest University Health Sciences</i>	Emerging
Use of EHR-Embedded Tools To Improve Screening for Intimate Partner Violence Research Investment: \$1,269,089	An intervention with new tools and formalized procedures to screen for intimate partner violence greatly increased the number of patients identified as experiencing or at risk for experiencing domestic violence.	Leslie A. Lenert and Alyssa Ann Rheingold <i>Medical University of South Carolina</i>	Completed
Creating Meaningful Decision Support to Reduce Drug-Drug Interactions Research Investment: \$1,549,585	By individualizing drug-drug interaction alerts to individual patient circumstances, providers can deliver more tailored care for patients at risk for harm.	Daniel C. Malone <i>University of Utah</i>	Completed
App Assists Patients Decide if In-Home Hospital-Level Care is Right for Them Research Investment: \$284,986	A web-based application that incorporates patient and caregiver preferences helps patients evaluate whether they can safely receive hospital-level care at home.	Marc Kowalkowski and Andrew D. McWilliams <i>Carolinas Medical Center</i>	Completed
Using Machine Learning for Military Service Members and Veterans at Risk for Suicide Research Investment: \$98,820	The use of a risk-prediction tool for both suicide ideation and suicide attempt has the potential to allow for more timely interventions among military service members and veterans.	Chung-Yi Chiu and Xiaotian Gao <i>University of Illinois Urbana-Champaign</i>	Emerging
Integrating the Patient Voice in Patient-Reported Health Outcomes Research Investment: \$1,921,280	Changing the focus of patient reported outcomes to be centered on a patient's individual goals and preferences has the potential to improve care.	Leif Solberg <i>HealthPartners Institute</i>	Completed

RESEARCH THEME

Supporting Health Systems in Advancing Care Delivery

Story Title	Impact Statement	Principal Investigator(s)	Type
<p>Machine Learning to Improve Patient Triage in the Emergency Department</p> <p>Research Investment: \$1,952,312</p>	<p>The use of an emergency department triage tool informed by machine learning has the potential to improve predictions around patient health severity, leading to safer, higher quality, and more equitable care.</p>	<p>Dana Sax <i>Kaiser Foundation Hospitals</i></p>	Emerging
<p>Improving Access to Care with Telehealth Psychiatry Visits for Children with Special Healthcare Needs</p> <p>Research Investment: \$1,955,504</p>	<p>Hybrid models of care can expand access to pediatric psychiatry care for children with cerebral palsy and other special healthcare needs in rural communities and areas where specialty providers are scarce.</p>	<p>James Marcin <i>University of California, Davis</i></p>	Completed
<p>Advancing Public Health with Interoperable Data Exchange</p> <p>Research Investment: \$99,606</p>	<p>Facilitating data exchange between public health and clinical care information systems leads to efficiencies in vaccination data access and staff effort, resulting in cost savings, improved data-informed decision making, and better surveillance of vaccine-preventable diseases.</p>	<p>Sripriya Rajamani <i>University of Minnesota</i></p>	Completed
<p>Scaling and Dissemination of an Effective Clinical Decision Support Tool for Pneumonia</p> <p>Research Investment: \$2,991,061</p>	<p>Development of an interoperable version of an effective pneumonia clinical decision support tool has potential to help healthcare systems overcome barriers to sharing impactful and evidence-based decision support tools.</p>	<p>Nathan C. Dean, Curtis P. Langlotz and Michael J. Ward <i>IHC Health Services, Inc</i></p>	Emerging
<p>Displaying Patient Photos in Medical Records Reduces Errors, Improves Patient Safety</p> <p>Research Investment: \$1,577,033</p>	<p>Patient photos displayed in the electronic health record significantly reduce wrong-patient order errors and improve patient safety.</p>	<p>Jason Adelman <i>Columbia University Health Sciences</i></p>	Completed