

AHRQ Digital Healthcare Research Program

AT A GLANCE 2021

Our Purpose

The AHRQ Digital Healthcare Research Program (DHR) funds research that informs and drives the transformation of digital healthcare. Our studies deliver actionable findings to define how technologies work best for patients, clinicians, and health systems. Our goal, always, is to improve healthcare quality and safety.

Our Focus

In 2021, AHRQ-funded studies focused on technologies that engage and empower patients, and optimize and advance care delivery—with an emphasis on using patient-reported data to support patient-centeredness and improve care decisions.

Our Impact

AHRQ has invested \$158 million among the projects that were active during 2021, comprising funding that spans FY2015 to 2026 for research of varying timeframes. Those 113 ongoing projects have resulted in significant impacts and progress on behalf of the American public. In 2021, AHRQ committed \$30 million of that total, including:

- \$14.4 million in funding from DHR appropriation.
- \$11 million in funding from the Patient-Centered Outcomes Research Trust Fund.
- \$4.6 million in funding from General Health Services Research appropriation.

The [Improving Healthcare Through AHRQ's Digital Healthcare Research Program 2021 Year in Review](#) highlights 18 research stories. Completed research stories amplify and demonstrate the impact of AHRQ investments. Emerging research stories highlight new and innovative projects that address important AHRQ priority areas, such as advancing health equity or improving care during patient transitions.

Key Research Themes



Engaging and Empowering Patients



Optimizing Care Delivery for Clinicians



Supporting Health Systems in Advancing Care Delivery

In 2021, the DHR program supported:



104

GRANTS AND

9

RESEARCH CONTRACTS AT



64

INSTITUTIONS IN



23

STATES AND THE DISTRICT OF COLUMBIA WITH A

\$30

MILLION TOTAL INVESTMENT





Engaging and Empowering Patients

Story Title	Impact Statement	Principal Investigator(s)	Research Type
<p>The Clinical Decision Support Innovation Collaborative: Including the Patient's Voice in Care</p> <p>Research Investment: \$14,478,819</p>	<p>The Clinical Decision Support Innovation Collaborative will integrate perspectives from diverse stakeholders to produce resources and evidence to make clinical decision support more valuable and meaningful to patients, clinicians, and healthcare systems.</p>	<p>Prashila Dullabh, National Opinion Research Center at the University of Chicago</p>	<p>Emerging</p>
<p>Identifying Patients With High Need During Care Transitions to Improve Care and Meet Social Needs</p> <p>Research Investment: \$1,950,923</p>	<p>Using health information exchange to identify high-need patients during care transitions can facilitate cross-sector communication, improve care continuity, and reduce rehospitalizations and other acute care.</p>	<p>Sharon Hewner, State University of New York at Buffalo</p>	<p>Emerging</p>
<p>Breathing Easy: Virtual Medication Education for Patients With Chronic Obstructive Pulmonary Disease</p> <p>Research Investment: \$1,999,997</p>	<p>Virtual visits with members of a pharmacy team can support patients recently discharged from the hospital with their medication use and improve outcomes among chronic obstructive pulmonary disease patients at high risk for readmission.</p>	<p>Valerie Press, Joanna Abraham, and Vineet Arora, University of Chicago</p>	<p>Emerging</p>
<p>Opening a Window to Depression</p> <p>Research Investment: \$1,170,087</p>	<p>Many people with depression who do not have upcoming medical appointments go undiagnosed. An online questionnaire can help get them into treatment.</p>	<p>Neda Laiteerapong, University of Chicago</p>	<p>Completed</p>
<p>Hanging Out With CoolCraig: Self-Regulation for Youth With Attention Deficit Hyperactivity Disorder</p> <p>Research Investment: \$378,705</p>	<p>A wearable digital healthcare intervention to promote self-regulation among children with attention deficit hyperactivity disorder and their parents is a promising method to support adherence to treatment.</p>	<p>Kimberley Lakes, University of California Riverside</p>	<p>Completed</p>



Optimizing Care Delivery for Clinicians

Story Title	Impact Statement	Principal Investigator(s)	Research Type
Patient-Facing Clinical Decision Support to Improve Blood Pressure Research Investment: \$938,621	Translating hypertension guidelines into a patient-facing clinical decision support tool can engage patients in blood pressure management.	David Dorr, Oregon Health and Science University	Completed
Sharing the Decision, Sharing the Data: Interoperable Clinical Decision Support Tool for Chronic Pain Management Research Investment: \$2,952,700	The tailored and scaled implementation and evaluation of AHRQ's interoperable clinical decision support tools, MyPAIN and PainManager, have the potential to expand upon the shared decision-making processes used in chronic pain management to improve patient care and obtain optimal patient outcomes.	Christopher Harle and Ramzi Salloum, University of Florida	Emerging
Improving Electronic Health Record Usability for Patient Safety Research Investment: \$1,224,973	Analysis of patient safety event reports showed an association between electronic health record (EHR) usability and patient safety in both adults and children and led to development of an EHR assessment tool that healthcare facilities can use to identify usability and safety issues.	Raj Ratwani, MedStar Health Research Institute	Completed
Choosing What Clinicians See in an Electronic Health Record Can Reduce Cognitive Burden and Improve Decision Making Research Investment: \$965,791	Giving clinicians the ability to customize the patient electronic health record display reduces cognitive burden, saves time, and supports decision making in busy clinical environments.	Yalini Senathirajah, University of Pittsburgh	Completed
Designing Digital Healthcare Technology to Support Cognitive Team Work in Pediatric Trauma Settings Research Investment: \$2,493,921	Simple and informative graphic displays in emergency department trauma bays can streamline and expedite information sharing across caregiver roles to improve patient care and safety.	Ayse Gurses, Johns Hopkins University	Completed
Understanding Hospitals' Resilience and Reponse to the COVID-19 Pandemic Research Investment: \$894,961	Pandemics put extraordinary demands on healthcare capacity and studying hospital resilience can increase our preparedness for future pandemics.	David Kaufman and Yalini Senathirajah, SUNY Downstate Medical Center	Emerging
Visual Learning: Displaying the Data for Hypertension Management Research Investment: \$2,230,821	A clinical decision support tool helps patients and physicians use at-home measured blood pressure data to better understand hypertension control and inform shared treatment decisions.	Richelle Koopman, University of Missouri at Columbia	Completed
Digital Tools to Support Care Coordination for People With Depression Research Investment: \$1,852,918	Adaptation of a digital mental health intervention has the potential to improve the coordination of and access to mental health services in ambulatory care settings.	Emily Lattie, Northwestern University	Emerging
Predictive Modeling to Improve Screening and Referral for Unmet Need Research Investment: \$1,967,217	Using predictive modeling and clinical decision support tools to identify people with unmet social needs has the potential to increase referrals to social services.	Joshua Vest, Indiana University-Purdue University at Indianapolis	Emerging



Supporting Health Systems in Advancing Care Delivery

Story Title	Impact Statement	Principal Investigator(s)	Type
Virtual Pharmacy Improves Medication Use and Patient Safety in Palliative Care Research Investment: \$300,000	Including virtual pharmacists in palliative care teams can reduce adverse drug interactions and increase the quality of life for people who are very ill.	Janet Bull, Four Seasons	Completed
The Telehealth Transition and Improving Health Systems Research Investment: \$999,845	Evaluation of the rapid transition to telehealth due to the COVID-19 pandemic will inform patient care post-COVID-19 to ensure equal access and high-quality care.	Kit Simpson and Jillian Harvey, Medical University of South Carolina	Emerging
Development of a Digital Healthcare Equity Framework Research Investment: \$292,314	A framework and guide to help creators and users of healthcare solutions that involve digital technologies ensure that their solutions are equitable.	Elham Hatef and Matthew Austin, Johns Hopkins University	Emerging
Guidelines for Meaningful and Effective Electronic Patient-Reported Outcomes Use in Clinical Settings Research Investment: \$2,445,560	Governance, integration, and reporting are key systems-level principles that support incorporation of electronic patient-reported outcomes into clinical practice.	Danielle Lavalley, University of Washington	Completed

