

Patient-Centered Research and Technologies



New technologies offer greater opportunities for patients to participate directly in their own care. RTI International is researching and developing patient-centered technologies that improve health outcomes, access to health resources, and affordability. RTI's multidisciplinary teams are working at the cutting edge of research to leverage the power of mobile health applications, interactive web communities, decision support tools, and communication tools to improve healthcare delivery. We use techniques ranging from user-centered design to complex evaluation methodologies to advance individual health and health care.

Overview

Technology can transform the way that patients and caregivers manage health information, coordinate health activities, and engage with care providers. RTI researchers use cutting-edge approaches and innovative technologies to improve the way health data are accessed and managed, offer actionable reminders and interactive tools to patients, and address complex challenges such as data interoperability and the combined use of clinical and administrative data for analysis and decision support. We advance the use of real-time and retrospective patient data to provide high-value applications and interventions for users, both in the United States and internationally.

RTI's research-based design process has led to innovations in personal health record (PHR) applications, mobile technologies, remote monitoring methods, and social media tools. As patient-centered research and technologies rapidly advance, RTI's experience in basic and applied health and health IT research positions us well to meet client needs and provide new tools for patients and families to better understand and manage care.

Areas of Expertise

RTI offers an extensive set of tools and methods to study patient-centered technologies. RTI scientists have broad experience with a wide range of technology-focused interventions in applied settings, from Web-based virtual reality applications to health care decision-support tools for patients and professionals. We offer research expertise that leverages the concepts of Health 2.0 tools such as blogs, podcasts, tagging, search, and wikis. These approaches, along with user-generated content and open source principles, have shown promise in areas such as personalizing health care, patient-provider collaboration, and health education promotion.

RTI has developed novel applications for patients and providers using mobile platforms, including Android and iPhone. An RTI-developed system for generating and managing research-related text messages for mobile phones has been used to support health behavior change in the areas of disease prevention, risk reduction, and chronic disease management.

In addition to research and development, RTI scientists are skilled in research collaboration and dissemination of tools, results, and lessons learned. We routinely collaborate across fields of study, offering comprehensive, multidisciplinary methodologies and unique capabilities to support all aspects of research, development, and evaluation of patient-centered technologies. Our researchers have the skills and experience to transfer knowledge—using emerging technologies as well as traditional forms of information-sharing—to key stakeholders including health care providers, consumers, researchers, and academicians.

Project Highlights

Under an Agency for Healthcare Research and Quality contract, RTI conducted a trial to evaluate the use of text messaging to facilitate health behavior change among people living with HIV. RTI developed, implemented, and pilot tested an intervention with the aim of improving health care quality and outcomes among HIV-positive patients treated in an ambulatory care setting. Study participants received tailored text messages based on their prescribed medications and appointment adherence reminders, risk reduction messages, social support, general health and wellness recommendations, and patient activation prompts. RTI assessed patient satisfaction, targeted knowledge, attitudes, beliefs, intentions and behaviors, and health care quality during the pilot implementation to determine its feasibility in other ambulatory care settings.

As part of the Robert Wood Johnson Foundation's Project HealthDesign, our team developed a PHR application to help sedentary adults become more physically active using a highly tailored intervention to support physical activity behavior change. A multidisciplinary research team at RTI conducted this work in partnership with the Cooper Institute, a Texas-based leader in research on physical activity. As the only Round 1 grantee for Project HealthDesign chosen to lead a Round 2 project, RTI also developed a smartphone-based PHR for adults living with asthma to better manage their condition and share information about their health status with their clinicians, enabling a disease management approach.

Under a grant with the National Institute of Child Health and Human Development, RTI is exploring how individuals with Fragile X Syndrome (FXS) and their parents can be involved in decisions about research participation. New treatments and the possibility of side effects and the potential for significant changes in behavior and ability elevate the importance of obtaining meaningful consent. However, little is known about the extent to which individuals with FXS can be or are involved in decisions about research participation. This research team is characterizing and explaining individual differences in decisional capacity in people with FXS, applying this knowledge to the design and development of a tablet-based decision aid, and evaluating the effect of using the application on participation in the consent process for a hypothetical clinical trial.

RTI also works on several projects to help individuals modify health behaviors, including tobacco cessation, and to improve access to sexual and reproductive health information. Domestically, RTI has developed campaigns to increase smoking cessation among individuals with HIV and Native American youth. Internationally, RTI is testing the acceptance and feasibility of an integrated text messaging campaign to improve access to sexual and reproductive health information and services for youth in Indonesia.

We worked with the U.S. Centers for Disease Control and Prevention to develop and pilot test Positive Health Check, a digital health web-based video counseling intervention that aims to improve clinical health outcomes among people living with HIV. Using a format that is relatively low-cost for clinics and enables rapid content updates, Positive Health Check delivers prevention messages and behavior-change tips that are tailored to the individual.

More Information

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