Health-e-Access Telemedicine Program
University of Rochester Medical Center

Year the Initiative Began:
2001

Program Description:

The Health-e-Access (HeA) telemedicine model is a patient-to-primary-care-provider (PCP), community-wide, Internet-based, network approach to patient care. Core attributes of the model follow from the HeA mission: *to enable health care when and where you need it by providers you know and trust.*

Patient-to-PCP. The patient-centered primary care medical home (PCMH) integration promotes trust among patients and caretakers and enhances both effectiveness and efficiency of care. Trust is all the more salient when introducing parents to an unfamiliar approach to the care of their children. PCMH takes advantage of established relationships with providers and staff, ensures availability of a complete medical record, creates opportunities for using acute care visits to deliver health maintenance services (e.g., immunizations, lead screening), reduces unnecessary testing, increases patient and provider satisfaction, and promotes efficient follow-up. Emergency departments (EDs), urgent care centers, and retail clinics commonly instruct patients to schedule a follow-up visit with their PCP; whereas, in most of these situations, a follow-up telephone call would suffice within the PCMH.

"Community-Wideness." Optimal access for children (*when and where you need it*) means access near home or at a home away from home. The latter may include child care, schools, and child development centers. Near-home access has been offered at family service agencies located in city neighborhoods. Efficiency considerations require service in central locations either frequented or conveniently accessible to many children. Efficiency also requires that infrastructure components—both technology and personnel—serve the entire community regardless of the patient's provider organization, accountable care organization, or payer affiliation. Convenient sites for families serve children who have a range of these affiliations. One cannot gain the benefits of the patient-to-PCP approach without embracing community-wideness; efficiency requires that the HeA infrastructure be operated as a community resource.

Internet-Based Telemedicine. The ubiquity and efficiency of Internet access enables the secure exchange of clinical information (encompassing high resolution images, video clips, auscultation sounds, videoconferencing) at any distance. Information exchange may occur either synchronously (real-time interactive) or asynchronously (store-and-forward), reducing time constraints for all participants.

Electronic medical record (EMR) interoperability is also a requirement for the telemedicine technology solution to achieve community-wideness. Because EMRs have come to dominate both clinical care (provider documentation, patient portals, visit summaries for patients) and clinical administration (reporting on medical home criteria, billing, quality assurance) providers are increasingly pressed to do all their documentation in one EMR. Five different EMRs are

used by the Rochester area primary care practices that serve a substantial portion of the city's children; if all children are to be served within the PCMH and the benefits of Ppatient-to-PCP care are to be gained, telemedicine access must be "EMR-neutral."

Key Lessons Learned:
The HeA model serves all key stakeholders in care of children who experience symptoms of acute illness—parents, providers, provider organizations, and payers.

For parents, HeA equals or exceeds the ready availability and convenience of alternatives such as retail-based clinics or the ED. In addition, HeA enables care within the trusted PCMH.

For providers, HeA allows practice growth without expanding office space. For providers "on call," HeA allows delivery of office-equivalent care at any time from their own home.

For provider organizations, HeA allows ready access within the PCMH through low-cost infrastructure, and it avoids loss of revenue to care sites outside the medical home.

For payers, HeA reduces use of much more expensive resources for non-emergency problems, such as the ED. With the advent of accountable care organizations and capitation financing, provider organizations will be increasingly incentivized to adopt effective, low-cost acute care alternatives such as HeA.

Extensions of this approach to primary care for children with chronic problems and for older adults with acute problems dwelling in senior living communities are sensible. Substantial piloting of these extensions suggest that they, too, will prove effective and efficient.

Outcomes:

- Since initiation in 2001, more than 13,000 telemedicine visits have been completed by 70 different providers from ten primary care practices. These telemedicine visits served children at the following access sites: child care, school, child development centers, and neighborhood family service agencies.
- Among inner city child care centers using telemedicine, child absence due to illness dropped 63%.
- Children with telemedicine access from child care or elementary school made 22% fewer ED visits than closely matched counterparts, and, among children with severe disabilities who attend a child development center, ED visits dropped 50% after HeA telemedicine access became available.
- For visits by children with a participating primary care practice, continuity within the PCMH has averaged 83%.

Published Research:

McConnochie KM, Wood NE, Kitzman HJ, Herendeen NE, Roy J, Roghmann KJ. Telemedicine reduces absences due to illness in urban childcare: Evaluation of an innovation. Pediatrics 2005; 115: 1273-1282

McConnochie KM, Wood N, Herendeen N, ten Hoopen CB, Roghmann KJ. Telemedicine in urban and suburban childcare and elementary schools lightens family burdens. Telemedicine and e-Health 2009; 16:533-542

McConnochie KM, Wood N, Herendeen N, ten Hoopen CB, Denk L, Neuderfer J. Integrating telemedicine in urban pediatric primary care: Provider perspectives and performance. Telemedicine and e-Health 2009;16:280-288

McConnochie KM, Wood NE, Herendeen NE, Ng P, Noyes K, Wang H, Roghmann KJ. Acute illness care patterns change with use of telemedicine. Pediatrics 2009;123: e989-e995
Ronis S, Wang H, Wood N, Herendeen N, Ng P, McConnochie K. Access to telemedicine and acute illness patterns among children with special needs (CSN). Platform presentation at Pediatric Academic Societies Meeting, May 2013.

McConnochie KM, Conners GP, Brayer AF, Goepp J, Herendeen NE, Wood NE, Thomas A, Ahn DS, Roghmann KJ. Effectiveness of telemedicine in replacing in-person evaluation for acute childhood illness in office settings. Telemedicine and e-Health. 2006; 12: 308-316

McConnochie KM, Feng Qian J, Noyes K, Wood NE, Roghmann KJ. Potential to Reduce Healthcare Costs by Replacing Emergency Department with Telemedicine Visits. Platform Presentation, Pediatric Academic Societies' Annual Meeting, May 2008, Honolulu.

Media Presentations:

Discovery Channel. Health I.T. – Advancing Care, Empowering Patients. Part IV. Video, November 2011.
http://link.brightcove.com/services/player/bcpid1280283152001?bclid=1281423284001&bctid=1281658134001 (Last accessed September 13, 2013)

Agency for Healthcare Research and Quality. Remote Visits by Pediatricians for Sick Children at Inner-City and Other Child Care Centers/Schools Reduce Absences and Emergency Department Use. Video and text, 2010. http://www.innovations.ahrq.gov/content.aspx?id=2084 (Last accessed September 13, 2013)

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