



IxResearch Briefing: December 2006

Ix Can Improve Asthma Outcomes When Implemented in an ED Setting

Objective:

To attempt to improve health outcomes in a pediatric asthma population by engaging patients and families with information therapy during an emergency department (ED) encounter.

Background:

Despite the high costs incurred by using the ED, asthmatic children from an urban, minority and disadvantaged background disproportionately utilize the ED as their primary source for asthma care. The intervention in this prospective, randomized clinical study involved a single follow-up consultation (60-90 minutes) with an asthma educator and physician on site at the ED, 2-15 days after an ED admittance. The intervention focused on:

- Asthma self-monitoring and management
 - Background on asthma basics
 - Completion of a customized action plan
 - Prescription and explanation of medication/devices
- Educating families on environmental modification and trigger control
- Linkages and referrals to ongoing primary care.

Findings:

- Significantly more patients in the intervention group adhered to their action plan, properly used their prescribed medications, and altered their environment by not smoking in the house and using bed casings.
- Over a 6-month interval following the intervention, patients in the intervention group had significantly less unscheduled visits (both ED and other visits), though there were no differences in the amount of instances of hospital admissions or scheduled PCP visits.
- Those in the intervention group were significantly healthier and had a better quality of life in the first month after the intervention, including improvements in diurnal/nocturnal symptoms and in sleep disturbance, in addition to experiencing a reduction in persistent asthmatic symptoms. After six months, diminished but still significant benefits in QOL remained.

Ix Implications:

- Acute, episodic ED visits can be leveraged as “teachable moments” for the delivery of information therapy. Physician consultations at these moments, coupled with a single follow-up consultation arranged at the ED, patients, who have traditionally been difficult to engage, are more likely to become involved in their health care which can lead to numerous health benefits. Among those benefits are improvements in health and quality of life, an increase in treatment adherence, and reductions in health care utilization.
- When delivered through a familiar health delivery setting, comprehensive Ix efforts can be successful when they address a patient’s environment, medical care, care coordination, and are highly family- and patient-centered.

Citation:

Teach, S, et. al. Improved Asthma Outcomes in a High-Morbidity Pediatric Population. *Archives of Pediatric & Adolescent Medicine* 2006;160:535-541.

For more information, please visit www.impact-dc.org.

Web-Based Information Therapy Solutions for Improving Pediatric Care

Objective:

This randomized, controlled study evaluated the effect of a Web-based intervention (MyHealthyChild) coupled with physician notification on office-visit discussion of pediatric topics and parental implementation of pediatric preventive practices.

Background:

MyHealthyChild included both pediatric health content for parents and a feature for physician notification. The interactive content was presented in stages and included information on the following topics: smoking cessation, smoke detector usage, car seat use, hot water heater temperature, TB screening, Head Start, developmental and behavioral screening, ADHD screening, bike helmets, television viewing, firearm storage, influenza vaccination, and SIDS. The physician notification feature alerted physicians of what items the subjects had selected from the list of customized topics.

Parents who had a child under the age of 11 were randomly assigned to one of four groups; (1) to receive Web content and have physician notification, (2) just receive Web content, (3) just have physician notification, or (4) usual care. A telephone follow up was conducted to query parents two to four weeks post-visit on what topics were discussed with their physician and whether they had implemented any of the targeted prevention/health promotion behaviors.

Findings:

- In total, 93% of the parents consulted MyHealthyChild prior to the office visit.
- Of the physicians who had access to the notification feature, 46% of them consulted this prior to the office visit to identify which topics the patients had researched.
- Parents who had the physician notification feature discussed 8-9% more prevention topics with their provider than those without this feature.
- Parents who received health information implemented between 5-7% more preventive measures than those who did not receive such information.

Ix Implications:

- Ix innovations that notify pediatricians of a parent/child's needs prior to an office visit can be an effective way to frame discussions with physicians during the office visit since they offer insight into a patient's most pressing concerns.
- Pre-visit prep that focuses on preventive measures for pediatric care can be an effective way to not only educate parents, but can lead to a higher likelihood of parents implementing preventive pediatric measures.
- Web-based interventions offer a low-cost, effective way to influence parental behavior change around pediatric health issues.
- Web-based content that is delivered directly to patients is a more efficient way to educate patients than relying on physician communication alone, since Web-based content can be easily managed and updated.

Citation:

Christakis et al. Improving Pediatric Prevention via the Internet: A Randomized, Controlled Trial *Pediatrics* 2006 118 (3), p. 1157.

Consumers' Criteria for Information Therapy Innovations

Objective:

This qualitative study sought to determine the criteria consumers use in evaluating the usefulness of interactive health communication applications (IHCA) in managing long-term conditions.

Background:

Forty patients with long-term conditions, recruited from ethnically and socio-economically diverse areas of the United Kingdom, were divided into ten focus groups. Each participant used three different computer-based IHCA that were relevant to their conditions. The merits and drawbacks of each IHCA were discussed in 90-minute focus group sessions.

Findings: Participants noted the following strengths and weaknesses of the IHCA

Information Content

- Participants identified information content as the most important part of an IHCA.
- Participants wanted to have control over managing what information was presented to them so that it was appropriate to their level of information need. While newly diagnosed patients may initially only want basic information, more experienced patients want IHCA to be able to provide highly in-depth content, with a particular focus on practical information and new developments in the field.
- Regarding the degree of a finding's scientific certainty, some participants preferred a minimum threshold of certainty in order for a finding to be included on an IHCA, whereas others wanted a disclaimer about the strength of the evidence to be presented.
- Consumers were highly critical of IHCA that did not update their information.

Presentation

- Participants valued IHCA that were comprehensive, easy to navigate, provided easy access to information and didn't send them off-site.
- Patients regarded visual appearance of an IHCA to be important for aesthetics and usability.
- While participants disliked medical jargon, providing an explanation of technical terms was seen as an appropriate way to convey necessary information.
- Participants did not like having to log in to IHCA due to privacy concerns and it being a confusing and time-consuming process.

Interactive Components

- All participants valued some level of interactivity, but differed in the matter of degree.
- Some participants greatly appreciated self-assessment tools that offered customized information that could be tailored since it provided for a high level of personalized advice.
- Others were concerned about interactive features since they worried that if they accidentally inserted incorrect information, they could trigger inappropriate information.
- Most participants appreciated having online peer support and discussion groups since they offered support and practical information in a non-judgmental way.

Trustworthiness

- Participants wanted to be able to quickly evaluate the credibility of the IHCA's authors without having to search through the "about us" section.
- Participants were suspicious of IHCA that had advertisements and commercial sponsors.

Ix Implications:

- IHCA will best meet consumer demand if they allow users to control what information they access so that they can retrieve specific information at an appropriate level of detail.

- Consumers have a strong desire for practical information that addresses issues of living with their long-term condition, particularly if that information comes from other patients. Therefore, IHCA's are best if they include features such as online peer support and discussion groups.
- Since consumers have a differing demand for interactive features, the best approach would be to offer multiple interactive features that are optional to allow for users to decide which features, if any, are helpful for them.

Citation:

Cicely, K. et al. Interactive Interventions for Long-Term Conditions: Patient and Caregiver Quality Criteria. *Journal of Medical Internet Research*. 2006 8(3): e13.