



**Information Rx Program Has Potential to Improve Patient Education and Doctor-Patient Communication**

**Objective:**

To assess the effects on physicians and patients of an information prescription program.

**Background:**

In 2002, the American College of Physicians Foundation and the National Library of Medicine launched the Information Prescription (“Information Rx”) Program. The program provided physicians with Information Rx pads designed to direct patients to content on the MedlinePlus Web site relevant to their health conditions. This paper reports selected results from two evaluations of this program between 2002 and 2005: 1) a self-selected sample of participating physicians completed pre-intervention (n = 489) and post-intervention (n = 270) surveys; and 2) 907 participating patients completed a Web-based survey on their use of MedlinePlus.

**Findings:**

- The physician survey showed the following changes in physician behaviors and attitudes:
  - 52% reported making more patient Web referrals,
  - 92 % referred patients to MedlinePlus daily (up from 52% pre-intervention), and
  - Physicians’ concerns about finding a suitable health Web site for their patients decreased from 55% to 18%.
- Doctors who used the Information Rx Pad (as opposed to nonstandard materials or simply telling patients the URL) reported a more positive experience, in terms of: reduced office time needed for patient education (42% vs. 14%); patient understanding of difficult concepts and procedures (74% vs. 40%); and improved patient communication (47% vs. 26%).
- The patient survey found that:
  - 75% of respondents first heard about MedlinePlus from their doctors,
  - 84% stated that they were more inclined to trust the information on MedlinePlus because it had been prescribed to them by their doctors,
  - 93% said that MedlinePlus helped them make better health decisions and that they would use MedlinePlus again, and
  - 89% of patients agreed that a high quality source of health information helped them talk to their doctors.

**Ix Implications:**

- Programs like Information Rx can enhance patient education and doctor-patient communication, and reduce the incidence of patients’ finding inaccurate or misleading medical information on the Internet.
- A physician’s prescribing Internet Ix makes patients more comfortable seeking health information on the Internet and talking about their findings with their doctor.
- Lack of patient Internet access need not be a barrier for programs like Information Rx: both health science libraries and public libraries have programs to help patients use computers and find high-quality health information.

**Citation:**

Siegel, E. R., et al. (2006). Information Rx: Evaluation of a new informatics tool for physicians, patients, and libraries. *Information Services & Use*, 26, 1-10.



**Patient-Physician E-mail Can Increase Patient Satisfaction and Improve Access to and Quality of Care**

**Objectives:**

1. To assess the patterns of patient use of patient-physician e-mail (PPEM),
2. To measure the physician time required to respond to patients' questions via e-mail versus via telephone, and
3. To determine the satisfaction of families who were provided with PPEM access to their child's rheumatologist.

**Background:**

Although pediatricians are more likely than other doctors to offer PPEM, only about 30% currently do so. Patient desire for PPEM is strong: In a recent Harris Interactive survey, 90% of respondents said they would like access to PPEM. This study was conducted in an academic pediatric rheumatology practice. One physician offered PPEM to his patients' families during a 2-year period. All participating families were verbally briefed on guidelines and required to sign a consent form. During the study period, 306 families enrolled in the PPEM program. One year after the study began, the authors conducted a patient satisfaction survey.

**Findings:**

- Of the 306 families enrolled in the PPEM service, 121 e-mailed the physician at least once. The doctor received an average of 1.2 e-mails a day.
- Although doctors often fear that e-mail will increase their workload, the mean time for the physician in this study to respond to an e-mail was 132.1 seconds, versus a mean telephone call response time of 309.2 seconds.
- The majority of families who responded to the survey reported that e-mail improved their access to the doctor, enhanced the quality of their communication with the doctor, and facilitated their understanding of medical tests. Few worried about hackers or believed that PPEM distanced them from the doctor.

**Ix Implications:**

- Research has shown that improved doctor-patient communication leads to improved patient adherence, satisfaction, and health status. PPEM seems to be a promising tool for achieving this improved communication and the associated benefits, as well as potentially lightening physicians' workloads.
- PPEM seems particularly beneficial for patients and families managing chronic conditions, which require continual doctor-patient communication.
- Further research is needed to determine the impact of PPEM on the number of telephone calls to the physician, as well as the generalizability of this small study to other specialties and types of practices.

**Citation:**

Rosen, P., and Kwok, C. K. (2007). Patient-physician e-mail: An opportunity to transform pediatric health care delivery. *Pediatrics*, 120(4), 701-706.



**Internet-Based Physical Activity Interventions Are Promising,  
But More Research Is Needed**

**Objective:**

To systematically assess the methodological quality and effectiveness of Internet-based interventions designed to promote physical activity.

**Background:**

The Internet is increasingly becoming a preferred mode of delivery for programs designed to increase physical activity levels. Advantages of Internet programs over face-to-face interventions include lower costs, the ability to reach more people, and participants' ability both to access a large amount of information and to control when they engage with the program. Previous reviews on the effectiveness of these interventions showed promising results, but most of these reviews were based on observational and anecdotal studies. This qualitative systematic review included studies of the effectiveness of Internet-based interventions on the promotion of physical activities among adults. Only randomized controlled trials with pretest and posttest outcome data on both the control and intervention groups were included. The authors' literature search yielded 10 eligible studies, the majority of which were tailored to individual participants and used interactive self-monitoring and feedback tools.

**Findings:**

- Internet-based physical activity interventions were effective when compared with control groups in which participants were placed on a waiting list for the intervention.
- None of the three studies that compared different Internet-based interventions showed significant differences in outcomes between groups.
- Only 5 of the 10 studies were rated as having good methodological quality.
- Interventions based on theories (including the Transtheoretical Model and Social Cognitive Theory) were not more effective than non-theory based interventions.

**Ix Implications:**

- While Internet-based interventions for increasing physical activity look promising, more research is needed to prove their effectiveness compared with more traditional approaches. To strengthen the evidence base, the authors suggest that researchers:
  - Conduct more carefully designed randomized controlled trials capable of determining the value of specific intervention components, such as personal supervision;
  - Develop and use uniform objective measures of physical activity outcomes;
  - Better control for participants' differing baseline activity levels in their analyses; and
  - Examine longer-term outcomes to help establish the minimal intervention duration needed to produce long-term behavior change.
- Although Ix was integrated into almost all of the interventions the authors examined, this review did not look specifically at the characteristics of that Ix. More research on the interplay between Internet-based physical activity programs and different modes and intensities of accompanying Ix is needed.

**Citation:**

van den Berg, M. H., et al. (2007). Internet-based physical activity interventions: A systematic review of the literature. *Journal of Medical Internet Research*, 9(3), e26. <http://www.jmir.org/2007/3/e26/>.