



## IxResearch Briefing: May 2006

### The Impact of Reminders on Screening Rates

#### **Objective:**

This study examined the response to screening reminders for five conditions (breast cancer, cervical cancer, colon cancer, cholesterol testing and diabetes) in relation to several factors:

- Health plan member characteristics (age, morbidity level, type of coverage)
- Members' previous use of medical services
- The calendar month the reminders were sent
- Physician specialty.

The study also investigated the effect of multiple screening reminders.

#### **Background:**

Participants included active HMO members in a Hawaiian health plan who had not received at least one recommended screening despite having been sent a reminder letter.

#### **Findings:**

- Screening rates were highest for diabetes and lowest for colon cancer.
- Screening rates were lowest for younger age groups.
- Compared to HMO and Medicare, fee-for-service members had the lowest screening rates.
- Emergency room visits and hospitalizations had little effect on screening rates.
- Moderately ill members were more likely than healthier and the sickest to respond to reminders, except for diabetes and cholesterol screenings which had a direct relationship.
- Screening rates varied by the month the reminder was sent out, with higher response rates during the earlier part of the year and summer months, and a decrease at the end of the year.
- Members who received multiple reminders for overdue screenings were less likely to respond than members who were reminded of only one type of overdue screening.
- Members who responded for one were more likely to respond to other types of reminders.
- Physician specialty: People who saw an OB/GYN or had a PCP had higher screening rates.

#### **Ix Implications:**

This research provides some insights for those creating Ix prevention interventions:

- Due to seasonal variations in screening responses, reminders are most effective when sent out during the earlier part of the year and summer months.
- Targeted interventions designed specifically to engage younger age groups may be necessary to improve screening rates for this traditionally unresponsive cohort.
- Members who ignore multiple reminders are likely to be unresponsive to future reminders. Alternative approaches, such as phone calls or reminders through a PCP, may be necessary.
- Since members who respond to one type of screening reminder are more likely to respond to other types, it may be preferable to pair related types of screenings to increase response rates.

#### **Citation:**

Zhu J, Davis J, Taira D, Yamashita M. Screening rates and characteristics of health plan members who respond to screening reminders. *Preventing Chronic Disease* 2006.

## **Effect of Different Forms of Information Produced for Cancer Patients on Their Use of the Information, Social Support and Anxiety**

### **Objective:**

This study sought to examine the effects different methods of selecting and printing information had on the emotional support and psychological well-being of cancer patients. It was hypothesized that personalized information for patients would help foster interaction with others, thus improving emotional support and psychological well-being.

### **Background:**

The study included 400 cancer patients (breast, prostate, cervical or laryngeal) who were starting radiotherapy (275 women, 125 men, median age of 61). Patients were randomized into eight different groups, differentiated by three binary interventions:

- Half received personalized information; the other half received general cancer information
- Half received relevant cancer information selected interactively with the aid of a computer; the other half received a larger volume of automatically generated information
- Half received anxiety management information; the other half did not

Participants' degree of social support, hospital anxiety and depression levels were evaluated at the outset of the study and during a three-month follow-up. There was no difference in these measures among the different groups at the outset of the study.

### **Findings:**

- Personalized information was more likely to tell a patient something new than general information.
- Patients with personalized information were more likely than those with only general information to show their booklets to someone they trusted. Participants reported that the personalized information helped them discuss their cancer.
- Despite the use of personalized information in aiding communications, participants in the personalized information group did not show improvements in their social support scores.
- Patients given automatically produced information reported higher satisfaction scores than those who chose their information interactively. Participants valued automatically produced information as being more useful, more robust and more likely to tell them something new, but it was also more likely to overwhelm them.
- No individual intervention demonstrated a significant effect in changing anxiety scores.
- There was no difference between mean depression scores at baseline or follow-up.

### **ix Implications:**

This research demonstrates that the provision of personalized information helps cancer patients communicate about their condition to others. More insight into how communications with others can result in improvements in emotional support and psychological well-being is needed in order to fully unlock the benefits personalized information has for improving emotional support and psychological well-being.

### **Citation:**

Jones RB, Pearson J, Cawsey AJ, Bental D, Barrett A, White J, White CA, Gilmour WH. Effect of different forms of information produced for cancer patients on their use of the information, social support, and anxiety: randomized trial. *British Medical Journal* April 2006.

## **Systematic Review of Interactive Technology in Diabetes Care**

### **Objective:**

This systematic review examined the latest research evaluating the effects of interactive information technology (IT) on several health care and clinical outcomes in Type 2 diabetes.

### **Background:**

The article reviewed 26 randomized control and observational studies that examined the effects of interactive IT interventions on self and/or clinical management of diabetes. Interventions fell into two broad categories:

- **Ix solutions that enhanced patient self-management** through the feedback of patient data and computerized education
- **Interactive IT tools for providers that aided communications with patients**, improved clinical management of data and integrated electronic practice guidelines, reminder systems, and clinical data into care delivery.

Interventions used the Internet, phone, or computer-assisted integration of clinical information.

### **Findings:**

- Internet interventions demonstrated a positive impact on patient-centered outcomes.
- Telephonic interventions had a positive effect on primary care visits.
- Computer-assisted integration of clinical management resulted in a positive impact on many health care utilization outcomes.
- Several studies noted significant declines in HbA1c levels due to an IT intervention.
- Several studies found that interactive IT interventions were associated with an increase in foot exams and HbA1c tests, as well as favorable utilization rates for primary care visits.
- Favorable health care utilization was most strongly seen in interventions with the computer-assisted integration of clinical information. These interventions resulted in favorable outcomes for primary care visits, foot exams and HbA1c tests and declines in hospitalization.
- Studies that assessed patient behavior found that, after an IT intervention, patients' improved in their self-reporting and documentation of diabetic crises, and were more likely to consistently use the intervention.
- Studies that measured patients' attitudes found an improvement in personal health care, perceived support, and quality of life due to the IT intervention.
- Several studies found that IT interventions improved patients' understanding of their medical condition.

### **Ix Implications:**

Patients with Type 2 diabetes can become engaged in their health care through interactive IT interventions, which have been shown to result in beneficial patient-centered outcomes and an improvement in health care utilization, among other benefits. Valuable IT interventions can take the form of phone, Internet and computer-assisted interventions, and are most effective when they involve the flow of timely, accurate information to patients and providers.

### **Citation:**

Jackson C, Bolen S, Brancati FL, Batts-Turner ML, Gary TL. A systematic review of Interactive Computer-assisted Technology in Diabetes Care. *Journal of General Internal Medicine* 2006; 21: 105-110.