



# Research Briefing

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## Reengineered Hospital Discharge Program

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### Objectives

To test the effects of an overhauled hospital discharge program on 30 day rates of hospital re-admission.

### Background

It is not uncommon for patients to return to the hospital after discharge. Some of these emergency department visits and readmissions are preventable. The reengineered discharge (intervention) program for this study was based on results of a 2004 examination of existing hospital discharge procedures.

The intervention consisted of a package of discharge services. Discharge services included support from a nurse discharge advocate and follow-up with a clinical pharmacist; supportive services were based on an after-hospital care plan (AHCP) for each patient. While previous research has suggested a positive impact of various efforts on reduced patient readmission, this is the first study of its kind to evaluate a triangulated effort.

The sample size was 749, with 376 patients randomized to the control group and 373 to the intervention group.

**Findings**

The intervention-group participants had a lower (but not statistically significant at the p=0.05 level) rate of hospital readmission (0.149 visits/patient/mo) than the control-group participants (0.207 visits/patient/mo) (p=0.090).

More intervention-group participants than control-group participants were able to successfully identify their discharge diagnosis (p=0.017), and identify the name of their PCP (p=0.007). Intervention-group participants also had a higher PCP follow-up rate than control-group participants (p<0.001).

Additional follow-up survey questions, asked using a 5-point Likert scale, demonstrate a statistically significant impact of the intervention on patient understanding and preparation (see Table 1).

Table 1	Control Group		Intervention Group		P Value
	n	%	n	%	
<b>Before Discharge</b>					
questions answered well	108	62	129	77	0.002
<b>At Discharge</b>					
understood diagnosis	167	57	198	66	0.014
well prepared to leave hospital	163	55	197	65	0.013
<b>After Discharge</b>					
understood medications	233	83	264	89	0.049
understood appointment(s)	219	79	254	86	0.025

**Implications**

Standardized patient-centered services, which include Ix, can benefit health outcomes and reduce unnecessary hospital readmissions. The study provides evidence that information therapy is an important part of the therapeutic process. Patients need education and support both before and after hospital discharge.

The right time for patients to receive information is not always at a single point in time. In more complex situations, such as transitioning from hospital to home, information is best provided as part of a process. Providing ongoing support allows patients to ask questions – or consult their care plan – as issues or concerns arise.

Finally, the potential benefits of proactive decision support regarding medication management should be explored further.

**Citation**

Brian W. Jack, K. Chetty, Veerappa, et al. 2009. A Reengineered Hospital Discharge Program to Decrease Rehospitalization. *Annals of Internal Medicine*, 150, 178-187.

## Information Sheets for Cardiac Patients

### Objectives

To determine whether providing an information sheet to patients with acute chest pain reduces anxiety, improves satisfaction with care, improves health-related quality of life, or alters subsequent health symptoms or actions.

### Background

Regardless of diagnostic outcome, acute chest pain is often associated with anxiety and impaired quality of life. Written information sheets were developed to enhance communication in a cardiology outpatient setting and then adapted for use by patients in the emergency department based on results of face-to-face interviews with patients.

The study was a non-blinded randomized-controlled trial comparing oral advice with oral advice combined with provision of an information sheet in the chest pain unit of an emergency department (ED). A total of 494 patients participated in the study. Four different information sheets were utilized, depending on the result of the ED medical assessment.



### Findings

One month after agreeing to participate in the study, patients received a questionnaire in the mail. Just over 70% of each group (71% for both the control and intervention groups) completed the survey. According to the hospital anxiety and depression scale (HADS), patients in the intervention group had lower anxiety and depression scores than those in the control group.

Table 2	Control Group		Intervention Group		P Value
	n	%	n	%	
<b>Anxiety</b>					
None (0-7)	103	43.5	130	54.6	0.009
Mild (8-10)	48	20.3	42	17.6	
Moderate (11-17)	53	22.4	47	19.7	
Severe (15-21)	33	13.9	19	8.0	
<b>Depression</b>					
None (0-7)	172	72.6	190	80.2	0.026
Mild (8-10)	29	12.2	31	13.1	
Moderate (11-17)	29	12.2	13	5.5	
Severe (15-21)	7	3.0	3	1.3	

The survey also contained questions from the SF-36 health-related quality-of-life survey (for results, see Table 2). Intervention group participants had significantly higher scores for mental health and general health perception than those in the control group. There was weak evidence of an association between study participation and energy or vitality and social functioning.

Table 3	Control group		Intervention group		Difference (95% CI)	P value
	n	%	n	%		
General health perceptions	57.6	22.7	63.1	20.7	5.5 (1.6 to 9.3)	0.006
Mental health	62.9	22.6	68.2	21.1	5.3 (1.4 to 9.2)	0.007
Energy or vitality	49.6	23.5	53.3	23.0	3.7 (-0.4 to 7.8)	0.079
Social functioning	76.2	26.3	80.0	24.6	3.8 (-0.7 to 8.4)	0.095
Role physical	65.1	41.1	70.8	39.3	5.7 (-1.5 to 12.9)	0.122
Pain index	69.2	26.1	72.8	25.9	3.6 (-1.0 to 8.2)	0.127
Role emotional	65.8	41.8	70.8	38.8	5.0 (-2.2 to 12.2)	0.172
Physical functioning	78.6	23.6	81.1	22.9	2.5 (-1.7 to 6.6)	0.239

The remaining results did not show an impact on the other outcomes: pain prevalence, severity of pain, patient satisfaction, further subsequent information-seeking behavior, attempts to engage in more healthful behaviors, or planned actions in the event of recurrent pain.

### Implications

General information sheets are simple to administer and have the potential to positively impact the mental health of patients experiencing chest pain. The nurses in this study did not orally explain the information sheet contents to patients (although they answered patient-generated questions about the information). It is possible that the impact of the information sheets would be improved with further customization (having more than four total options) and with the sheet being reviewed with the patient prior to discharge.

### Citation (Open Access Article)

Jane Arnold, et al. 2009. Information Sheets for Patients with Acute Chest Pain: Randomised Controlled Trial. *British Medical Journal*, 338, b541.

## Motivating Use of Physician Performance Data

### Objectives

To determine the extent to which a general adult population will make use of a web site offering physician-level performance data when they are personally invited to do so.

### Background

Patients appear to make little use of publicly available health care quality data. This study used a randomized experimental design to evaluate the extent to which the use of web-based physician-level data is affected by invitation mode, employment status, and message tone.

The goal of the Physician Quality Ratings Web site is to provide individuals with tools and data that can help them make informed health care choices. At the time of the study, the site was in the early stages of development in terms of the quantity of information available.

### **Findings**

Site registration rates were significantly higher for participants who received email (11.7%), rather than mail (2%) invitations ( $p < 0.01$ ). While mail invitations resulted in proportionally less web site registration, retirees were more likely to register (5.3%) on the site than employed individuals (2%) who received postal mail-based invitations ( $p < 0.01$ ).

To provide context for the “success” of the response rates, within the field of advertising, a 3% response rate for mail and a 5-10% response rate for email are considered successful.

The findings did not provide support for effects based on message type. Positively or negatively framed messages elicited similar response rates. A potentially weak relationship was uncovered using this variable on a continuum rather than dichotomous variable.

### **Implications**

The results of this study confirm consumer interest in provider-level quality data. If consumers are aware of the information and easily able to access it, they likely will. One opportunity to provide this information to patients is to target it more directly to the appropriate moment in care. For example, this information would more likely translate into action if it were provided when individuals are in the process of switching physicians or choosing a new physician in a new health plan.

Finally, in terms of demographics, retirees seem particularly receptive to this type of information. Whether this reflects an increased interest in their health or they have more available time (or both) is not clear.

The findings on the effect of tone were not conclusive. The three messages were identical except for one sentence. Further exploration may be worthwhile to determine the effects of positive versus negative messaging on behavior.

### **Citation**

Meghna Ranganathan et al. 2009. Motivating Public Use of Physician-Level Performance Data. *Medical Care Research and Review*, 66(1), 68-91.

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