

Two Useful Tools To Improve Patient Engagement and Transition From the Hospital

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Abstract: We use an Internet-based health assessment and feedback system to examine the range of needs and diverse experiences of 520 hospitalized adults in transition and the factors most strongly associated with their self-reported health confidence. Our results strongly suggest that patient engagement prior to admission and the quality of care coordination and communication during hospitalization can greatly enhance successful transition from the hospital back to the community. Hospitals are complex institutions. This report illustrates how the Internet or a straightforward graphic can make the complexity less overwhelming to patients and efficiently increase their health confidence for transitions. **Key words:** *experience of care, health confidence, health technology, hospital discharge, patient activation, patient engagement, quality of care, self-care, self-management, transitions in care*

INTERNET-BASED interventions to support health can help patients and their caregivers become more actively engaged in

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their own health care (Murray et al., 2005; Samoocha et al., 2010; Stollefson et al., 2013; Wantland et al., 2004). Patient and caregiver engagement are particularly important in care transitions. An Internet-based assessment and feedback system is designed to increase engagement of patients, families, and caregivers and also provides actionable information to support patients' health confidence and self-management after discharge. A byproduct of this assessment and feedback system is a summary of all responses. Using those responses, this report examines (1) the range of needs and diverse experiences of 520 hospitalized adults in transition and (2) the factors most strongly associated with their self-reported health confidence.

METHODS

We conducted a cross-sectional, descriptive study of patients on the basis of their Internet-based assessments from HowsYourHealth.org. This system asks about patients' preadmission characteristics, the processes of care while in the hospital, the

communications and style of communications received in the hospital, and their preparation for discharge. (Wording for each item is available at <http://www.howsyourhealth.org/static/professional.html>). After completion, the assessment system automatically provides (a) a summary report for the patient and the care team, (b) information tailored to each patient's needs, and (c) a personal portable health plan.

This report focuses on the responses of patients older than 18 years from 2 sources: a hospital recognized with Patient-Centered Care Designation by Planetree, and thus has achieved excellence in providing patient-centered care and "at large" hospitalized respondents who chose to use this publically available Web site (Coulmont et al., 2013; Guastello, 2010).

We describe respondent characteristics with standard frequency analysis. We stratify patients' health confidence into 3 categories of need based on their financial status and burden of illness (Wasson, 2013): lower need patients are financially stable and have a lower burden of illness, higher need patients have low income and a greater burden of illness, and intermediate need patients have either greater burden or low income. We used linear and logistic regression and Spearman correlations to examine relationships among patient-reported measures of their needs and experiences of care.

RESULTS

Respondent characteristics and experiences

Most of the 520 respondents (74%) complete the assessment between the second and seventh day of hospitalization. Three-quarters of the patients complete the assessment themselves; there is no consistent difference in completion by patient age.

The majority of patients are female (59%) and 65 years or older (54%). Common admitting diagnoses are pneumonia (27%), cardiovascular disease (17%), and other infections (15%). Although prior to this admission 15% of

the patients have no serious illness, the average patient has close to 3: most common categories are cardiovascular disease, diabetes, renal disease, significant emotional stress, cancer, and frailty/weight loss. More than one-third of the patients have moderate to severe chronic pain prior to admission; 24% are very limited in their ability to perform usual daily activities.

The Table describes respondent characteristics, hospital experience, and health confidence. Before admission, high need patients more frequently suffer from inadequate information and low health confidence. They have less social support. Compared to the patients with less need, those having high need report receiving less high-quality information and experiencing fewer desirable services.

Poor self-management preparation and little help at home will impede successful transition from the hospital. Patients with high need express the greatest desire for information and supportive resources to increase their chance for recovery.

We observe significant differences in patient-reported experiences between the patient-centered hospital respondents and those from elsewhere in the United States. In the multivariate analyses, patients at this hospital are more likely ($P < .01$) than patients in other settings to rate their care as "perfect." Although the Table does not show patients with high need for the patient-centered hospital (because there were only 8), its lower and intermediate need patients illustrate a range of experiences that are generally much better than the compared patients in other hospitals.

The Internet provides patients a convenient and valid way to report adverse experiences and harms (Wasson, 2013; Wasson et al., 2007). A significant number of patients report harm or a hurtful error during their care (9% of patients having low need, 13% intermediate need, and 19% higher need). The Table shows that patients find care in the patient-centered hospital as less error prone.

Anticipating transition from the hospital

Of patients who reported high health confidence in managing a health problem

Table. Hospitalized Adult Patients' Reports of Their Experiences of Care

Range of Hospitalized Patients' Experience^a Compared to a Nationally Recognized Patient-Centered Hospital^b	Lower Need^c Patients (n = 181)	Intermediate Need^d Patients (n = 167)	Higher Need^e Patients (N = 82)	Lower Need^c Patients in A Patient-Centered Hospital (n = 33)	Intermediate Need^d Patients in A Patient-Centered Hospital (n = 49)
Preadmission					
Age 65 or older	41%	48%	49%	91%	86%
Female gender	58%	56%	60%	73%	55%
Hospitalization in the past year	34%	50%	77%	59%	82%
Adequate social support	82%	76%	63%	97%	90%
Continuity of care with a single clinician	78%	76%	69%	94%	94%
Excellent information about chronic condition(s)	26%	24%	9%	53%	41%
Health confidence to self-manage condition(s)	41%	23%	10%	55%	29%
Inpatient services					
Amount of care received seems about "Right"	70%	67%	51%	76%	86%
Staff are available when needed	40%	27%	13%	63%	62%
Not pushed to have tests	76%	76%	52%	97%	89%
One doctor is in charge of the care	54%	59%	29%	88%	80%
Pain treated well	84%	70%	54%	96%	100%
No harm or error	90%	84%	80%	97%	96%
Care has been "Perfect"	38%	35%	14%	70%	67%
Communication style and content					
Treated with respect	76%	67%	50%	94%	98%
Able to talk about important thoughts or feelings	63%	51%	29%	90%	84%
Attention to important (patient) information	70%	62%	38%	94%	93%
Excellent explanation about what is happening	32%	31%	6%	65%	57%

(continues)

Table. Hospitalized Adult Patients' Reports of Their Experiences of Care (Continued)

Range of Hospitalized Patients' Experiences ^a Compared to a Nationally Recognized Patient-Centered Hospital ^b	Lower Need ^c Patients (n = 181)	Intermediate Need ^d Patients (n = 167)	Higher Need ^e Patients (N = 82)	Lower Need ^c Patients in A Patient-Centered Hospital (n = 33)	Intermediate Need ^d Patients in A Patient-Centered Hospital (n = 49)
Excellent explanation of future likelihoods	19%	24%	5%	46%	31%
Excellent coordination of communication by staff	27%	24%	9%	52%	54%
Always asking permission before doing things	33%	25%	15%	67%	52%
Discharge preparation					
Told when discharge will probably occur	59%	41%	25%	73%	73%
Available help at home if needed	85%	60%	40%	97%	80%
Feels prepared to manage problems after discharge	48%	31%	12%	67%	57%
Patient requested informational and supportive resources to increase chance for recovery ^f	2.0 per patient	3.4 per patient	6.0 per patient	0.9 per patient	1.5 per patient

The median for preadmission conditions was calculated and patients at or above the median were eligible to be placed in the intermediate or high need groups. The conditions were: "Unable to eat, or poor nutrition or a lot of lost weight," "Cancer," "Breathing trouble or Lung Disease," "Stroke, Brain or Nerve disease," "Liver problems," "Kidney problems," "Heart disease or hardening of the arteries or high blood pressure," "Memory trouble or Alzheimers," "Old Age or Frailty," "Currently, often, or always bothered by emotional problems," "Overuse of alcohol or drugs," "Diabetes," "Other infections (including HIV or AIDS)," "Other serious illness".

^aA complete listing of items and their wording can be obtained at www.HowsYourHealth.org/static/professional/html.

^bThe exemplary setting is a Planetree Hospital that specifically used the internet assessment and feedback (Coulmont et al, 2013; Guastello, 2010).

^cLower need patients: none of the above conditions and no financial difficulties.

^dIntermediate need patients: At or above the median of the above conditions OR financial difficulties.

^eHigh need patients: At or above the median conditions AND answering "sometimes or no" to the question: Do you have enough money for everyday needs such as food, clothing, or housing?

^fFrom the following list: "Equipment in the hospital for supporting life," "Exercise and eating well in the hospital and at home," "Pain management in the hospital and at home," "Emotional problem management in the hospital and at home," "Chaplain services/Clergy," "Home equipment for moving around, bathing, eating and taking medications," "Help in the home for moving, bathing, eating, taking medications," "Legal help," "Home health and home nursing services," "Meals on wheels," "Support groups," "Ear, eye or mouth care," "Advance directives and life support" Better communication or planning for the future," "Better home care, community services or housing," "Help with washing, toileting, moving, feeding," "Strengthening and physical therapy," "Rest, time, emotional support, hope," "Treatment of pain and other problems," "Financial support."

prior to admission, 67% were confident that they would successfully self-manage after discharge from the hospital. The rate was higher in the patient-centered hospital (83% vs 61%; $P < .01$). Seventy-three patients were health confident prior to admission but they did not feel well prepared for a transition home, and 117 patients were hopeful about their transition even though they had not reported being very confident in self-management prior to admission. In multivariate analysis, a rating of “perfect care” was the strongest predictor of their shift in anticipated capacity for a successful transition. There was no significant difference in confidence based on age, gender, burden of illness, financial status, days in the hospital, and available help at home and who completed the survey. The measures most strongly associated ($r > 0.40$) with “perfect care” were as follows: (i) the professional staff being available when needed; (ii) the professional staff having good communication and contact with each other (everyone is planning the same treatment and saying the same things); (iii) asking for permission when doing things to the patient; and (iv) explaining what is happening to the patient.

After discharge from the patient-centered hospital

An anonymous sample of 57 patients discharged from the patient-centered hospital volunteered to complete a multi-item measure of health confidence and activation before and 1 week after discharge (Hibbard et al., 2007; Hibbard et al., 2013). Slightly less than half of these patients (49%) responded positively to all 13 items of the activation measure before discharge and 60% a week after discharge. All patients who improved had positive responses to a 3-item measure that asked about how well the hospital had prepared them for discharge; in comparison, only half who became less positive about their health confidence and activation after discharge had such a positive opinion of their preparation (Coleman et al., 2005).

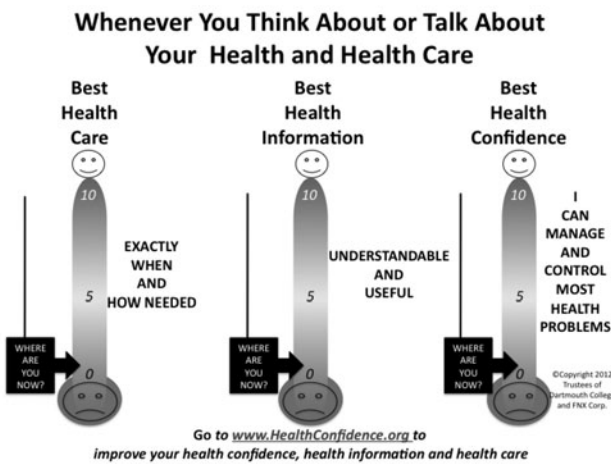
A physician’s opinion about care in the patient-centered hospital

“Our hospital has received many national awards for superior patient satisfaction and outcomes, among which are the Angie’s List Super Service Award (2012), the Joint Commission’s Top Performer on Key Quality Measures (2011), and the Premier Award for Quality 2010. We believe we have attained patient-centered quality because every aspect of care is based on the belief that, if patients have access to information regarding their illness and hospitalization, they can become active participants in their own health. Units maintain a policy allowing patients to read their own charts at any time and ask questions of their physician and nurse about what they read.”

SUMMARY

Our results strongly suggest that patient engagement prior to admission and the quality of care coordination and communication during hospitalization can greatly enhance successful transition from the hospital back to the community. The results also demonstrate how an Internet-based intervention can provide detailed information to hospital care teams that wish to enhance patient-centered care. The data from an Internet tool can also facilitate quality-improvement comparisons among facilities.

Our findings show a web of connections among measures for patient engagement: health confidence and activation and professional “same page” collaboration, communication style, information quality, and supportive health system processes. However, a web can be an easy place to be stuck: there are an almost infinite number of ways to envision, measure, translate, combine, and use these connections. The Internet-based assessment system offers a low cost and efficient way to take advantage of the strength of this web without becoming trapped by its conceptual intricacies. We also propose as straight forward and clinically useful a graphic for a successful patient engagement. The Figure illustrates 3 principles made conspicuous from



**INSTRUCTIONS FOR PATIENTS:
Please Use These Questions To Place Yourself
On Each Thermometer**

Best Health Care: Mark a “10” if you strongly agree that you receive exactly the health care you want and need exactly when and how you want and need it. Mark a “0” if you strongly disagree. (Ho, Schwarz, et al. 2013)

Best Health Information: Mark a “10” if the information your doctor or nurse gave you about your health problems or concerns has been excellent. Mark a “0” if the information has been poor.

Best Health Confidence: Mark a “10” if you are very confident you can control and manage most of your health problems. Mark a “0” if you are not confident at all. (Wasson 2013)

Internationally tested alternatives for informing patients. (Wasson 2013): “When you need care or treatment, how often does your regular doctor or medical staff you see...?”

- a) Give you an opportunity to ask questions about recommended treatment
- b) Involve you as much as you want to be in decisions about your care and treatment
- c) Explain things in a way that is easy to understand”

Figure. A tool to enhance patient engagement and health system improvement.

prior research and also made conspicuous by this report (Von Korff et al., 1997; Ho et al., 2013a).

1. Patient-centered care processes. In this report, we used a single “perfect care” summary measure. The Figure includes another validated measure included in the Figure to “take the temperature” of patient experience (Ho et al., 2013b).
2. Patient-centered health information. Information directed toward patient engagement in their care is critical. The single measure shown in the Figure is illustrative; other examples are included.
3. Health confidence. This measure is a proxy for the web of reciprocal tasks that create strong patient and professional engagement.

The fact that preadmission health confidence is the strongest predictor of patient preparation for a successful transition from the hospital underscores the need to assess how care processes and health information support health confidence in every clinical setting. We believe that clinicians and patients can be alerted to the importance of these “engagement vital signs” when they are prominently placed on walls of hospital rooms and

clinical examining rooms: results can be used to change practice at the point of service and encourage subsequent use of the Internet for an efficient and complete assessment of patient needs and the provision of information tailored to their needs.

LIMITATIONS

Our study has several strengths: a broad range of patients who describe their hospital experiences in great detail and a longitudinal description of changes in their engagement during and after hospitalization. However, our study should also be interpreted in its major limitation: it is an observational study.

IMPLICATIONS

Hospitals are complex institutions in which many workers have to deliver numerous services safely, humanely, and effectively. The tools illustrated here—an Internet health assessment and feedback system and “engagement vital signs”—should make the complexity less overwhelming and efficiently increase health confidence for transitions.

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