Overview of a Workshop on the Role of the Hospitalist in Quality Improvement

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Abstract

Hospitalists have an important role to play in identifying clinical practice and system improvements for optimizing patient care during and after hospitalization. At the 2002 annual meeting of the Society of General Internal Medicine, the Brigham and Women’s–Faulkner hospitalist service presented a workshop on the role of the hospitalist in quality improvement. The purpose of the workshop was to review 3 quality improvement projects and to exchange ideas about the role of hospitalists in quality improvement. In this paper, the authors briefly describe the projects and summarize the discussions that followed each presentation.

Hospitalists have an important role to play in identifying clinical practice and system improvements for optimizing patient care during and after hospitalization. Unlike many physicians who primarily work in the outpatient setting, hospitalists encounter problems relating to the efficiency and safety of patient care on an almost daily basis. As a result, hospitalists are in a unique position to identify opportunities for quality improvement in the hospital, and hospitalists invested in quality improvement initiatives should be leaders in implementing change.

Until recently, quality improvement efforts at Brigham and Women’s Hospital have been directed largely through retrospective chart review and at morbidity and mortality conferences directed at a limited audience. It is not clear that these reviews have had much impact beyond the individuals involved in the adverse events. In addition, this approach does not capture “near misses” or the denominator of potential cases or address systems problems.

At the 2002 annual meeting of the Society of General Internal Medicine, held 2–4 May in Atlanta, GA, the Brigham and Women’s–Faulkner hospitalist service presented a workshop on the role of the hospitalist in quality improvement. The purpose of the workshop was to review 3 quality improvement projects initiated by our service and to exchange ideas about the role of hospitalists in quality improvement. In this paper, we briefly describe the projects and summarize the discussions that followed each presentation.

Readmission Evaluation Project

Project Summary

Readmission rates are commonly used as a quality indicator in hospitals and health systems. Although crude readmission rates alone may not be a reliable measure of quality, it was our hypothesis that an in-depth review of readmissions to a hospitalist service would help to identify important risk factors for readmission as well as identify system problems and complex cases that would merit discussion for educational purposes.

Over a 4-month period (June to September 2001), consecutive readmissions to the hospitalist service within 15 days of discharge were reviewed (n = 73). Data was obtained via chart and electronic medical record review. Information collected included age, gender, race, insurance, primary language, social supports, comorbid conditions (including mental illness and substance abuse), number of medications, pattern of prior hospital usage, vital signs and symptom control on discharge, scheduled follow-up, documented communication with outside providers, and patient education. In addition, a “comments” section in our database allowed the reviewer to categorize the readmission as unavoidable or potentially avoidable and also to note whether it was patient-related, clinician-related, system-related, or a combination of factors. A series of admissions that did not result in readmission (n = 42) was also reviewed as controls, matched by discharge day.

Compared to controls, readmitted patients were on more medications (9 versus 5, P < 0.001), had a history of more frequent hospital admissions (1 versus 0, P < 0.01), and suffered more often from chronic obstructive pulmonary disease (COPD) (10% versus 0%, P = 0.04) and depression (30% versus...
and root cause analysis is time- and resource-intensive, such fraught with difficulty when the goal is determining causality, hospitalist programs. Although retrospective review can be a basic quality improvement activity that is beneficial to such as deaths, intensive care unit transfers, and medical errors such as COPD patients, as the most common diagnosis among readmitted patients, we are currently focusing on the care of patients with COPD on our service. After reviewing our experience and identifying disease processes or patient populations known to be at high risk. As a result of our review, which identified COPD patients among workshop participants regarding the need for more patient education regarding treatment adherence and the scheduling of early follow-up appointments. With regard to the latter, there was some debate among workshop participants regarding the need for follow-up clinics run by hospitalist services, an effort that our group had not undertaken but one that several participants described positively. Other institutions assured a follow-up appointment within 1 week of discharge, often using nurse practitioners assigned to each outpatient practice.

Another discussion concerned whether we should develop interventions to reduce readmissions among all patients or whether we should focus our efforts on patients with specific disease processes or patient populations known to be at high risk. As a result of our review, which identified COPD patients as the most common diagnosis among readmitted patients, we are currently focusing on the care of patients with COPD on our service. After reviewing our experience and identifying where we deviate from accepted clinical guidelines, we will design interventions to improve our standard of care.

Reviewing readmissions as well as other adverse outcomes such as deaths, intensive care unit transfers, and medical errors is a basic quality improvement activity that is beneficial to hospitalist programs. Although retrospective review can be fraught with difficulty when the goal is determining causality, and root cause analysis is time- and resource-intensive, such review is at least hypothesis-generating and may direct more specific efforts that can be studied.

**Hospitalist Home Visit Program**

**Project Summary**

Our hospitalist group cares for a diverse group of general medical patients with a wide range of medical problems. Many patients in this urban setting are elderly, uninsured, and have no regular source of primary care or receive their care in medical resident clinics. Despite substantial efforts at discharge planning on the hospitalist service, the most vulnerable patients are at high risk for readmission within a short period of time. To determine if postdischarge home visits would improve posthospitalization outcomes in a heterogeneous mix of patients, our hospitalist group developed the hospitalist home visit program. The pilot program was started with the intention of facilitating communication between PCPs and hospitalists and reducing hospital utilization following discharge through earlier identification of problems with patient self-care, including nonadherence to discharge treatment recommendations. (A full report on this program appears in this issue beginning on page 198.)

Patients were considered eligible for the home visit program if they (1) were discharged from the hospital service directly to home, (2) lived within 1 of 8 communities surrounding the hospital with a significant impoverished population, and (3) had an internal medicine resident as a primary care physician within the Brigham Internal Medicine Associates or had no primary care physician. Participants were visited in their homes within 1 week of discharge, prior to their first visit with their primary care provider. During each visit, program staff (either a hospitalist with a medical student or a senior internal medicine resident with subsequent hospitalist attending input) performed a brief clinical evaluation, a home safety assessment, and a review of all medications being taken with a comparison to medications ordered for each patient at hospital discharge. At least 1 medication discrepancy was found among 67% of visited patients, resulting in several different interventions made by staff. There was a nonsignificant reduction in 15-day rates of hospital readmissions and emergency department visits among participants as compared with concurrent nonprogram patients with similar diagnoses.

**Discussion**

During the discussion, it was emphasized how difficult and time consuming it can be to conduct home visits. The discussants were in agreement on the need for an intervention to improve postdischarge care and believed that postdischarge home visits may be a significant contributor toward improving the transition of care from the inpatient to outpatient setting. However, a good deal of time was spent discussing whether hospitalists or resident physicians needed to do the...
visits or whether similar results might be achieved using less costly personnel such as nurse practitioners or physician assistants. One suggestion made was that physicians should be aggressive about billing appropriately for conducting home visits, and that such visits are typically reimbursed by Medicare. One frequent comment was the consideration of less expensive, system-wide interventions for all patients and the use of high-intensity interventions, such as the home visit program, for a selected group of high-risk patients, such as those with multiple prior admissions.

**Pharmacy Project**

**Program Summary**

In this project, the intervention consisted of hospital-based pharmacists counseling patients about their medications on the day of discharge and conducting follow-up by telephone 3 to 5 days later. The goals of the study were to determine the effects of this intervention on patient satisfaction, medication adherence, adverse drug events, and health care utilization (including hospital readmission) 30 days after discharge. Unlike the home visit program, the pharmacy intervention was aimed at patients at average risk for medication-related adverse outcomes.

Patients about to be discharged home from the general medicine service and who had PCP at our institution were eligible to participate in the study. The inpatient intervention focused on reviewing with patients the indications, directions, and potential side effects of each medication; screening for and addressing barriers to adherence; and providing counseling and facilitating access to medications as appropriate. The follow-up intervention inquired about discrepancies with the medication list prescribed at discharge and screened for side effects and nonadherence. Significant findings were communicated with patients’ primary care providers via e-mail and electronic medical record.

Preliminary results were available for the first 28 patients who received the intervention. As a result of the counseling session, changes were made to the discharge medication list in 11 patients (39%), often to reduce unnecessary changes from the regimen taken prior to admission. At the follow-up phone call, discrepancies between the medication list and what the patient was actually taking were noted in 44% of patients. Other problems identified at follow-up included the need for prescription refills, early medication side effects, and inability to pay for medications. At 30 days following discharge, an analysis of the first 40 patients revealed no significant differences in adverse drug events or health care utilization between the intervention and control groups.

**Discussion**

We related that during the design and pilot phases of the study, several logistic, political, and methodologic challenges emerged. For example, getting “buy-in” from other members of the health care team, especially nurses and case managers, quickly emerged as a crucial element to the success of this study. Low patient recruitment rates required us to involve more medical teams and to include both hospitalist and non-hospitalist teams, thus raising issues of getting “credit” for quality improvement projects conducted outside the hospitalist realm. Budget and personnel issues were handled creatively, utilizing pharmacists who essentially volunteered their time to conduct the interventions and securing internal hospital funding to hire research assistants.

Early on, the decision was made to conduct a formal study of the intervention, as opposed to an informal “plan-do-study-act” cycle of continuous quality improvement. While this decision prevented us from changing our protocol in media res and placed restrictions on the number and types of patients involved (due to eligibility criteria and patient consent issues), we felt that the advantages of a formal study outweighed the disadvantages. In particular, we felt that a rigorous assessment of this type of intervention would be needed to influence hospital resource allocation decisions (especially if we could conduct a cost-effectiveness analysis of the final study results). Furthermore, by publishing our results, we hoped to generate new knowledge about the types of patients most likely to benefit and the mechanisms by which these interventions exert their effects. This knowledge could then be used to design better interventions in the future and implement them in many different institutions.

Other issues emerged during the discussion, including the possible need to focus such an intervention on higher risk patients (although perhaps not as high risk as those chosen to receive the home visit program). This might lead to more impressive results, a better cost-benefit ratio, and more realistic resource allocation decisions. Other important lessons learned from this work included the need to pilot all interventions first to identify and handle the challenges inherent in this type of research; the need to secure necessary multidisciplinary support, personnel, and funds; and the need to assess the benefits and disadvantages of conducting a methodologically rigorous study. By choosing to conduct such a formal study, we hope to move beyond local implementation and generate knowledge about what works generally to improve outcomes in hospitalized patients.

**Summary**

Recognizing the need for hospitalists to become active agents of quality improvement in medical care, we organized a workshop focusing on 3 quality improvement initiatives started at our institution. Our presentations generated discussion highlighting the challenges of hospitalist groups starting and maintaining quality improvement initiatives while continuing to further define their role as inpatient specialists.
The majority of the discussion focused on the tension between developing low-cost programs aimed at improving outcomes among a broad group of hospitalized patients (eg, all patients discharged with multiple medications) versus more costly and labor intensive programs focused on a smaller group of much higher risk patients (eg, patients with COPD or with multiple prior admissions). In an effort to address the limitations of both approaches, numerous suggestions were made. The first was that any approach should be well piloted among a subsample of patients to clearly define the objectives, protocol, and costs of a proposed program before full implementation, as adjustments are difficult to make once a program has been started. We also discussed the need to match the intensity of the intervention to the patient population at risk (ie, reserve high-intensity, high-expense interventions for those patients at the highest risk for adverse outcomes) while identifying the least expensive personnel who can carry out a task. Furthermore, many suggested using more administrative tools as a lower-cost alternative for improving processes for all patients. Suggestions included a discharge checklist of items to be accomplished by the medical team before discharge (eg, scheduled appointment with PCP, list of all outstanding laboratory values, names and numbers of all specialists).

To improve postdischarge outcomes among patients, suggestions included identifying a process by which hospitalists may directly communicate with visiting nurses before and after a patient is discharged and assuring prompt appointments with a health care provider following discharge (suggestions included discharge clinics runs by hospitalists or physician extenders, guaranteed follow-up within 7 days). Although there was a recognition of the need for improved care during the transition from hospital discharge to outpatient follow-up, there was concern that many of the possible approaches discussed blurred the distinction between hospitalists and PCPs. Participants discussed methods to assure that clear boundaries exist between hospitalists and PCPs.

Despite the possible limitations of each approach described by our group, there was a consensus that we identified and addressed issues common among patients cared for by hospitalists. Participants in the workshop agreed that working in the patient’s best interest requires being invested in effective communication and optimizing the health care system and that hospitalists are uniquely positioned to identify opportunities for improvement in processes of care and in the medical care delivery system.

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