To Call or Not to Call? Reducing Readmissions

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At the time of patient discharge from the hospital, clinicians should consider the risk of readmission, post-discharge emergency department (ED) visits, death or other adverse events. Ensuring a safe discharge after a hospitalization is one of the responsibilities of the clinician and the discharging hospital. While majority of readmissions might not be preventable, hospitals and clinicians may help to improve the discharge process and decrease readmission rates. For Medicare patients in the United States, a 30-day readmission rate of 19.6% and 90-day readmission rate of 34.0%have been reported [1].These unplanned readmissions cost up to 20 billion dollars annually [1]**.** In 2012, hospital readmission rate became an important measure of a hospital's performance under the Patient Protection and Affordable Care Act and became a determinant of federal payments to healthcare systems [1-3]. Under the Hospital Readmissions Reduction Program (HRRP), a maximum penalty of up to 3% of total Medicare payments was imposed on hospitals if they had higher than expected hospital readmission rates within 30 days of hospital discharge [4]. Thus, hospitals and indirectly clinicians, have a financial incentive to decrease 30-day readmission rates.

Healthcare systems have developed several strategies to decrease 30-day readmission rates. To identify hospitalized patients who are at a high risk of readmission within 30-days of hospital discharge, several readmission stratification tools have been developed such as the LACE index [5], the HOSPITAL score [6] and the 8P scale [7].In addition to early identification of at-risk patients, various hospital-initiated post-discharge intervention programs have been developed by health care systems [8], and their impact on transitions of care outcomes have been studied. Such programs include the Better Outcomes for Older adults through Safe Transitions (Project BOOST) [9], the Reengineered hospital-based Discharge program (RED) [10] and the Interventions to Reduce Acute Care Transfers (INTERACT) program [11]. An important characteristic of such programs is that they include pre-discharge and post-discharge components. Pre-discharge components include optimal discharge planning, patient/caregiver education, medication reconciliation, and primary caregiver communication. Post-discharge interventions include planned follow-up phone calls, home visits and clinic visits, with the intention of ensuring patient adherence to their discharge plans and identifying and addressing new health issues that arise during the early post discharge period. Project BOOST implementation by 11 hospitals showed a 14% relative risk reduction in 30-day readmission rates although this reduction did not reach statistical significance (P=0.054) [9]. Similarly, the RED program decreased hospital utilization (combined ED visits and readmissions) by 30% in the 30-day post discharge period (P = 0.009) [12]. The INTERACT II program also showed an associated reduction of 17% in all-cause hospitalizations of nursing home residents over a period of 6 months, representing a mean absolute reduction in hospitalizations of 0.69 per 1000 patient days (*P=0.02*) [13].

One post discharge strategy that has been extensively used is telephone calls to patients by a member of the healthcare team. These phone calls are instituted most frequently by nurses [14-19], pharmacists [20-23], hospitalists [24,25], medical residents [26] or sometimes by non-medical professionals. Potential benefits of post-discharge telephone calls may include better compliance with discharge instructions, early detection of adverse outcomes, increased patient satisfaction, reduction in hospital readmissions, reduction in health care utilization and scheduling follow-up appointments. Telephone calls save time, may result in improved follow-up, improve provider-patient relationship, and help in providing information to patients [27]. Post-discharge phone calls also provide an opportunity for providers to review patient medications, report any new test results, identify any new or worsening symptoms, treatment failures or side effects, clarify misunderstandings and build a rapport with the patient [24].

On the other hand, post-discharge telephone calls can pose problems for both patients and providers that may include misuse, encroachment on private life, misunderstanding, taking up extra time and increased cost for the health care system [27]. Some of the difficulties reported by nurses who have called patients after discharge include lack of healthcare resources, not being able to see

the patient, having to discuss personal and sensitive topics over the phone without being sure of patient's identity, and stressing about situations they have no control over [28-30].

A range of issues can be identified using telephone calls in the early discharge period. Approximately 20% of patients discharged from the hospital experience an adverse event within the first 2-5 weeks [25], and over half of these are related to medications [31]. In a prospective cohort study in 2005, 11% of patients developed an adverse drug event; 27% and 33% of these events were classified as preventable and ameliorable respectively [32]. Several studies have reported data on incidence of surgical site infection following discharge from the hospital and the incidence varied depending on the type of surgery performed and timing of the telephonic follow up [33-37]. Following discharge from 32 Scottish hospitals, when patients were contacted by telephone, 7.4% of patients who underwent hernia repair thought they had a wound infection. Surgical site infection was confirmed on examination by a health care worker in 71% of these patients [33], whereas in another study, only 1.1% of patients who reported no infection related issues on telephone had a surgical site infection when checked by a research nurse [35].

The goals of discharge interventions, including the use of telephone phone calls are to reduce hospital readmission rates, and improve patient outcomes such as satisfaction and patient/caregiver quality of life [38]. However, post-discharge telephone calls either alone or in addition to pre-discharge interventions failed to reduce readmissions [39] in one study but did improve patient satisfaction with the health care system [40]. When telephone calls were combined with discharge planning, it reduced caregiver burden and improved family function of discharged heart failure patients [41]. In another study, the Heart Failure -Creativity, Optimism, Planning, and Expert Information (HF-COPE) intervention that involved post-discharge telephone calls, failed to show significant effects in improving patient or caregiver quality of life [42].

Although several studies have identified effects of post discharge telephone calls on patient outcomes such as patient satisfaction and rates of readmission to hospitals, limited data are available on the post-discharge issues identified during these follow up telephone calls. Further research is needed to improve the effectiveness of post-discharge telephone calls, maximize the benefits from telephone calls, streamline the administration of telephone calls such as timing of the calls after discharge from the hospital, characterize issues that need to be addressed in these phone calls, identify steps that can be taken to minimize difficulties with telephone contact, and to establish a cost-effective tele-health program.

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