

Failure at the Transition of Care: Challenges in the Discharge of the Vulnerable Elderly Patient

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The case of an elderly patient with mild dementia and severe depression is reviewed including analysis of the barriers to successful transition that led to readmission. Situations likely to result in failed transitions include poor social support, discharge during times when ancillary services are unavailable, uncertain medication reconciliation, depression, and patients' cognitive limitations. Evidence suggests deficits in communication by hospital physicians to primary care providers occur commonly but this is only one of many systems barriers to successful discharge. Review of the literature reveals interventions such as involvement of advance practice nurses or family members in the transition may overcome some of the difficulties inherent in discharge of the vulnerable geriatric patient. Weekend discharges present unique challenges and potential solutions are explored. This case offers the opportunity to review the elements necessary for success and insight into the systems limitations which underlie failed transitions. *Journal of Hospital Medicine* 2008;3:349–352. © 2008 Society of Hospital Medicine.

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The patient is an 86-year-old woman with a history of mild dementia, major depression with psychotic features, congestive heart failure, hypertension, hyperlipidemia, osteoporosis, and hypothyroidism. She presented to her primary care physician (PCP) complaining of 4 days of bilateral lower extremity edema and dyspnea on exertion. She was admitted to the hospitalist service for exacerbation of congestive heart failure.

MEDICATIONS

Donepezil, olanzapine, mirtazapine, sertraline, spironolactone, triamterene/hydrochlorothizide, simvastatin, alendronate, levothyroxine, multivitamin.

SOCIAL HISTORY

She lived alone in an independent-living retirement apartment that provided meals but not medical care, and she was able to function independently in her activities of daily living. Her pharmacy delivered her medications via courier service, whereas visiting home nurses filled her medication box and checked on her status weekly.

HOSPITAL COURSE

Admission vitals were: heart rate, 83; blood pressure, 158/84; respiratory rate, 20; temperature, 36.4, and saturation, 95% on

room air. Echocardiogram revealed intact ejection fraction, left ventricular hypertrophy, and impaired relaxation. A TSH of 6.6 demonstrated undertreated hypothyroidism. Telemetry monitoring was significant for frequent short bursts of narrow-complex tachycardia without clear atrial activity. The etiology of her heart failure exacerbation was presumed to be paroxysmal atrial fibrillation in the setting of diastolic dysfunction. Given her mild hyperkalemia (5.1), her diuretics were changed to monotherapy with furosemide. Low-dose beta blockade and antithrombotic therapy were started as well as increased supplementation of levothyroxine. After several days of diuresis, her potassium had normalized, she tolerated initiation of a new ACE inhibitor, and her dyspnea had resolved. On the last hospital day, her dentures were accidentally discarded with her breakfast tray, causing her great distress.

On discharge she was on 4 new medications, 2 old medications had been stopped, and 1 prior medication's dose had been increased. During medication reconciliation, the patient reported that she had not been taking olanzapine for weeks, and thus this was omitted from her home health medication orders, with instructions to discuss with her PCP on first follow-up within the week. The patient was provided with congestive heart failure instructions and a complete medication list. Unfortunately, the day of discharge was the first day of a holiday weekend.

Case management was unavailable on the weekend; her out-of-state family member was unable to be reached by phone, and her usual pharmacy courier service was closed. As she did not have a friend or family member to pick up her prescriptions from an alternate pharmacy, her prescriptions were provided as handwritten scripts, called in to her pharmacy's voice mail, and written on the home health orders. The patient was discharged to her home with communication to her PCP via telephone, e-mail, and electronic discharge summary.

POSTDISCHARGE

Medications were not delivered to the patient until the third postdischarge day. Three days after discharge, the daughter from out of state left a message for the PCP expressing concern that the patient was failing—not eating or taking any of her medications. An expedited home nursing visit

was arranged. Five days after discharge, the pharmacist called the PCP stating he had not received a prescription for the beta-blocker. Her PCP saw the patient in clinic 6 days after discharge and reconciled the medication list, restarting the olanzapine that the patient had stopped a few weeks before and the mirtazapine, which had not been restarted despite its presence on the discharge orders and patient instructions. She continued to have poor appetite and mood and was taking her medications only with great effort from her visiting nurse and staff at the retirement community. A major cause of this decline was the significant worsening of her depression brought on by hospitalization, lapses in her psychiatric medications, and emotional distress induced by the loss of her dentures during her hospital stay. She was readmitted 10 days after her discharge because she was unable to care for herself.

DISCUSSION

This case demonstrates numerous pitfalls in the transition process. Despite communication between the hospitalists and the PCP and a common electronic medical record, this patient failed the transition from the acute care hospital to the ambulatory setting. On the holiday weekend, ancillary support services were unavailable, including case management to contact her home care agency and her pharmacy to fill and deliver her new prescriptions. Despite efforts by the discharging physician, the out-of-town family could not be contacted. Thus, an elderly woman with cognitive impairment was left to process a new diagnosis and 7 medication changes with an unreliable mechanism to obtain her new medications.

With the rise of hospital medicine, it has increasingly been recognized that transitions represent a point of vulnerability in the care of geriatric patients. A change in physical location of care and handoffs between caregivers create the potential for error and loss of information. Prior research has demonstrated frequent quantitative and qualitative deficiencies in the information conveyed between inpatient and outpatient physicians, with direct communication occurring less than 20% of the time.¹ In this case, communication occurred between the hospitalists and the outpatient physician, demonstrating that communication is just one element of successful transitions.

Components of effective care transitions have been described in the literature, including: preparation of the patient and caregiver for the transition, medication reconciliation, instructions to patient and caregiver about symptoms and signs of worsening, and an explicit follow-up plan for tests and appointments.² Optimally, there is interactive discussion between the hospitalist and the receiving clinician with a summary of events including an updated medication, allergy, and problem list, current advance directives, and a common plan of care.² This case illustrates that these elements are necessary but may not be sufficient.

Some interventions have been found to be effective. A nurse-led multidisciplinary approach to the discharge of elderly patients with congestive heart failure led to decreased readmission rates after 90 days and was found to be a cost-saving measure.³ Similar results have been seen in geriatric patients with a variety of diagnoses in trials using advanced-practice nurses to bridge the vulnerable period of discharge or by interventions to improve the ability of family caregivers to handle the challenges of the transition.⁴⁻⁶ Individualized attention to the unique needs of each patient and members of their social support structure, and investment in resources to do so, has the ability to decrease readmissions.

Medication errors, medication omissions, or the inability to fill medications on discharge represent a patient safety challenge. There has been increasing emphasis on medication reconciliation at admission and discharge, but in some cases the “gold standard” medication list is hard to determine. Electronic medical records would seem to be a natural solution to this problem, but as this case illustrates, the electronic record may not reflect the reality of patient adherence. As in this case, clarification may require another visit with the primary provider, leaving a period of time with an uncertain medication list and therefore a vulnerable patient. Access to medications after discharge was also a problem in this case, but this is not rare. A 2001 study found that 2 days after discharge from a general medicine hospital service, 1 in 5 patients had been unable to obtain all discharge medications.⁷ A pharmacist-led medication reconciliation intervention in nursing home patients led to decreases in length of stay and discrepancy-related adverse drug events. Furthermore, a follow-up call allowed for

clarification of medication questions in 25% of cases.^{7,8}

Patient characteristics such as depression and cognitive dysfunction have been found to affect readmission rates and are important to assess in addressing risk for poor outcomes after discharge. A 2000 study comparing readmission rates after discharge from a geriatric rehabilitation hospital found that patients with depression had an odds ratio of 3.5 for readmission compared with those without depression.⁹ Inadequate health literacy is also associated with decreased ability to self-manage chronic disease and is associated with increased risk of mortality in community-dwelling elderly such as the patient in this case.¹⁰ Asking patients or their proxies to explain their own understanding of the discharge plan can unmask comprehension issues that otherwise may go undetected.

Discharge on a weekend presents a period of critical vulnerability. Early recognition that a transition is susceptible to failure allows the events necessary for success to occur during the week when services are available. An example in the present case might include having had the pharmacy fill the prescriptions prior to the day of discharge. This does introduce a new opportunity for error in cases in which the plan of care changes but would have solved the inability to have prescriptions filled once the holiday weekend had begun.

In cases in which the usual mechanisms break down, increased effort on the part of the hospitalist can usually create a unique solution to the problem. Examples of creative solutions that did not occur in this case might include contacting the manager of the patient's retirement apartment to determine if this individual might be willing to fill prescriptions at an alternate pharmacy. A better alternative would be to change the system such that the solution is readily accessible and time efficient. Weekend availability of case management would be one such step. A means for the hospital's inpatient pharmacy to provide 2-3 days of bridging medications would prevent weekend prescription access from affecting timely discharges of multiple patients over the course of a year. The hospitalist is in a unique position to take a leadership role in effecting system change to address these issues.

Ultimately, it is the duty of the hospitalist to take responsibility for the safety and well-being of

the patient, and if no solution can be found, it may be necessary to hold discharge or find an alternate disposition until logistical hurdles have been overcome. Indeed, for patients admitted for myocardial infarction, discharges were less likely to occur on weekends, presumably because of lack of ancillary services.¹¹ With foresight, creative problem solving, and systems improvement, this should rarely be necessary.

Transitions continue to be a difficult time for the most vulnerable patients. Intense efforts have improved outcomes in selected populations but have not been broadly applied. Identification of patients at the highest risk, such as those with depression, poor social support, and cognitive limitations, would allow anticipation of difficult transitions and potential utilization of proven interventions, such as advanced-practice nurses or follow-up pharmacy contact. Processes such as these might have prevented some of the problems in this patient's discharge. Appreciation of the weekend discharge as a time of particular challenges allows barriers to be identified and solutions created during the week, when resources are still available. Attention to all elements of effective transitions should become part of the growing culture of patient safety.

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