



Quality Improvement

Lessons Learned When Discharging Older Adults to Skilled Nursing Facilities

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Background: When patients transition from an inpatient hospital stay to a skilled nursing facility (SNF), the information that is sent with them is essential to proper care in the facility. **Methods:** Records of hospital-to-SNF transfer were reviewed for opportunities for improvement in providing accurate or complete information. SNF staff were asked about their experiences caring for these patients and the effects that the inadequate documentation had on the patient's medical care. **Results:** Four cases were identified that exhibit key errors that make the transition from the inpatient setting to the SNF setting difficult and potentially unsafe for patients and providers. These included: (1) inaccurate medication reconciliation on discharge, (2) incomplete medication instructions on discharge, (3) lack of information about the inpatient course and diagnoses and (4) missing instructions for follow-up care and procedures. **Conclusions:** Education for hospital-based providers has the potential to decrease the risks associated with transitioning patients from inpatient to SNF care settings. Structural and systemic changes could reduce the role of human error in this process and decrease the time requirements on overburdened hospital staff.

BACKGROUND

Most patients admitted to a skilled nursing facility (SNF) come directly from a medical or surgical inpatient hospital stay. To facilitate this transition, discharge paperwork from the hospitalization is provided to SNF medical staff immediately prior to and at the time of discharge. This includes vital information about the patient's reason for hospitalization, their course in the hospital, and the medications and follow-up care that they will need after discharge. The nursing staff at the SNF are under strict guidance to follow these instructions for care and medication administration. Patients are vulnerable to complications during times of transition, and thus accurate communication about diagnoses, medications, and follow-up is critical for patient safety. Unfortunately, the quality and accuracy of discharge paperwork is variable; it is often contradictory or incomplete. According to the Centers for Medicare and Medicaid Services, the percentage of hospitalized patients who did not receive good discharge communication improved between 2009 and 2014 from 15.8% to 11.3%. However, rates were worse among Black and Asian patients, potentially worsening the disparities in health outcomes they experience when compared to White counterparts.¹

As a result, SNF physicians and medical providers often must do additional work to gather the correct information and ensure that they are providing safe and appropriate care to their patients. Many do not have access to hospital electronic medical records and will therefore need to contact the inpatient provider team to clarify their instructions. These teams can be difficult to contact, especially if shift

changes have occurred and there are new providers answering calls. Failure to collect all the necessary information and instructions during this transition can lead to delays in medications or procedures, incorrect medications, frustration of patients and providers, readmissions to the hospital, and financial losses for the SNF or hospital.

Prior studies of hospital-to-SNF transitions have reported that 30-70% of patients have some sort of error or unintended change to their medications during this transfer.¹ Certain types of errors have been found to be more common during this transition, including inappropriate discontinuation of medication or change in dosing.² One study showed that 60% of patients had at least one medication discrepancy between their hospital medication list and a written list taken directly from the patient.³ If one or more medication change is made during hospital discharge, the change of an adverse drug effect post-transfer is increased by 4.4%.⁴ Studies have found that adverse drug events increase mortality, with a 2 times increased risk of death among patients with an event compared to those without.⁵ These adverse drug events cost up to \$5.6 million per hospital per year.³ This is one of many reasons that nearly one quarter of Medicare recipients who are discharged to a SNF are readmitted within 30 days.⁶

Many of these adverse events and readmissions are preventable. While some are caused by errors on the part of the SNF medical and nursing staff, many are a result of inaccurate or incomplete documentation of treatment histories and plans by the hospital team. This may include incomplete hospital courses, outdated medication lists, and absent follow-up procedure or visit plans. Educating hospi-

tal physician and nursing staff to identify key points in this transition process and improve their documentation may have the potential to save time and money and improve satisfaction for patients and providers.

In this report, we review cases that highlight some of the challenges of caring for patients in one SNF, using discussions with staff members and review of hospital discharge documentation to study areas for improvement. Our goal is to understand areas for improvement to ultimately reduce errors in diagnosis and treatment and improve continuity of care, patient outcomes, and patient and family satisfaction with SNF admissions.

CASES

CASE 1: THE IMPORTANCE OF MEDICATION RECONCILIATION

An 88-year-old man is admitted to the hospital after a fall from standing. He is diagnosed with a left hip fracture which is surgically repaired. He has a past medical history of dementia, stage three colon cancer, and constipation. He did well post-operatively but is noted to have a stool ball in his rectal vault. According to discharge paperwork, he is “moving his bowels with regimen and no discomfort”. The discharge diagnoses list a *right* hip fracture instead of left.

The medication list on his discharge paperwork instructs the SNF team to continue his prior prescription for Miralax once a day, and also includes a new prescription for Miralax twice a day. No pain medications are in this list, even though he was receiving oxycodone while in the hospital. An antibiotic prescription is included in the list with no end date, and a course of prednisone that was ordered for an acute event 3 months prior for 5 days was still on the list. Instructions for this prednisone were not reviewed (paperwork stated “TK 3 TS PO QAM”), and instructions for triamcinolone cream did not specify a location to apply the cream.

These errors in medication reconciliation caused confusion for the SNF staff due to lack of clarity surrounding the treatment of this patient’s stool ball and his pain. This led to care inefficiencies because additional phone calls were required to determine the appropriate treatment course. In addition, the patient could have received a medication in error which is a safety concern.

The likely root cause of this problem was a multifaceted failure in medication reconciliation. The admitting nurse flagged some medications for discontinuation, but they were never removed from the patient’s admitting medication list. This resulted in an error by the discharging provider who intended to continue the patient’s home medications. It is crucial for the care team to carefully complete the medication reconciliation. Utilizing Medication History Technicians to garner a correct patient medication list can improve accuracy. This also requires the system to easily flag medications for removal or dose modification by the admitting attending. Creating a system to reduce process variation and allowing time for this upfront work can streamline discharge medication reconciliation and prevent medical errors.

CASE 2: FOLLOW-UP CARE COMMUNICATION

A 90-year-old male with a history of coronary artery disease, diabetes mellitus, and hypertension is admitted to the hospital for resection of a right buttock sarcoma. His course is complicated by a peri-operative ST-elevation myocardial infarction (STEMI), and he is transferred to the coronary care unit. He initially declined catheterization and his STEMI is managed medically, but later agreed and was found to have severe triple vessel coronary artery disease. However, he was not a cardiac surgery candidate and will be managed medically.

He requires an additional surgery for further sarcoma resection and closure of his buttock wound, which will be done as an outpatient after discharge to SNF. Upon arrival to the SNF, the hospital course is unavailable to the nursing home care team. His discharge paperwork indicates that the patient needs an appointment with plastic surgery “as soon as possible” and with orthopedic surgery in two weeks but no appointments have been made.

During the patient’s first week at the SNF, staff remain uncertain about his surgical care plan especially with respect to additional surgery despite many unsuccessful attempts to contact the surgical team. Furthermore, they know one of his medications needs to be held 5 days prior to surgery so lead time is essential. The family was understandably frustrated because they were not receiving communication about future surgical plans. A week after SNF admission, the patient and his care team were informed at the last minute that he would have surgery the following day. Preparations for surgery had to be made quickly, and anticoagulation guidelines were not met.

In summary, it is crucial that the hospital medical team clearly outlines the follow-up care that a patient needs and collaborates with SNF staff to execute those plans. It would be best if follow-up appointments were set up while the patient is still in the hospital via coordinated access center to increase the chances that the patient receives timely care. When a patient needs surgery after discharge from the hospital, that plan should be clearly delineated and communicated, including any need for medication adjustments or pre-operative care.

CASE 3: MEDICATION CHANGES IN THE SNF

A 75-year-old female with a medical history of transfusion-dependent hypoplastic myelodysplastic syndrome is admitted to the hospital four times in less than two months. She also has newly diagnosed cirrhosis due to secondary hemochromatosis, systolic heart failure, sleep apnea, hypertension, hyperlipidemia, and diabetes. She takes numerous medications at home including cyclosporine, romiplostim, 5-azacitidine, and prednisone.

Between two of her hospitalizations, she is admitted to a SNF for one week. During this stay, many medication changes were made in collaboration with her hematologist. While there she develops respiratory failure during a transfusion and is sent to the emergency department for evaluation. She stays in the hospital for a few days and is sent back to the same SNF, but her discharge summary does not reflect the medication changes that were made prior

to her hospital readmission. These changes included stopping allopurinol, digoxin, and oxycodone, and adjusting her dose of cyclosporine, prednisone, and potassium. In addition, the patient was discharged from the hospital on ciprofloxacin with no end date. As a result, the SNF nurse had to seek help from the facility's medical team to adjust the orders.

When a patient is recently hospitalized, the previous medication history automatically populates the home medication list screen. Several changes to the patient's medications were made at the nursing facility but these were not reflected in the home med list on admission. In the future, a system improvement may be made to allow physicians to directly reconcile medications between the electronic medical record and SNF pharmacies. In the meantime, it is essential to seek this information and not assume that no changes were made during the SNF stay.

CASE 4: THE NECESSITY OF A DISCHARGE SUMMARY

A 71-year-old male is admitted to the hospital after three weeks of imbalance, gait instability, and falls, as well as left hand weakness. He has a history of hypertension, abdominal aortic aneurysm, diabetes mellitus, and chronic lumbar spinal cord compression. He is treated and discharged to a SNF with paperwork including the admission history and physical but no discharge summary or hospital course. The diagnosis of cerebrovascular accident (CVA) is included on his problem list. The paperwork indicated a need for neurosurgical follow up, but it was unclear why he would need this for a CVA. The patient and his wife were unable to elaborate further on his hospital diagnosis or plan of care. The SNF team also had concerns about the medications that were ordered given the little information they received.

Fortunately, the SNF physician had access to the hospital's electronic medical record, which is not typically the case. Upon reviewing the patient's hospital records, it turns out that while his admission diagnosis was CVA this changed multiple times throughout his stay. During his workup, he had a CT scan of his brain that showed a left cerebellar hypodensity that was thought to be a possible mass. Later, his diagnosis was changed to peripheral neuropathy. Finally, an MRI of his brain and cervical spine showed likely cervical myelopathy as a cause of his symptoms. His final discharge diagnosis was not clearly defined in the paperwork received by the facility.

Most SNF facilities and providers do not have access to the electronic medical record, and therefore it is essential to send the hospital course and complete discharge paperwork. Checks and balances prior to discharge should be optimized to prevent failure of passing along continuity of care information.

DISCUSSION

This series of cases demonstrates challenges that are often faced by hospital providers, SNF providers, and patients. Some practice changes can be implemented immediately to improve care coordination and these scenarios can inform future system efforts to impact care. Hospital physicians can improve outcomes for patients, reduce burden on SNF

staff, and decrease costs by following key principles outlined in these cases and summarized below and in [Table 1](#).

KEY PRINCIPLES

1. COMPLETE AND ACCURATE MEDICATION RECONCILIATIONS

- Ensure that all medications have proper instructions on admission and discharge
 - Avoid "use as directed" or "per sliding scale"
 - Provide specific instructions for dressing changes (location and frequency of change)
 - Include end dates where appropriate (i.e., for antibiotics or steroids)
- Review SNF records on readmission to the hospital to verify current medications and assess for changes made while in the SNF (as SNF pharmacies often do not communicate with hospital medical records)
- Verify that the proper medication list is in the discharge summary, and send the necessary prescriptions (especially controlled substances) to the appropriate SNF pharmacy (not the patient's usual outpatient pharmacy)

POTENTIAL SYSTEM SOLUTION

One locally implemented solution to this problem is the creation of a medication reconciliation program staffed by pharmacy technicians. When a patient is admitted from the emergency department, these staff members access their current medication list, pharmacy dispense reports, facility records, and family members or caretakers to determine how they are taking the medications that have been prescribed to them. They can flag medications for removal or change them to reflect how the patient is currently receiving them. This is a great step to ensure that medication reconciliations are more accurate on admission and takes the burden off the busy admitting team to complete this time-consuming task. However, it is ultimately still the responsibility of the admitting attending to verify that the medications are accurate, and therefore they are still susceptible to the errors discussed previously in these cases.

2. COMPLETE AND ACCURATE DISCHARGE CONTINUITY DOCUMENTS (CONTINUITY OF CARE [COC] AND DISCHARGE SUMMARY)

- Verify that these documents are complete and include accurate diagnoses and plans
- Provide a checklist for unit secretary prior to discharge to ensure all documents are printed and transported with patient

POTENTIAL SYSTEM SOLUTION

Some potential solutions that have been attempted relate to improvements in electronic records systems that prevent common errors. One such idea is to prevent hospital-to-SNF transfers from happening until a Continuity of Care document and hospital course are uploaded into the software used to accept new patients. This would allow accept-

Table 1.

	Summary	Problems	Potential Solutions
Case 1	88-year-old male with fall whose medication list is inaccurate and lacks sufficient instructions	- Admitting physician did not complete the medication reconciliation accurately	- Complete admission medication reconciliation to facilitate accurate discharge medication - Remove medications given for acute events - Review duplicate medication orders - Provide clear instructions for medications especially with end dates and topical treatments - Implement programs such as having pharmacy technicians assist with medication reconciliation to ease the burden on hospital physicians to complete this task
Case 2	90-year-old male admitted for sarcoma resection who is discharged to a SNF without information about follow-up appointments or procedures	- Follow-up appointments with appropriate specialists were not made - SNF did not receive communication about plans to bring the patient back for surgery, hindering pre-operative care and planning	- Schedule follow-up appointments (office visits, procedures, surgeries) before hospital discharge whenever possible, and include this information on discharge paperwork - Establish clear lines of communication between surgical (which surgeon and how to contact) and SNF teams to facilitate safe pre-operative care
Case 3	75-year-old female with hematologic disorder with multiple admissions and SNF medications are not updated	- Admitting physician did not perform a proper medication reconciliation that included changes made in the SNF	- Review SNF records for current medications or contact SNF if documents unclear - Connect SNF pharmacy records with the hospital EMR to automate this process
Case 4	71-year-old male with gait problems and weakness, but only his admission H&P sent to SNF without final correct diagnoses	- Incomplete discharge paperwork without a hospital course and discharge summary can result in unsafe transfers - The admission H&P includes helpful information but is not sufficient to care for the patient at the SNF	- Hospital providers must include final accurate diagnoses and hospital courses in discharge paperwork - Establish systems to ensure that necessary documentation is completed before a patient can be transported to their SNF - Engage family in care whenever possible can improve treatment adherence and transfer safety

ing SNF staff more time to ask questions that may arise, and it would prevent patients from arriving to the SNF without this crucial paperwork. Increasing access to the hospital electronic medical record for SNF physicians is another option to allow for better communication and understanding of the context of a patient’s SNF stay. Then, many questions about a patient’s medications, diagnoses, and need for follow-up could be answered without directly contacting the hospital staff. Unfortunately, only certain SNF physicians are currently able to remotely access this information.

3. TIMELY AND APPROPRIATE FOLLOW-UP CARE PLANNING

- Create follow-up appointments before hospital discharge and include this information on the discharge paperwork that goes to the SNF
- Communicate need for additional care, treatment, or procedures in the discharge paperwork so that the SNF can ensure these plans are enacted

POTENTIAL SYSTEM SOLUTION

Follow-up appointments are made and tracked through a variety of individual systems that are not interconnected,

usually based at each individual medical practice. In the future, administrators should consider creating a centralized system to schedule and manage appointments for patients, which would allow hospital teams to arrange follow-up more easily and would automate clear communication for SNF teams.

CONCLUSIONS

The transition from an inpatient hospital to a skilled nursing facility is a time of increased risk for patients, providers, and healthcare entities. Communication is key for this transition to be safe and effective, and there are currently a few areas where healthcare providers could improve their practices and health systems facilitate this process. These include accurate admission and discharge medication reconciliation, discharge summaries with accurate hospital courses, and clear instructions regarding future testing and appointments. Despite efforts to improve discharge protocols, there are still many areas for improvement. Future research should investigate methods to increase provider understanding of this topic and decrease opportunities for error. These efforts have the potential to reduce complica-

tions like readmissions, decrease healthcare expenditures, and improve the experience of patients, families, and caregivers.

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CONFLICTS OF INTEREST

The authors report no conflicts of interest related to the work reported in this manuscript.

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