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Original Study

Hospital Transfers of Skilled Nursing Facility (SNF) Patients Within 48 Hours and 30 Days After SNF Admission

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A B S T R A C T

Background: Close to 1 in 5 patients admitted to a skilled nursing facility (SNF) are readmitted to the acute hospital within 30 days, and a substantial percentage are readmitted within 2 days of the SNF admission. These rapid returns to the hospital may provide insights for improving care transitions between the acute hospital and the SNF.
Objectives: To describe the characteristics of SNF to hospital transfers that occur within 48 hours and 30 days of SNF admission based on root cause analyses (RCAs) performed by SNF staff, and identify potential areas of focus for improving transitions between hospitals and SNFs.
Design: Trained staff from SNFs enrolled in a randomized, controlled clinical trial of the INTERACT (Interventions to Reduce Acute Care Transfers) quality improvement program performed retrospective RCAs on hospital transfers during a 12-month implementation period.
Setting: SNFs from across the United States.
Participants: 64 of 88 SNFs randomized to the intervention group submitted RCAs.
Interventions: SNFs were implementing the INTERACT quality improvement program.
Measures: Data were abstracted from the INTERACT Quality Improvement (QI) tool, a structured, retrospective RCA on hospital transfers.
Results: Among 4658 transfers for which data on the time between SNF admission and hospital transfer were available, 353 (8%) occurred within 48 hours of SNF admission, 524 (11%) 3 to 6 days after SNF admission, 1450 (31%) 7 to 29 days after SNF admission, and 2331 (50%) occurred 30 days or longer after admission. Comparisons between transfers that occurred within 48 hours and within 30 days of SNF admission to transfers that occurred 30 days or longer after SNF admission revealed several statistically significant differences between patient risk factors for transfer, symptoms and signs precipitating the transfers, and other characteristics of the transfers. Hospitalization in the last 30 days and year was significantly more common among those with rapid returns to the hospital. Shortness of breath was significantly more common among those transferred within 48 hours or 30 days, and falls, functional decline, suspected respiratory infection, and new urinary incontinence less common. SNF staff rated a higher proportion of transfers within 30 days versus 30 days or longer as potentially preventable (25.1% vs 21.5%, $P = .005$). Case descriptions derived from the QI tools of transfers back to the hospital within 48 hours of SNF admission illustrate several factors underlying these rapid returns to the hospital.

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Conclusion: RCAs on transfers back to the hospital shortly after SNF admission provide insights into strategies that both hospitals and SNFs can consider in collaborative efforts to reduce potentially avoidable hospital readmissions.

Reducing 30-day hospital readmissions and emergency department (ED) visits is a major concern for skilled nursing facilities (SNFs) as well as hospitals. The inclusion of these events as short-stay quality measures by the Centers for Medicare & Medicaid Services (CMS) will provide additional incentives for SNFs to reduce potentially avoidable hospital transfers. SNFs are increasingly under pressure by hospitals to reduce 30-day readmissions because of financial penalties to hospitals for specific readmissions and high overall readmission rates. The growing number of patients in Medicare advantage plans, accountable care organizations, and bundled payment programs is increasing this pressure on SNFs to reduce not only hospital admissions but the high number of ED visits that may be preventable.[1–4] The SNF hospital readmission quality measure that will be implemented over the next few years will provide additional incentives for SNFs to reduce readmission rates.[5]

The overall rate of 30-day hospital readmissions for conditions targeted in the Affordable Care Act has declined from 21.5% to 17.8% between 2007 and 2015.[6] Data from before 2010 suggest that the 30-day readmission rate from SNFs was approximately 23%.[7,8] Although some health policy experts question the validity of 30-day hospital readmissions as a measure of quality,[6,9] understanding factors that contribute to transfers to acute hospitals shortly after admission to an SNF can shed light on care transition problems that result in unnecessary and potentially avoidable hospitalizations and their associated complications and costs.[10,11] Information transfer at the time of hospital discharge may be incomplete or lack critical details.[12] For this and many other reasons, several studies have in fact demonstrated that a substantial proportion of hospitalizations and ED visits in the SNF population are potentially avoidable.[6,13–17]

Data from root cause analyses (RCAs) of close to 6000 hospital transfers selected for review by SNF staff during implementation of the INTERACT (Interventions to Reduce Acute Care Transfers) quality improvement program indicate that in retrospect, SNF staff considered approximately 23% of transfers potentially avoidable or preventable.[18,19] Transfers back to the hospital that occur shortly after SNF admission may be associated with a higher incidence of potentially preventable care transition problems. The goal of this article is to describe root cause analyses (RCA) performed by SNF staff and identify clinical and other factors that are associated with transfers back to the hospital within 48 hours and within 30 days of SNF admission. These data will further inform efforts to reduce potentially avoidable hospital readmissions and ED visits and their associated complications and costs.

Methods

Similar to 2 previous reports,[19,20] data presented herein are based on secondary analyses of data from a randomized, controlled trial of implementing the INTERACT quality improvement program involving 264 SNFs from across the United States. Details of the eligibility, recruitment, characteristics of the participating SNFs, and an overview of the RCA data can be found in a recent publication.[14] SNFs randomized to the immediate intervention group were provided training in completion of the INTERACT Quality Improvement (QI) tool, a structured, retrospective RCA of hospital transfers designed to be performed by SNF staff.[21,22] The tool consists of checkboxes with specific items to facilitate summarizing the data, as well as spaces for narrative text. The tool asks a yes-no question at the end of the structured review, which was used as the basis for determining preventability of hospital transfer: "In retrospect, does your team think this transfer might have been prevented?"

Participating SNFs were asked to perform RCAs on as many hospital transfers as they could and submit a minimum of 4 QI tools per week (assuming they had this many transfers). Trained facility-based staff, most of whom were serving as champions and co-champions for the project, completed the QI tools, which were deidentified, copied, and mailed to the project team at intervals of 3 to 4 months. Trained research assistants entered the QI tool data into a Microsoft Excel database for analyses.

Differences between transfers that occurred within 48 hours, within 6 days, within 30 days, and those that occurred longer than 30 days after SNF admission were examined in relation to presenting signs and symptoms, diagnostic testing, medical evaluation, interventions before transfer, and other factors by a series of chi-square tests. Within categories of characteristics in which multiple comparisons were made, a Bonferroni correction was considered in evaluating the *P* values.

A random sample of RCAs of transfers within 48 hours were reviewed in detail to identify cases that illustrate common reasons underlying the rapid transfer back to the hospital.

Results

During the 12-month implementation period, 4856 QI tools were received from 64 of the 71 SNFs that were actively participating in the immediate implementation group of the randomized trial. The mean and median number of QI tools submitted were 76 and 49, respectively, with an interquartile range of 30 to 106. Characteristics of these SNFs were reported in a previous article.[19] Among the QI tools submitted, 4658 (96%) had a completed section on the time since admission to the SNF before the hospital transfer. Among these 4658 transfers, 353 (8%) occurred within 48 hours of SNF admission, 524 (11%) 3 to 6 days after SNF admission, 1450 (31%) 7 to 29 days after SNF admission, and 2331 (50%) occurred 30 days or longer after admission.

There were few significant differences between the characteristics of transfers that occurred less than 48 hours after SNF admission versus those that occurred 3 to 29 days after SNF admission. Similarly, there were few differences between the characteristics of transfers that occurred less than 1 week after SNF admission versus those that occurred 7 to 29 days after SNF admission (data not shown).

Table 1 illustrates characteristics of transfers that occurred within 48 hours of SNF admission and transfers that occurred less than 30 days after SNF admission compared with characteristics of transfers that occurred 30 days or longer after admission to the SNF. The most common patient risk factors identified for transfer back to the hospital within 48 hours and 30 days were multiple active comorbidities (specific diagnoses were not documented on the QI tool), polypharmacy, congestive heart failure (CHF), and chronic obstructive pulmonary disease (COPD). Among these risk factors, polypharmacy was slightly but significantly more common among those transferred 30 days or longer after SNF admission than among those transferred after a shorter period of time; the same holds true for dementia. A diagnosis of cancer or a documented surgical complication was slightly but significantly more common among those transferred

Table 1
Characteristics of Transfers That Occurred Within 48 Hours and 30 Days of SNF Admission Versus Transfers That Occurred 30 Days or Longer After SNF Admission

Characteristics	Number (%) With Specified Characteristic			*P* Value*	*P* Value†
	Transferred Within 48 Hours of SNF Admission (n = 353)	Transferred Less Than 30 Days After SNF Admission (n = 2327)	Transferred 30 Days or Longer After SNF Admission (n = 2331)		
Risk factors for hospital admission‡					
Multiple comorbidities	173 (49.0)	1222 (52.5)	1173 (50.3)	.646	.134
Polypharmacy	121 (34.3)	891 (38.3)	1000 (42.9)	**.002**	**.001**
CHF	61 (17.3)	459 (19.7)	410 (17.6)	.887	.061
COPD	46 (13.0)	372 (16.0)	348 (14.9)	.348	.318
Dementia	21 (5.9)	126 (5.4)	251 (10.8)	**.005**	**<.001**
Fracture	31 (8.8)	192 (8.3)	149 (6.4)	.094	.015
Cancer	16 (4.5)	147 (6.3)	78 (3.3)	.258	**<.001**
Surgical complications	20 (5.7)	133 (5.7)	79 (3.4)	.034	**<.001**
ESRD—on dialysis	19 (5.4)	97 (4.2)	81 (3.5)	.078	.217
Prior hospitalizations					
In past 30 days	274 (77.6)	1840 (79.1)	391 (16.8)	**.000**	**.000**
In past year, but not past 30 days	23 (6.5)	186 (8.0)	1057 (45.3)	**.000**	**.000**
Reasons for transfer‡					
Signs and symptoms					
Abdominal pain	14 (4.0)	113 (4.9)	94 (4.0)	.953	.173
Abnormal vital signs	120 (34.0)	814 (35.0)	763 (32.7)	.638	.105
Altered mental status	106 (30.0)	622 (26.7)	681 (29.2)	.754	.059
Behavioral symptoms	58 (16.4)	319 (13.7)	387 (16.6)	.936	.006
Bleeding	27 (7.6)	169 (7.3)	193 (8.3)	.687	.195
Chest pain	16 (4.5)	100 (4.3)	81 (3.5)	.321	.146
Diarrhea	5 (1.4)	35 (1.5)	24 (1.0)	.512	.148
Edema	9 (2.5)	75 (3.2)	57 (2.4)	.906	.110
Fall	16 (4.5)	113 (4.9)	267 (11.5)	**<.001**	**<.001**
Fever	28 (7.9)	253 (10.9)	30 (13.1)	.006	.020
Decreased food and/or fluid intake	33 (9.3)	256 (11.0)	283 (12.1)	.129	.224
Functional decline	40 (11.3)	307 (13.2)	433 (18.6)	**.001**	**<.001**
Gastrostomy tube blockage/displacement	7 (2.0)	35 (1.5)	41 (1.8)	.767	.492
Loss of consciousness	7 (2.0)	48 (2.1)	43 (1.8)	.858	.591
Nausea/vomiting	19 (5.4)	146 (6.3)	182 (7.8)	.107	.041
Pain (uncontrolled)	60 (17.0)	410 (17.6)	461 (19.8)	.218	.059
Respiratory infection	12 (3.4)	82 (3.5)	148 (6.3)	.029	**<.001**
Seizure	7 (2.0)	28 (1.2)	23 (1.0)	.097	.478
Shortness of breath	98 (27.8)	594 (25.5)	493 (21.1)	.005	**<.001**
Skin wound/pressure ulcer	29 (8.2)	183 (7.9)	208 (8.9)	.662	.192
Unresponsiveness	40 (11.3)	242 (10.4)	244 (10.5)	.623	.940
Urinary incontinence (new)	4 (1.1)	60 (2.6)	98 (4.2)	.005	**.002**
Weight loss	0 (0.0)	5 (0.2)	5 (0.2)	.384	.998
Abnormal test results before transfer‡					
Anemia	13 (3.7)	237 (10.2)	174 (7.5)	.009	**.001**
Electrocardiogram	1 (0.3)	21 (0.9)	24 (1.0)	.174	.657
Hypoglycemia	5 (1.4)	32 (1.4)	39 (1.7)	.723	.407
Hyperglycemia	7 (2.0)	82 (3.5)	86 (3.7)	.102	.762
International normalized ratio (INR), high	1 (0.3)	16 (0.7)	6 (0.3)	.929	.032
Kidney function abnormal	5 (1.4)	105 (4.5)	102 (4.4)	.008	.821
Leukocytosis	3 (0.8)	38 (1.6)	27 (1.2)	.607	.167
Pulse oximetry	72 (20.4)	402 (17.3)	359 (15.4)	.017	.084
Urinalysis or urine culture	5 (1.4)	66 (2.8)	118 (5.1)	**.002**	**<.001**
Radiograph	8 (2.3)	122 (5.2)	186 (8.0)	**<.001**	**<.001**
Other factors‡					
Primary care clinician decision	188 (53.3)	1158 (49.8)	1234 (52.9)	.911	.030
Resident and/or family insisted on transfer	64 (18.1)	398 (17.1)	348 (14.9)	.120	.043
Advance directive not in place	27 (7.6)	159 (6.8)	149 (6.4)	.374	.545
Time of day and day of week§					
Morning (7 AM to noon)	95 (31.1)	601 (29.6)	550 (26.7)	.176	.105
Afternoon (noon to 7 PM)	118 (38.8)	864 (42.6)	885 (42.9)		
Evening (7 PM to midnight)	62 (20.4)	352 (17.4)	380 (18.4)		
Night (midnight to 7 AM)	29 (9.5)	210 (10.4)	246 (11.9)		
Weekday	256 (72.5)	1789 (76.8)	1787 (76.7)	.089	.943
Weekend	97 (27.5)	541 (29.2)	544 (23.3)		
Evaluation before transfer§					
On site (vs telephone) medical evaluation before transfer	70 (19.8)	568 (24.4)	487 (20.9)	.646	**.004**
Diagnostic tests before transfer†					
Blood tests	29 (8.2)	364 (15.6)	337 (14.5)	**.001**	.258
Electrocardiography	2 (0.6)	32 (1.4)	29 (1.2)	.267	.694
Urinalysis and/or culture	5 (1.4)	96 (4.1)	170 (7.3)	**<.001**	**<.001**
Venous Doppler study	1 (0.3)	20 (0.9)	16 (0.7)	.374	.500
Radiograph	15 (4.2)	167 (7.2)	276 (11.8)	**<.001**	**<.001**

(*continued on next page*)

Table 1 (*continued*)

Characteristics	Number (%) With Specified Characteristic			*P* Value*	*P* Value†
	Transferred Within 48 Hours of SNF Admission (n = 353)	Transferred Less Than 30 Days After SNF Admission (n = 2327)	Transferred 30 Days or Longer After SNF Admission (n = 2331)		
Interventions before transfer‡					
New medication(s)	43 (12.2)	340 (14.6)	397 (17.0)	.022	.024
Intravenous or subcutaneous fluids	5 (1.4)	88 (3.8)	89 (3.8)	.022	.948
Increase oral fluid intake	0 (0.0)	4 (0.2)	13 (0.6)	.160	.029
Oxygen	80 (22.7)	495 (21.3)	475 (20.4)	.323	.452
Clinician authorizing transfer§					
Primary care physician, nurse practitioner, or physician assistant	259 (83.0)	1787 (87.6)	1813 (88.1)	**.012**	.687
Covering physician	53 (17.0)	252 (12.4)	246 (11.9)		
Outcome of transfer§					
Emergency department visit only with return to skilled nursing facility	51 (15.0)	292 (13.3)	471 (21.4)	**.007**	**<.001**
Admitted as inpatient	288 (85.0)	1905 (86.7)	1732 (78.6)		
Rating of preventability§					
Potentially preventable	76 (23.8)	542 (25.1)	467 (21.5)	.354	**.005**
Not preventable	243 (76.2)	1617 (74.9)	1705 (78.5)		
Opportunities for improvement‡,‖					
Changes could have been detected earlier	11 (14.5)	114 (21.0)	123 (26.3)	.026	.047
Communication could have been better	9 (11.8)	86 (15.9)	95 (20.3)	.081	.065
Condition might have been managed in SNF with available sources	19 (25.0)	170 (31.4)	192 (41.1)	**.008**	**.001**
Earlier discussion of preferences with resident/family	14 (18.4)	89 (16.4)	77 (16.5)	.676	.977
ACP could have been in place earlier	8 (10.5)	62 (11.4)	35 (7.5)	.364	.034
Resources not available to manage the change	25 (32.9)	144 (26.6)	102 (21.8)	.035	.081

Note: bold values are statistically significant ($P < .05$).

ACP, advance care planning.

*P values calculated by chi-square tests comparing characteristics of transfers that occurred within 48 hours of SNF admission to characteristics of transfers that occurred 30 days or longer after admission to the SNF. Values are highlighted that reached significance at the .05 level. Within categories of characteristics in which multiple comparisons were made, a Bonferroni correction was considered in evaluating the P values.

†P values calculated by chi square tests comparing characteristics of transfers that occurred less than 30 days after SNF admission to characteristics of transfers that occurred 30 days or longer after admission to the SNF. Values are highlighted that reached significance at the .05 level. Within categories of characteristics in which multiple comparisons were made, a Bonferroni correction was considered in evaluating the P values.

‡n's vary because more than one item could have been selected. Bonferroni correction was considered in evaluating these P values. For example, in the category of Risk Factors for Hospital Admission, 9 comparisons were made. Thus, a significant P value with the correction would be less than or equal to .05/9 = .0055.

§Answers were mutually exclusive; n's vary because not all items were answered on each QI tool. Bonferroni correction was not applied to these items.

‖n is only those rated as potentially preventable.

within 48 hours of admission and less than 30 days after admission than among those transferred 30 days or longer after SNF admission.

The most common signs and symptoms associated with transfers among those transferred within 48 hours of admission were abnormal vital signs, altered mental status, shortness of breath, uncontrolled pain, and behavioral symptoms. Shortness of breath was more common among those transferred less than 30 days after SNF admission, whereas functional decline, suspected respiratory infection, and new onset of urinary incontinence were significantly more common among those transferred 30 days or longer after SNF admission. The most common abnormal test results associated with transfers within 48 hours and less than 30 days after SNF admission were pulse oximetry and anemia; only the latter was more common among those transferred less than 30 days after SNF admission versus 30 days or longer after SNF admission. Onsite (vs telephone) evaluation by a clinician was also more common among those transferred less than 30 days after SNF admission versus 30 days or longer after SNF admission, but there was no difference in day of the week or weekend versus weekday.

Several other characteristics were significantly more common among transfers that occurred shortly after SNF admission. For example, covering physicians (vs primary care physicians) more often ordered transfers within 48 hours; a higher proportion of patients transferred less than 48 hours and 30 days were admitted to the hospital (vs an ED visit with return to the SNF); and a higher proportion of transfers less than 30 days after SNF admission was rated as potentially preventable (25.1%) than that of transfers 30 days or longer after SNF admission (21.5%, $P = .005$). Among transfers rated as preventable, the only opportunity for improvement identified by SNF staff that differed significantly between the groups was that staff more frequently recognized that the condition could have been managed in the SNF with available resources among transfers that occurred 30 days or longer after SNF admission (41%), compared with 31% among those transferred less than 30 days after SNF admission, and 25% among those transferred within 48 hours of SNF admission.

Table 2 contains brief case descriptions that illustrate examples of reasons for transfer back to the hospital within 48 hours of admission, including clinical instability at the time of hospital discharge, rapid decompensation of an unstable medical condition, a possible error in information transfer, prematurely calling 911, and the probable need for a higher level of care than SNF at the time of hospital discharge.

Discussion

The data presented are among the first to describe in some detail the reasons and factors associated with transfers back to the hospital and readmissions that occur within a short time after SNF admission from the perspective of SNF staff. Although there were some significant differences in the characteristics of transfers that occurred within 48 hours and 30 days of SNF admission compared to transfers that occurred 30 days or longer after SNF admission, most were not strikingly different when considering the absolute magnitude of the differences. The data do, however, provide important insights into strategies that might improve care transitions and prevent some of these rapid returns to the hospital. The data are also consistent with and complement a recent study examining hospital readmissions from post-acute care that used administrative data in contrast to

Table 2
Examples of Case Descriptions of Transfers That Occurred Within 48 Hours of SNF Admission

Potential Reason for Rapid Transfer Back to the Hospital	Case Description From the Root Cause Analysis
Patient admitted to the SNF from the hospital in unstable condition	A 90-year-old with multiple comorbidities was admitted to the SNF on July 29 after a 10-day hospitalization with primary hospital diagnoses of interstitial lung disease and *Clostridium difficile* infection. The day after admission, a nursing assistant notified the licensed nurse that the patient was having difficulty breathing and had shortness of breath. Nursing evaluation revealed that in addition to breathing difficulty, the patient was lethargic and had a temperature of 101°F orally. The nurse called the covering physician who ordered transfer back to the hospital. The patient was readmitted. The staff rated this transfer as potentially preventable because they felt the patient had been discharged from the hospital prematurely in an unstable condition.
Acute decompensation of unstable medical condition	An 83-year-old with multiple comorbidities was admitted to the SNF after hospitalization for CHF. Additional diagnoses included encephalopathy and deconditioning. The day after SNF admission, the patient was noted to be in acute respiratory distress with hypoxia and tachycardia. After evaluation by a nurse practitioner, the patient was transferred back to the hospital and readmitted. The transfer was rated as not preventable by SNF staff.
Unstable medical condition with acute decompensation; possible error in transfer orders	An 80-year-old patient with dementia, history of epilepsy, and syncope was admitted to the SNF after hospitalization for COPD exacerbation. On the day of admission to the SNF, the patient was noted to have increasing shortness of breath with oxygen desaturation; cough; anxiety; and cold, pale skin. The patient was placed on oxygen and given a breathing treatment, but remained anxious and short of breath. The primary physician ordered transfer back to the hospital. The SNF staff rated this transfer as potentially preventable because the patient came back to the SNF without orders for oxygen.
Discharge to higher level of care may have been indicated	A 92-year-old with CHF, multiple other comorbidities, and polypharmacy was transferred to the SNF after hospitalization for aspiration pneumonitis. On the day after SNF admission, the patient was noted to have increased congestion requiring respiratory therapy treatments. The patient was suctioned and was given alprazolam for anxiety. The patient had an enteral feeding tube and the rate was reduced. Although advance directives were reviewed, no changes were made. The family preferred hospital transfer. On the second day after SNF admission, her primary physician ordered transfer to a long-term acute care hospital (LTAC). SNF staff felt this transfer was not preventable, and that the patient should have been admitted to the LTAC sooner.
Complication of hospital procedure	An 85-year-old patient was admitted to the SNF after hospitalization for a fall with a fractured pelvis. A pacemaker was placed during the hospitalization. On the day of admission to the SNF, blood was noted in the dressing over the pacemaker. The dressing was changed multiple times, but the bleeding did not stop. The patient was sent to the ED and returned to the SNF the next day. The transfer was rated as not preventable by SNF staff.
SNF nursing staff called 911 when further evaluation may have been indicated	A 75-year-old with a history of CHF and other comorbidities was admitted to the SNF after a 4-day hospitalization for acute renal failure and a fall. On the day of SNF admission, the patient stated she was short of breath, anxious, and had chest pain. Despite these complaints, her vital signs were normal. She was given 0.5 mg of alprazolam and 911 was called. She was evaluated in the ED and sent back to the SNF. The staff rated this transfer as potentially preventable because they felt they had "jumped the gun" and called 911 before further evaluation and management in the facility had been considered.

information gleaned from RCAs performed by SNF staff.[23] Although the methodology and selection of hospitalizations differed, in both studies almost exactly half of the returns to the hospital occurred within 30 days of SNF admission.

In both the study by Burke and colleagues[8] and the current study, prior health care utilization, specifically recent hospitalization (in the previous 30 days and the last year in the present study, and in the last 6 months in the other study), were strongly associated with readmissions. Another message appears to be consistent between the 2 studies. It is clear from both the quantitative data and the selected case descriptions in the present study that clinical instability at the time of transition, especially among patients with conditions that can present with shortness of breath (eg, CHF, COPD, respiratory infection), is a common reason for rapid transfer back to the hospital and readmissions. This is consistent with data from other previous studies that demonstrated that these conditions are common precipitants of hospital admissions and readmissions from SNFs, and are frequently identified as potentially avoidable.[8,14–17] They are also consistent with other studies of readmissions that were not focused on the SNF setting.[23–25] Although multifactorial regression models may include multiple risk factors, and are the basis for the new CMS risk adjustment for the 30-day readmission quality measure, data suggest that it is not difficult to identify patients admitted to the SNF who are at highest risk for rapid returns to the hospital: a history of recent hospitalization(s), multiple active comorbidities, in particular those associated with shortness of breath, and clinical instability (as manifest by symptoms, vital signs, and/or lab values) should alert clinicians to the high risk of ED visits and/or readmission.

Several strategies might be considered for these high-risk patients. First, more intensive monitoring of these patients during the first 48 hours to 7 days after SNF admission may help identify changes in condition early enough to intervene before hospital transfer is necessary. This might include more frequent routine vital signs (including weight in patients with CHF and pulse oximetry in patients at risk for hypoxia), having direct care staff and families complete the INTERACT Stop and Watch Early Warning Tool (or a similar tool) every shift (as opposed to reactively), and specific monitoring for common high-risk adverse events in this patient population, including volume depletion (for patients on diuretics and/or with poor oral intake), bleeding (for those on warfarin and other anticoagulants), and hypo- or hyperglycemia in diabetics.[26] In addition to these monitoring strategies, more frequent on-site clinician visits may be warranted during this time period. Teams of physicians and nurse practitioners have been shown to be effective in reducing hospitalizations and potentially avoidable hospitalizations in particular.[27–30] Increasing the number of visits during the first few days after SNF admission is analogous to the "front-loading" of in-person visits some home health agencies use in high-risk patients in efforts to reduce hospital readmissions. The use of "Extensivists" has also been described as a model to provide more continuity of care for high-risk patients that might be applied to assist with safer and more effective transitions from hospital to SNF. As the title of the article implies, many geriatricians will recognize this model as "back to the future."[31]

In addition to increasing the number of primary care clinician visits, increasing availability of specialist consultation follow-ups by cardiologists, pulmonologists, and surgeons would be helpful in selected cases. Telemedicine is increasingly being used in the SNF setting and may be a feasible and cost-effective approach to increasing timely visits by both primary care clinicians and specialists, especially in more rural areas.[32,33] Even in urban areas, telemedicine might be especially helpful in avoiding what are often uncomfortable and costly transportation of clinically unstable SNF patients to physician offices. As more specialists become involved in SNF care, close collaboration with experienced SNF clinicians should be encouraged in order to avoid unnecessary diagnostic and therapeutic interventions and reduce the risk of iatrogenic

adverse events from overtreatment, such as volume depletion and hypotension resulting in falls and related complications.[34]

Another strategy that might help prevent rapid returns to the hospital is better predischarge evaluation of care needs of high-risk patients and matching those needs to the appropriate environment. Many hospitals have initiated enhanced discharge planning programs such as BOOST (Better Outcomes by Optimizing Safe Transitions)[35] and Project RED (Re-engineered Discharge).[36] The INTERACT Nursing Home Capabilities List can help educate hospital discharge planners and hospitalists about the capacity of specific SNFs to care for high-risk patients.[22] In addition, predischarge in-hospital evaluation by trained clinicians representing SNFs is used as a strategy to ensure safe transitions and discharge to appropriate levels of care. Many high-risk patients may be more appropriate for a long-term acute care hospital or an inpatient hospice than an SNF, as illustrated by one of the case descriptions in Table 2. Cancer was a more common diagnosis among those transferred less than 30 days after admission (Table 1). In a previous report based on these RCA data, as well as a recently published study of preventability and causes of readmissions of general medical patients, lack of discussion of goals of care was found to be an important factor in hospital readmissions.[19,25] When such patients are admitted to the SNF when palliative care or hospice care may have been more appropriate, SNF staff should reevaluate advance directive status[37,38] and take advantage of a variety of resources available to assist in this process.[22,39–44] Palliative care consultations have been shown to reduce hospital readmissions, both in the inpatient hospital setting[45] and when targeted to high-risk patients in the SNF setting.[46] Such consults should be encouraged when appropriate and available as an additional strategy to improve care and reduce unnecessary hospital transfers.

A critical aspect of improving care transitions and reducing rapid returns to the hospital is timely transfer of accurate information that is critical to the care of high-risk patients in the first few days after SNF transfer. Suboptimal communication of such information can cause potentially preventable transfers,[12] as illustrated by one of the cases in Table 2. Many tools are available to assist in interfacility communication.[22,47,48] Standards are evolving for electronic transmission of critical information in “continuing care documents,” and the IMPACT (Improving Medicare Post-Acute Care Transformation) Act of 2014 has mandated uniform assessments and data elements to be collected at admission and discharge to SNFs and other post-acute care settings, which will be required by 2019.[49] Whatever standards are finalized as a result of the IMPACT Act, there should be no substitute for “warm handoffs” at the time of hospital discharge to an SNF that involve direct communication of time-sensitive information that is critical to the care of high-risk patients over the phone, through secure texting, or some other form of protected health information technology. Better communication and collaboration between SNFs and EDs is especially important and could prevent rapid transfers back to the ED from becoming admissions. Geriatric EDs are evolving[50] and multiple organizations have jointly issued guidelines for geriatric EDs.[51] Development of geriatric EDs with the availability of multidisciplinary evaluation and monitoring in an observation unit without hospital admission is an innovative approach to caring for high-risk patients during the first several days after discharge to an SNF.

Finally, transfers of SNF patients back to the acute care hospital that occur within 48 hours, a week, or 30 days of SNF admission call for ongoing cross-setting RCAs to determine the most common factors associated with these transfers in a hospital and its affiliated SNFs. RCAs are best done in cross-setting teams, as data gathered in the hospital and SNF may complement each other and bring differing perspectives to the analyses. This was recently highlighted in a study in which hospital physicians used a structured RCA and SNF staff used the INTERACT QI tool to evaluate 120 readmissions to an academic medical center from several local SNFs that were participating in a CMS project that combined enhanced discharge planning, improved interfacility communication, and the INTERACT program in the participating SNFs (Vasilevskis E, Ouslander JG, Mixon AS, et al. Potentially avoidable readmissions of patients discharged to post-acute care: Perspectives of hospital and skilled nursing facility staff. [submitted and under review]). Overall, 42 readmissions (35%) were determined to be potentially avoidable from either the hospital and/or the SNF perspective. Hospital physicians were more likely to rate readmissions as potentially avoidable (n = 36, 30%) compared to the SNF staff (n = 16, 13%). The hospital and SNF-based determinations agreed for 73% (n = 88) and disagreed for 27% (n = 32) of the readmissions. The most common source of disagreement (N = 26) reflected readmissions where the hospital physician assessed a readmission as avoidable and the SNF deemed it non-avoidable. Even when there was agreement, different reasons were identified for the similar ratings between the care settings.

In summary, rapid transfer of patients discharged from the hospital to the SNF back to the hospital are common, and often occur in high risk patients who can be identified at the time of SNF admission and are often clinically unstable at the time of transfer. Many strategies implemented by SNFs, and others involving collaboration between SNFs and their affiliated hospitals can result in improved care and the prevention of unnecessary ED visits and hospital readmissions in this patient population.

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