

## **Acute Hospital Discharge: Why the “Right” Place is the “Best” Place**

One of the challenges of the US health system is that each provider group has specific incentives and goals that, if optimized, may actually cost the payor more and hinder the patient’s outcome. Silos are created by Medicare payment systems and the effect touches virtually every segment of healthcare delivery regardless of the payor.

For example, acute care hospitals discharged nearly 15 million Medicare enrollees in 2008. Of those, almost 45% required post acute care services in a specialty hospital, nursing home or home health agency. Although the hospital is in the primary position to “quarterback” the care received after hospitalization, they currently have little economic interest in the outcome of the patient post discharge. In order to optimize performance under the Diagnostic Related Group (DRG) case rate, hospitals have a strong financial incentive to discharge Medicare patients as quickly as possible. The optimal discharge location from a hospital’s perspective will often times be determined by ease of discharge and not necessarily based on the needs of the patient.

The times are a ‘chargin’. Due to the Patient Protection and Affordable Care Act, hospitals and other Medicare providers will have a strong interest in delivering care that is of the highest quality and lowest cost. Beginning in 2011, the changes include penalties for hospital readmissions, the creation of Accountable Care Organizations and the initiation of episodic bundling.

So what can be done today to prepare for a world with real readmission penalties and bundled payments?

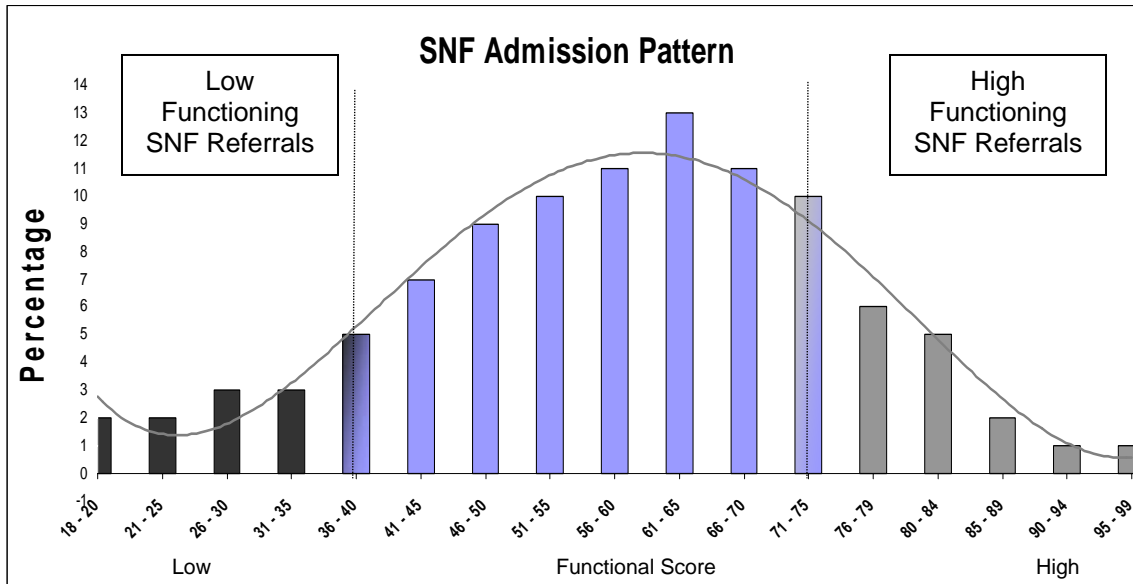
The first step in improving discharge planning is to utilize evidenced-based tools to determine the most appropriate post acute setting. While the traditional criteria for choosing one post acute setting over another is diagnosis, our research demonstrates that diagnosis or even the need for a skilled treatment has little to do with the appropriateness of selecting one setting over another. The best way to choose Skilled Nursing Facility (SNF) care over Home Health (HH) care is to first determine the amount of daily unskilled care the person requires to be safe and then to select the least restrictive setting that will meet those needs.

In today’s world, hospitals tend to discharge patients needing post acute care to an incorrect setting at least 1/3 of the time. In other words, one out of three discharged individuals who receive care after hospitalization would get a similar clinical result in a lower level of care, or with no post acute care.

Those involved with discharge planning will often cite that they knowingly send certain people to a higher level of care than necessary because they feel it reduces the chances of a hospital readmission. In reality, just the opposite is often true.

## RECENT STUDY RESULTS

SeniorMetrix™, the leader in post acute measurement and decision support, recently completed a study on the outcomes of matched populations of patients discharged to Skilled Nursing Facilities and to Home Health agencies. The sample population's profile represented the 20% of the highest functioning patients who were discharged to a SNF matched with similar patients that were discharged to Home Health. SeniorMetrix™ data suggests that those highest functioning patients sent to SNF would get the same clinical result if they went home with Home Health services.



As mentioned above, the study focused on the high functioning SNF referral group. Over 7300 patients from 3 geographical markets were identified in the SeniorMetrix™ database as either transferring to a SNF or a Home Health agency and they were matched in terms of:

- Functional Status
- Age
- Co-Morbidity
- Diagnosis
- Living Status prior to Hospitalization
- Discharge Setting within 30 days of prior Hospitalization being Acute Hospital

This resulted in matched comparisons for 126 HH patients to 84 SNF patients.

## **RESULTS**

Counter to what many people believe, transferring high functioning patients to SNF care actually increased their chances of being readmitted to the hospital within 30 days by over 300%.

Confinement in Skilled Nursing Facilities often results in less than favorable outcomes because residents may develop secondary complications, including but limited to UTI, sepsis, pneumonia, electrolyte imbalance or falls. Thus, not only does discharging high functioning patient to SNF put them at increased risk for rehospitalization, each SNF admission costs the Medicare program twice as much as the average Home Health episode.

**METHODS AND DETAILED RESULTS**

**Acute Hospital Discharge:**

**Why the “Right” place is the “Best” place (addendum)**

Data supporting analysis of SNF versus HH hospital readmissions originates from the SeniorMetrix™ Solutions Data Base containing over 500,000 records from clients using our decision support tools since 1998. The data for the re-admission analysis was comprised of over 7000 records from SeniorMetrix™ clients in 3 states for the years 2008 thru 2010.

As background to the readmission study, SeniorMetrix™ first identified the functional profile of patients who can achieve the same outcome in HH setting as they would in a SNF setting.

**SNF vs. HH Candidates**

Linear regression models on 150,000 SNF records identified admission function as a primary dependent variable associated with SNF LOS and discharge function (.36 R<sup>2</sup>).

The table below shows HH records average therapy visits and discharge FIM scores for over 4800 patients groups into seven diagnostic categories. These cases were matched to a similar number of SNF records using admission function, age, and co-morbidity within each diagnostic category. Their discharge FIM scores and average therapy visits are listed below.

	Count of HH Records	HH DC FIM	SNF DC FIM (severity adjusted)	Average Visits HH/SNF
<b>Other Disabling</b>	<b>1,957</b>	<b>108.94</b>	<b>109.54</b>	<b>8/9</b>
<b>Orthopedic Conditions</b>	<b>1,613</b>	<b>111.4</b>	<b>110.94</b>	<b>9/10</b>
THR	<b>239</b>	<b>109.32</b>	<b>108.00</b>	<b>9/10</b>
THA	<b>231</b>	<b>113.3</b>	<b>110.37</b>	<b>9/10</b>
<b>Pulmonary</b>	<b>293</b>	<b>109.12</b>	<b>109.95</b>	<b>8/8</b>
<b>Cardiac</b>	<b>279</b>	<b>107.5</b>	<b>109.53</b>	<b>7/7</b>
<b>Stroke</b>	<b>244</b>	<b>109.2</b>	<b>110.12</b>	<b>12/11</b>

Comparison of DC FIM scores shows little difference of outcome between the two rehabilitation settings. Analysis of SNF admission function data indicates that these results are attainable for those with functional score >= FIM 80. As a result, high functioning patients can be diverted from the skilled to HH setting and obtain the appropriate functional outcome.



## Readmission Study

A common question asked when the data above is presented: “Will sending more patients to HH instead of SNF increase the likelihood of readmission back to the hospital?” SeniorMetrix™ examined 7000 SNF and HH records from three states from 2008 -2010. 6,152 HH records were filtered for the following criteria:

- Admission to HH directly from hospital
- Age >=65
- Usual Living Setting: Home Alone, Home with Family or Home with Caregiver
- Discharge Setting: Acute within 30 days of prior hospitalization

This yielded 126 (2%) records. Relevant characteristics of these 126 HH records as well as the overall HH group are show in the tables below. Compared to the overall group, the admit functional scores were significantly lower and the medical complexity were significantly higher (greater co-morbidity for the readmit group ( $p \leq .05$ ). Diagnostic categories for the readmit group are also shown.

	Count	ELOS	Age	StdDevAge	AdmitFIM	StdDevAdmitFIM	Med Comp	StdDevMedComp	Visits
Acute to HH to Acute	126	10.8	78.76	7.4	82.43	19.37	3.33	0.86	4.39
Total HH	6152	10.51	78.13	7.64	96.36	17.26	2.8	1.01	4.19

IMPAIRMENT GROUP	%
Amputation of Limb	0.8%
Brain Dysfunction	0.8%
Spinal Cord Dysfunction	0.8%
Arthritis	1.6%
Pain Syndromes	2.4%
Neurological Conditions	3.2%
Stroke	4.0%
Debility	4.0%
Cardiac	4.8%
Pulmonary	12.7%
Orthopedic Conditions	15.1%
Other Disabling Impairments	50.0%
<b>TOTAL</b>	<b>100%</b>

SeniorMetrix™ SNF records for the same time period and states (client markets) were selected according to the three of the four filters used to filter the HH data. Admission to SNF directly from hospital were filtered for the following criteria:

- Age >= 65
- Usual Living Setting: Home Alone, Home with Family or Home with Caregiver
- Discharge Setting: Acute within 30 days of prior hospitalization

These records were further filtered to match the HH sample (N=126) on age (.5 SD), admission function (.5SD), medical complexity (.5SD). In addition, SNF records were screened so that they did not list co-existing medical conditions (wounds II thru IV or vascular, feeding tubes, IV, vent, hemodialysis, severe obesity or restricted weight bearing); such data not available for the HH records so it is likely that some of the HH patients may have such conditions. This factor may cause the study to understate the differences in readmission for the two groups.

Applying the above criteria 1,211 SNF records were identified. From this group, 84 (6.9%) were readmitted to the hospital within 30 days of the initial hospitalization. The characteristics of both SNF groups are shown below.

	Count	ELOS	Age	StdDevAge	AdmitFIM	StdDevAdmitFIM	Med Comp	StdDevMedComp	Visits
SNF to Acute	84	8.29	79.15	2.44	79.45	4.77	3.45	0.68	12.31
Total SNF	1211	10.65	79.18	2.56	80.39	5.3	3.31	0.65	16.35

IMPAIRMENT GROUP	%
Debility	1.2%
Neurological Conditions	1.2%
Arthritis	1.2%
Brain Dysfunction	1.2%
Spinal Cord Dysfunction	1.2%
Stroke	2.4%
Pain Syndromes	6.0%
Pulmonary	15.5%
Orthopedic Conditions	19.0%
Cardiac	21.4%
Other Disabling Impairments	29.8%
<b>TOTAL</b>	<b>100.0%</b>

T-tests between the 126 HH records and the 84 SNF records on age, admission functional and medical complexity were not significant at  $p \leq .05$ . Impairment groupings are somewhat similar for the top 5 categories.



## CONCLUSION

When matched on relevant variables, high functioning SNF patients were re-admitted to the hospital at a rate greater than three times that of similar patients receiving Home Health services. This means that under the new health care reform law, hospitals will lose revenue for those patients re-admitted for the same diagnosis.

Now that many of the features of Health Reform are being understood, hospitals and other providers can begin to implement strategies to be successful. Evidenced-based technologies exist today that can help organizations direct care in a more efficient manner while delivering superior results for patients. As accountability for both cost and quality is increasingly shifted to providers; only those that embrace new processes and resources will be successful.

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