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Assessment of Patient Outcomes of Rehabilitative Care Provided in Inpatient Rehabilitation Facilities and After Discharge

Study Highlights

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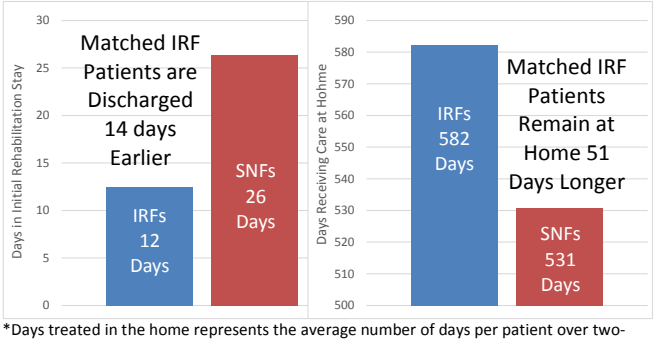
Synopsis of Key Findings

We found that patients treated in IRFs had better long-term clinical outcomes than those treated in SNFs following the implementation of the revised 60% Rule. We used Medicare fee-for-service claims data to compare the clinical outcomes and Medicare payments for patients who received rehabilitation in an inpatient rehabilitation facility (IRF) to clinically similar matched patients who received services in a skilled nursing facility (SNF).

- Over a two-year study period, IRF patients who were clinically comparable to SNF patients, on average:[1]
  - Returned home from their initial stay **two weeks earlier**
  - Remained home nearly **two months longer**
  - Stayed alive nearly **two months longer**
- Of matched patients treated:[2]
  - IRF patients experienced an **8% lower mortality rate** during the two-year study period than SNF patients
  - IRF patients experienced **5% fewer emergency room (ER) visits per year** than SNF patients
  - For five of the 13 conditions, IRF patients experienced **significantly fewer hospital readmissions per year** than SNF patients
- Better clinical outcomes could be achieved by treating patients in an IRF with an additional cost to Medicare of $12.59 per day (while patients are alive during the two-year study period), across all conditions.[1]

Matched IRF and SNF Patients: Number of Days during Initial Rehabilitation Stay and Number of Days Treated in the Home*[1]

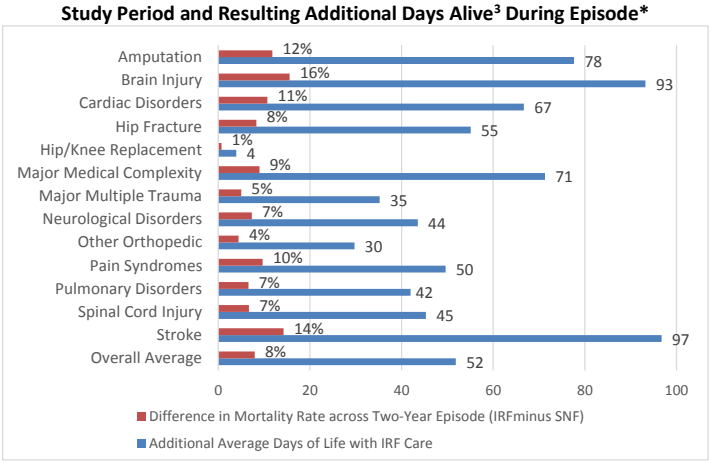


*Days treated in the home represents the average number of days per patient over two-year study period not spent in a hospital, IRF, SNF, or LTCH.

- This study serves as the most comprehensive national analysis to date examining the long-term clinical outcomes of clinically similar patient populations treated in IRFs and SNFs, utilizing a sample size of more than 100,000 matched pairs drawn from Medicare administrative claims.
- The focused, intense, and standardized rehabilitation led by physicians in IRFs is consistent with patients achieving significantly better outcomes in a shorter amount of time than patients treated in SNFs.

When patients are matched on demographic and clinical characteristics, rehabilitation in IRFs leads to lower mortality, fewer readmissions and ER visits, and more days at home (not in a hospital, IRF, SNF, or LTCH) than rehabilitation in SNFs for the same condition. This suggests that the care delivered is not the same between IRFs and SNFs. Therefore, different post-acute care settings affect patient outcomes.

Matched IRF and SNF Patients: Difference in Mortality Rate[1] across Two-Year Study Period and Resulting Additional Days Alive[3] During Episode*



*Difference in the mortality rate of matched IRF patients to matched SNF patients over the two-year study period. As a result of the lower mortality rate, additional average days of life represent the difference in the average episode length (after accounting for mortality) across groups (IRF average episode length in days minus SNF).

[1] Differences are statistically significant at p<0.0001.
[2] Differences are statistically significant at p<0.0001 with the exception of the number of readmissions per year, which are significant at p<0.01 for five of the 13 conditions.
[3] Differences are statistically significant at p<0.0001 with the exception of major multiple trauma, which is significant at p< 0.01.

Source: Dobson | DaVanzo analysis of research identifiable 20% sample of Medicare beneficiaries, 2005-2009.

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The Issue

To qualify for Medicare payment under the IRF prospective payment system (PPS) at least 60% of an IRF's admissions in a single cost reporting period must be in one or more of 13 CMS specified clinical conditions ("known as the "60% Rule").[1] As a result of this policy, some Medicare beneficiaries with certain conditions previously treated in the IRF are now treated in an alternative setting, such as a SNF. The Medicare Payment Advisory Commission (MedPAC) found, for instance, that the proportion of IRF patients treated for lower joint replacements decreased by 16%, while SNF admissions of this diagnosis increased by the same rate between 2004 and 2011.[2]

There is a significant difference in medical rehabilitation care practices between the two settings.[3] Treatment provided in IRFs is under the direction of a physician and specialized nursing staff.[4] Care plans are structured, focused, and time sensitive to reflect the pathophysiology of recovery, avoid patient deconditioning, and maximize potential functional gain. On the other hand, SNFs exhibit greater diversity in practice patterns with lower intensity rehabilitation,[5] possibly due to limited presence of an onsite physician and no regulatory rehabilitation standards.

The implication of the 60% Rule on long-term beneficiary health outcomes and health care utilization has not been thoroughly investigated.

Despite limited information concerning the rule's effect on beneficiaries, policymakers are considering revisions to IRF payment policy. One revision would raise the current compliance threshold from 60% to 75%, a more restrictive standard. Under a second proposal, MedPAC is developing a recommendation to reduce the difference in Medicare payments between IRFs and SNFs by reimbursing IRFs the SNF payment rate for three specific clinical conditions, some of which are included in the 13 conditions under the 60% Rule: major joint replacement without complications or comorbidities (CC), hip fracture with CC, and stroke with CC.

About the Study

The ARA Research Institute (an affiliate of the American Medical Rehabilitation Providers Association – AMRPA) commissioned Dobson DaVanzo & Associates, LLC to conduct a retrospective study of IRF patients and clinically similar SNF patients to examine the downstream comparative utilization and effectiveness of post-acute care pathways, as well as total cost of treatment for the five years following implementation of the 60% Rule.

Conclusions in Brief:

- **The care provided in IRFs and SNFs differs, as patients treated in IRFs experienced different outcomes than matched patients treated in SNFs.**
- **Patients treated in a SNF as a result of the 60% Rule who could have otherwise been treated in an IRF might be adversely affected by an increased risk of death, increased use of facility-based care, and more ER visits and hospital readmissions.**
- **Continuation or expansion of the 60% Rule or aligning the payment across the SNF and IRF PPSs without understanding the impact on patient outcomes is ill advised and could negatively impact Medicare beneficiaries.**

Using a 20% sample of Medicare beneficiaries, this study analyzed all Medicare Parts A and B claims across all care settings (excluding physicians and durable medical equipment) from 2005 through 2009. Patient episodes were created to track all health care utilization and payments following discharge from a post-acute rehabilitation stay in an IRF and a SNF. Patients admitted to an IRF following an acute care hospital stay were matched to clinically and demographically similar SNF patients. Patient outcomes were tracked for two years following discharge from the rehabilitation stay. This study period allowed us to capture the long-term impact of the rehabilitation, including meaningful differences in mortality, use of downstream facility-based care, and patients' ability to remain at home.

To aid in the interpretation and clinical validation of this analysis, the Dobson | DaVanzo team worked with a clinical expert panel comprised of practicing post-acute care clinicians.

Study Limitations

Medicare fee-for-service claims do not include care covered and reimbursed by Medicaid and third-parties or detailed clinical information. Therefore, non-Medicare services, such as long-term nursing home stays, are not captured in this analysis. This omission may have overestimated the calculated number of days a patient remained at home, and underestimated the cost of their health care to the federal and state governments.

Additionally, the results of this study are not generalizable to the universe of SNF patients within the studied clinical conditions. Analyses suggest that SNF patients who are clinically similar and matched to IRF patients have different health care utilization and Medicare payments than those who were not matched.

[1] The compliance threshold was originally set at 75% and was to be phased in over a three-year period, but compliance was capped at 60% following the Medicare, Medicaid, and SCHIP Extension Act of 2007. While the policy has retained its namesake at the "75% Rule" despite the cap at 60%, this study refers to it as the "60% Rule".

[2] Medicare Payment Advisory Commission (MedPAC). 2013. *Report to Congress:* Medicare Payment Policy. Washington, D.C.

[3] Keith RA. (1997). Treatment strength in rehabilitation. *Arch Phys Med Rehabil*: 90; 1269-1283.

[4] Harvey RL. (2010, January). Inpatient rehab facilities benefit post-stroke care. *Managed Care.*

[5] DeJong G, Hsieh C, Gassaway J, et al. (2009). Characterizing rehabilitation services for patients with knee and hip replacement in skilled nursing facilities and inpatient rehabilitation facilities. *Arch Phys Med Rehabil*: 90; 1269-1283.