

Payment and Rehabilitation Outcomes in the Skilled Nursing Setting

Over the past decade, with Medicare's shift to a Prospective Payment System (PPS) for Skilled Nursing Facilities (SNFs) and encouragement of incentives for health maintenance organizations to provide care under contract with Medicare, there has been a decrease in the duration and intensity of therapy provided to patients in SNF settings.¹

Over the past two decades, the number of patients admitted to SNFs for post-acute hospital rehabilitation has increased dramatically.²⁻⁴ In fact, in spite of the Balanced Budget Amendment of 1997 (BBA), SNF admissions increased from 1997-1998.⁴ The increase in admissions to SNFs has been attributed to several factors. These factors include increasing age of the population, shorter lengths of stay in acute care hospital settings, government mandates that require SNFs to provide a standard of care to help patients discharged from the hospital become more independent, and a recognition of the lower cost of rehabilitation services delivered in the SNF as compared to those delivered in rehabilitation hospitals.^{2, 5, 6}

Given the increase in SNF rehabilitation, what has been the impact of reducing the duration and intensity of therapy on the functional outcome of SNF residents? SeniorMetrix, Inc.⁷, a Nashville-based health care consulting firm, has been measuring functional outcome following an episode of skilled rehabilitation since 1998 and has over 100,000 records in their database dating back to 1994. As a result, SeniorMetrix is in a unique position to retrospectively evaluate how payment methods of Medicare Cost, Medicare PPS and Medicare + Choice may have influenced the results of rehabilitation in the SNF setting. A preliminary report by the firm⁸ indicated that, when compared to a severity-adjusted cost-based sample, a PPS group received 40% less utilization while losing 21% in functional gain. While both of these changes were statistically significant, generalizing the results to other PPS episodes was limited because the PPS data were collected early in 1998 during the transition between cost and PPS/RUGS incentives.

Data

Four cohorts of data representing three different Medicare reimbursement methods were available for study:

- **Cost-Based:** 10, 976 records during the era wherein Medicare reimbursed SNFs and therapy providers based on a market-adjusted cost per day and per unit of therapy. Under such incentive, the more utilization authorized and provided, the more reimbursement received.
- **PPS:** 4,411 records. Effective Jan. 1, 1998, Medicare reimbursement was changed to the Prospective Payment System or PPS. Under PPS, payment for therapy was based on five RUGS (Resource Utilization Groups) levels ranging from: *Low* (minimum of 45 minutes per week) to *Ultra High* (minimum of 720 minutes per week). Under such an incentive, providers may provide the minimum minutes to qualify for the highest possible reimbursement rate and perhaps no more.

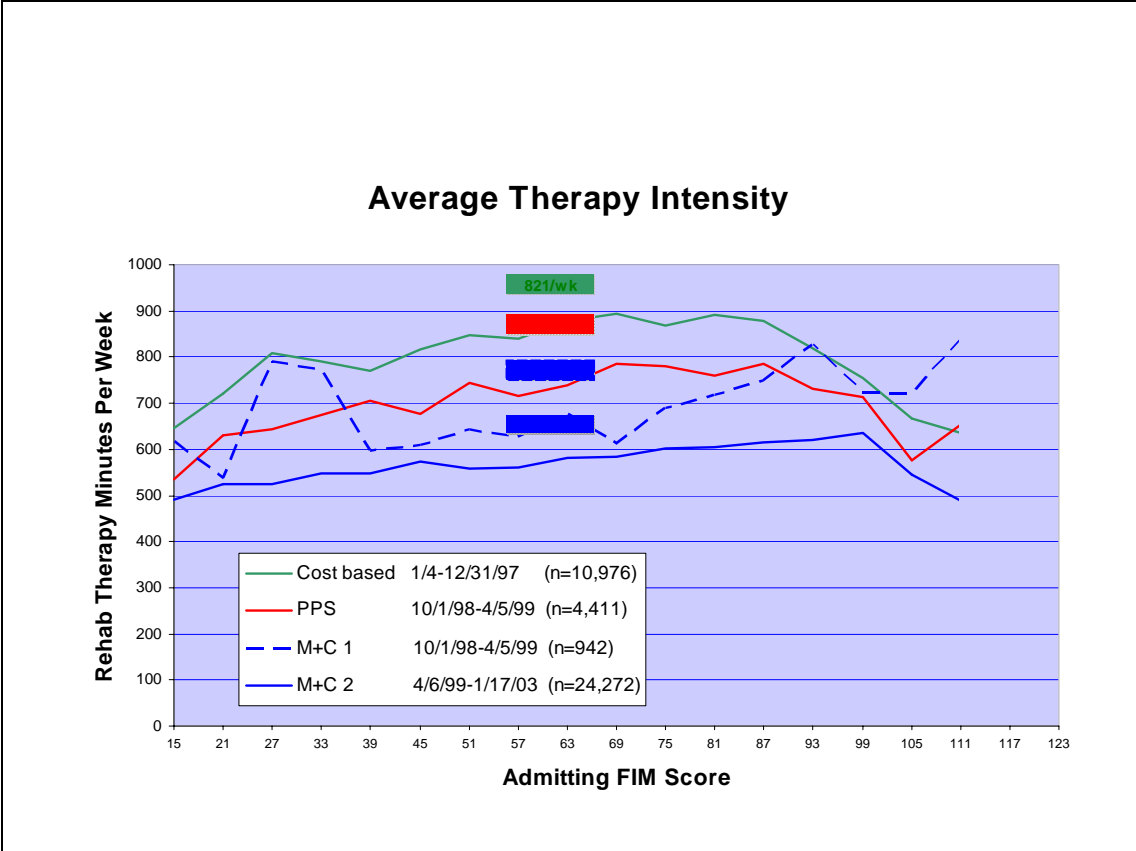
- **M+C:** Overlapping both cost-based and PPS data periods, Medicare Risk (M+C) was in place for seniors who chose to assign their benefits to managed care plans. Under M+C, the SNF is paid on a per-diem basis. The incentive for the SNF was to profit each day by spending less on patient care than the per diem payment. Accordingly, therapy providers (both in-house and contract) were encouraged to minimize minutes of therapy/day while prolonging length of stay. There are two sub groups of M+C data:
 - **M+C1:** 942 records for a period 10 months after the start of PPS to allow for a transition from cost-based to PPS based Medicare payment.
 - **M+C2:** 24, 272 records after the transition period above.

Method

The primary business of SeniorMetrix is providing predictive models to assist Medicare + Choice HMO to place members in appropriate post acute rehabilitation settings. Clinical providers working within the client health plan network are given access to severity-adjusted data about the setting, length of episode, function at discharge and discharge setting that are expected for each individual patient. This information is used to plan, manage and evaluate the cost and quality of care in a consistent manner beginning with discharge planning at the acute care hospital, as well as throughout acute rehabilitation hospital, SNF and home health episodes of care. The result is a common language across a continuum of rehabilitation that becomes a key tool in the health plan's management of the cost and quality of its post acute services. Records obtained include patient demographics, assessment of disability and medical complexity (relevant co-morbidity) and utilization, including minutes of PT, OT and SLP per episode of care.

Average Therapy Minutes Per Week

Figure 1 depicts the average rehabilitative therapy minutes per week for the four cohorts of data. Overall, the comparison supports the notion that, when adjusted for different levels of admission disability (FIM), average minutes of therapy per week tend to lower with payment methods that cap or discourage high utilization of therapy.



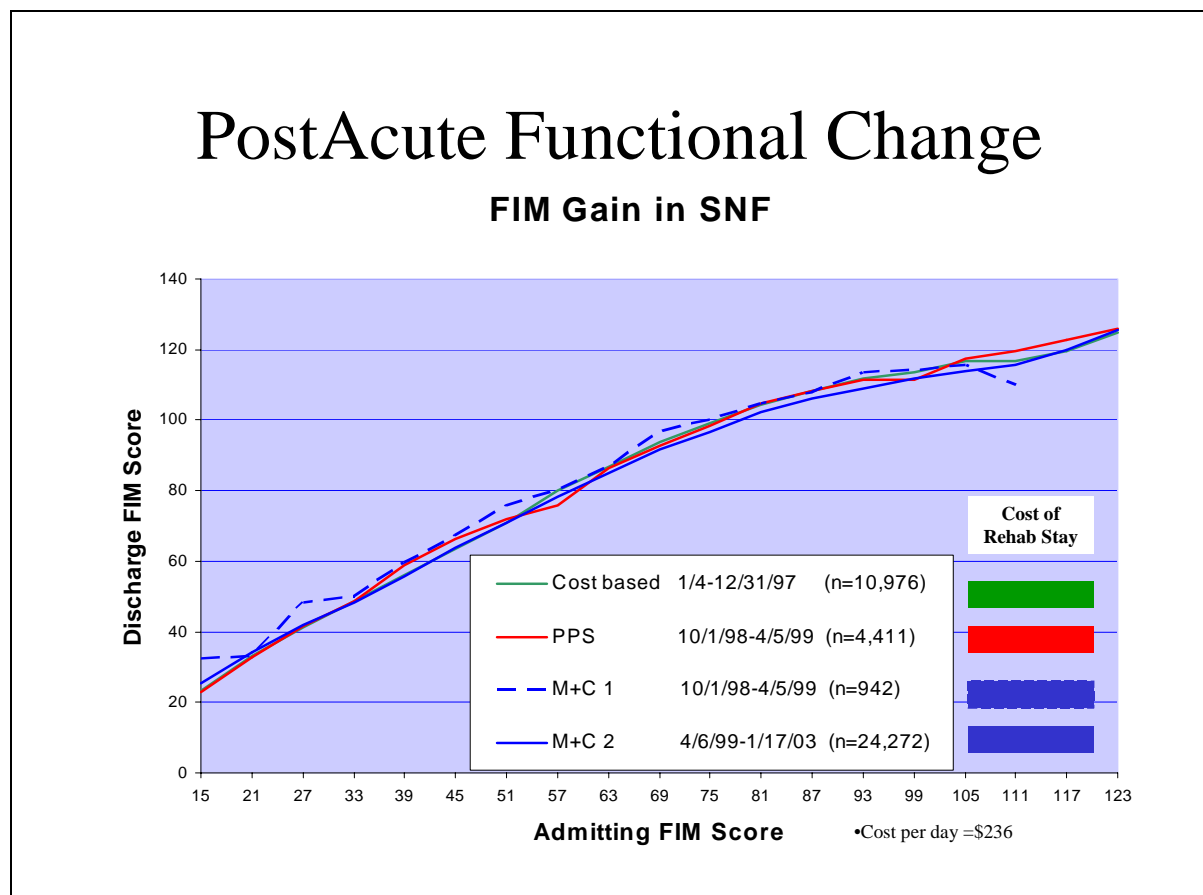
Under cost-based incentives, average minutes per week were high, averaging 821 minutes per week. The inverse, u-shaped curve is as expected where patients who are at the low and high ends of the disability continuum would receive less therapy than others. In comparison, the average minutes per week for the PPS group were lower: 715 minutes. The intent of PPS was to lower therapy utilization per day, and that is what happened in this instance. For M+C1, therapy minutes averaged 685 per week, and M+C 2 was even lower at 578 minutes per week. It is not surprising that M+C1 utilization was higher than M+C2 in that utilization practices at a facility are likely influenced by both managed care and Medicare incentives. MCI also was still during the transition (01/01/1998 to 12/31/1998) from cost-based to PPS payment. The M+C 2 period was over 15 months after the initiation of PPS and is considered unbiased from previous cost-based incentives.

Changes in Length of Skilled Episode

Figure 2 shows the average rehab Average Length of Stay (ALOS) - the number of days between the start of the first therapy and discharge from the final therapy - across the 19 groups of admission FIM level for the same four groups earlier described. As expected, both M+C1 and M+C2 groups show a lower rehab ALOS (12.3 and 11.8) than the cost-based and PPS groups. Interestingly, the ALOS for the PPS group (30.6) was longer than for the cost-based group (24.4). This suggests that while capping minutes may reduce therapy minutes per week, it has the opposite effect upon length of stay (ALOS increases). This result has obvious implications for overall cost.

Functional Change

Figure 3 shows the average discharge FIM score for each of the 19 admission FIM levels across the four payments groups. Interestingly, the average functional outcome is quite similar for all four groups, despite previously described differences in minutes per week of therapy and average days of therapy. The cost per stay for the cost-based group (\$5,763) is nearly twice that of the M+C2 group (\$2,787) yet function at discharge is similar.



RUGS

For each of the four payment groups, cases were assigned to one of five RUGS levels:

- Low: 45+ minutes per week
- Medium: 150+ minutes per week
- High: 325+ minutes per week
- Very High: 500+ minutes per week
- Ultra High: 720+ minutes per week

As expected, levels of highest utilization (Ultra High) were most prevalent in the cost-based and PPS groups and reduced significantly in the M+C2 group.

As reimbursement for SNF rehabilitation services diminishes, there is an increasing need to understand the relationship between the amount of rehabilitation a patient receives, the amount of functional recovery the patient is likely to experience and how such recovery influences discharge planning to a lower cost setting.

References

1. Yip JY, Wilber KH, Myrtle RC. *The Impact of the 1997 Balanced Budget Amendment's Prospective Payment System on Patient Case Mix and Rehabilitation Utilization in Skilled Nursing*. Gerontologist. 2002; 42(5):653-60.
2. Gornick ME, Warren JL, Eggers PW, et al. *Thirty years of Medicare: Impact on the Covered Population*. Health Care Finan Rev. 1996; 18:179-237.
3. Iwanenko W, Fiedler RC, Granger CV. *Uniform Data System for Medical Rehabilitation: Report of First Admissions to Subacute Rehabilitation for 1995, 1996, 1997*. Am J Phys Med Rehabilitation. 1999; 78:384-388.
4. Iwanenko W, Fiedler R, Granger CV, et al. *The Uniform Data System for Medical Rehabilitation: Report of First admissions to Subacute Rehabilitation for 1998*. Am J Phys Med Rehabilitation. 2001; 80:56-61.
5. Kane RL, Chen Q, Blewett LA, et al. *Do Rehabilitative Nursing Homes Improve the Outcomes of Care?* J Am Geriatric Society. 1996; 44:545-554.
6. Buczko W. *Effects of Institutional Services and Characteristics on Use of Post Acute Care Settings*. J Health Hum Serv Adm. 2001;24:103-132
7. www.seniormetrix.com
8. Warren R, Wirtalla C, Leibensberger A. *Preliminary Observations on Reduced Utilization in Skilled Nursing Facility Rehabilitation*. Am J Phys Med Rehabilitation. 2001; 80:626-633.