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How Medicare can reduce waste in post-acute care: The case of skilled nursing facilities

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KEY TAKEAWAYS

- Medicare spending on post-acute care varies widely among regions across the country. But there's no evidence to show that spending more results in better health outcomes.
- The way Medicare reimburses skilled nursing facilities (SNFs) may increase overuse of these rehab centers and land a large number of patients back in the hospital.
- Medicare can learn from private insurers by incorporating more patient and market characteristics in its qualification rule, using cost-sharing, and monitoring SNF quality.

Medicare spending on post-acute care accounts for about $60 billion, or 15 percent, of Medicare spending every year (MedPAC, 2021). It also contributes to a large share of geographic variation in Medicare spending. A 2013 report by the Institute of Medicine documents that a striking 73 percent of geographic variation is due to post-acute care services (IOM, 2013).

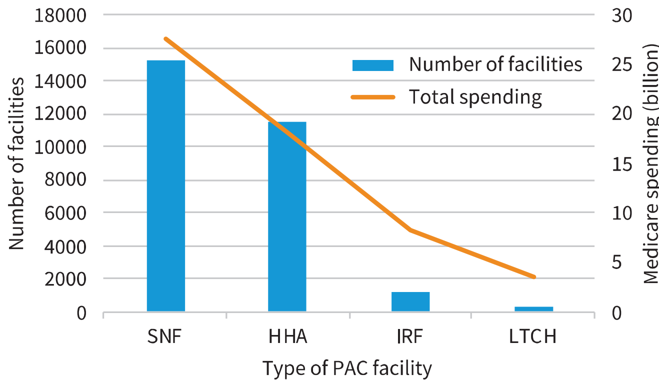
Per capita Medicare spending varies substantially across regions, ranging from $8,056 in Burlington, Vermont, to $15,348 in Los Angeles, according to the 2018 Dartmouth Atlas Data. Given no evidence that Medicare enrollees in high-spending areas have better health outcomes than those in low-spending areas (Fisher et al., 2003), large geographic variation in spending is a potential indication of inefficiency. To improve quality and reduce costs, designing a payment model that provides appropriate incentives to health care providers is key (Newhouse and Garber, 2013).

This policy brief provides an overview of the post-acute care sector and discusses the impacts of a Medicare reimbursement rule for skilled nursing facilities (SNFs), institutions that provide post-acute care.

What is post-acute care?

Post-acute care (PAC) refers to a range of services that help patients recover from surgery or some other medical procedure or malady. PAC is provided by skilled nursing facilities (SNFs), home health agencies (HHAs), inpatient rehabilitation facilities (IRFs), and long-term care hospitals (LTCHs). Figure 1 shows that SNFs are the most common type of PAC providers, followed by HHAs, IRFs, and LTCHs. Medicare spending for SNFs is also the highest, which was $27.6 billion, or 48 percent of total Medicare spending on PAC in 2019 (MedPAC, 2021).

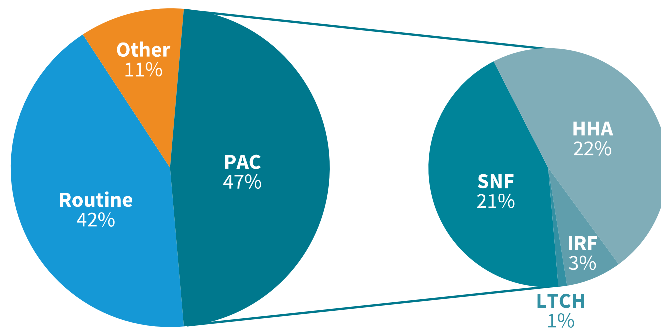
Figure 1. The number of institutions and total spending by four types of PAC institutions (2019)



Source: MedPAC (2021)

A large share of Medicare patients receives PAC services after a hospitalization, predominantly at SNFs or at home. Figure 2 presents the share of Medicare fee-for-service discharges to routine discharges, PAC discharges, and other discharges based on hospital records from New York and Florida in 2016. PAC discharges are further divided into four categories. In this sample, 47 percent of Medicare patients were discharged to a PAC setting after a hospitalization. SNF and HHA were the two most common destinations of PAC discharges, each accounting for 21 percent and 22 percent of total discharges, respectively.

Figure 2. Discharge destination of Medicare fee-for-service inpatient stays, New York and Florida, 2016



Note: Other discharges include transfers to other short-term hospitals, death during hospitalization, and leaving against medical advice.

What is a skilled nursing facility?

Skilled nursing facilities provide the highest level of medical care outside of a hospital, with specialized staff and equipment. Because skilled nursing care is mainly for recovery and rehabilitation, most people stay in an SNF for a short amount of time. The average stay is 37 days (MedPAC, 2015). While many nursing homes provide short-term skilled nursing care, some only provide custodial care for their long-term residents, which includes help with daily activities such as eating, bathing, or dressing.

Importantly, Medicare only covers skilled nursing care for up to 100 days in a certified SNF and does not cover custodial care. If a Medicare patient needs nursing home services after 100 days, the patient can pay out of pocket or by using long-term care insurance. If the patient exhausts assets and becomes eligible for Medicaid, the nursing home stay can be covered by Medicaid as long as the individual receives services in a Medicaid-certified nursing home.

In 2019, there were 2 million Medicare-covered SNF stays. Ninety-six percent of these were at freestanding SNFs, while the remaining 4 percent were at hospital-based SNFs. Seventy-one percent of those facilities are for-profit businesses. Twenty-three percent are nonprofit and 6 percent are owned by the government.

Medicare residents generate the highest revenue — commanding about $500 per person per day — while privately insured residents pay between $300 and $400 a day. Medicaid recipients generate the lowest revenue per resident per day, at less than $200 (Lu, Rui, and Seidmann, 2018). So when it comes to making money, the nursing home industry sees the short-term Medicare recipient as its "cash cow" (*New York Times*, 2015).

The Medicare reimbursement rule for SNF care

Medicare fee-for-service does not pay for SNF care unless a patient has stayed in a hospital for at least three consecutive days. This "three-day rule" provides full coverage of Medicare-certified SNF care for the first 20 days and requires no copay. For days 21-100, Medicare provides partial coverage, and the patient is responsible for a daily coinsurance, which is currently $194.50. After 100 days, Medicare no longer provides coverage, and the patient is responsible for all costs.

In a recent paper, Ginger Zhe Jin at the University of Maryland, Susan Feng Lu at Purdue University, and I asked three questions regarding the Medicare reimbursement rule for SNF care (Jin, Lu, and Lee, forthcoming). First, how does the three-day rule affect discharge destination after a hospitalization? Second, which type of post-acute care between SNF care and home care generates a better patient outcome, as measured by hospital readmission rates within 30 days? Third, what alternative reimbursement rules should Medicare consider if the current three-day rule is proved inefficient?

How does the Medicare three-day rule affect discharge destination after a hospitalization?

For Medicare patients, the three-day rule sharply reduces the cost of SNF care after three days of inpatient stay. Patients with other types of health insurance generally do not face such a sharp change in financial incentives by length of stay.

Using more than 600,000 hospital inpatient discharge records from New York and Florida between 2005 and 2015, we compare discharge patterns between Medicare patients and non-Medicare patients. Figure 3 shows that SNF discharge rates are comparable between the groups during the first two full days of care. But starting on day three, Medicare patients are disproportionately more likely to be discharged to an SNF than non-Medicare patients. Figure 4 shows that home discharge rates between Medicare and non-Medicare patients are similar during those first days, and they drop disproportionately for Medicare patients starting on day three. These results suggest that the three-day rule increases discharges to SNFs while decreasing home discharges.

Figure 3. SNF discharge rate by hospital length of stay, Medicare vs. non-Medicare patients

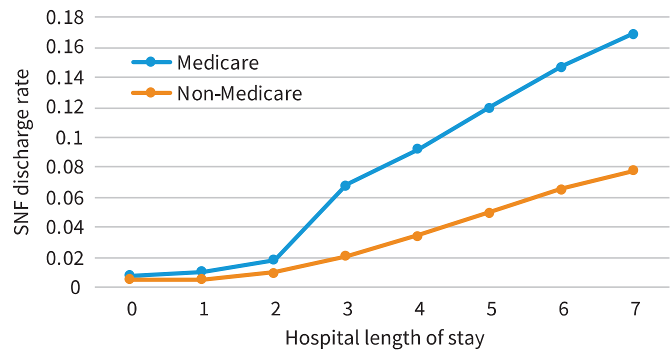
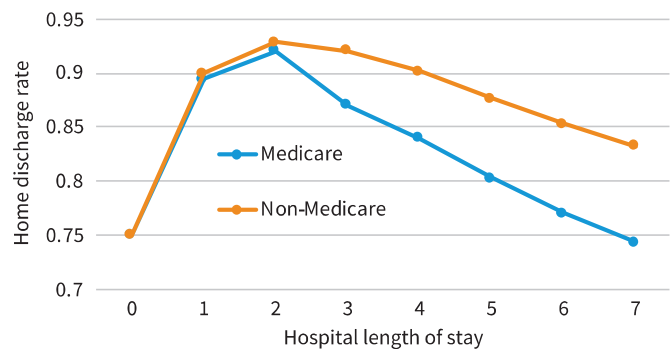


Figure 4. Home discharge rate by hospital length of stay, Medicare vs. non-Medicare patients



But it is unclear whether an SNF provides better care than what can be had at home. SNFs have a higher level of treatment intensity and 24-hour monitoring, which may allow nurses to detect complications earlier and prevent hospital readmissions (Werner et al., 2019). But home care has its own advantages: The cost is lower, and the risk of infection is lower. At SNFs, infection can spread to susceptible patients through increased contact with other patients and staff as well as contaminated equipment, surfaces, and air droplets.

Do SNF discharges reduce hospital readmission rates?

Being discharged to an SNF carries a hefty price tag for Medicare. Assuming $500 a day and an average length of stay of 37 days, each SNF discharge generates an average Medicare cost of $18,500. Extrapolating our estimates from two states to the whole population of Medicare beneficiaries, the cost of SNF discharges due to the three-day rule adds up to $68 million per year.

These costly SNF discharges may be justified if these discharges resulted in better health outcomes. But we find the opposite.

To estimate the effect of SNF discharges on hospital readmission rates, we focus on patients who are admitted through emergency departments and compare them across their physicians' general tendency to discharge patients to SNFs. Using this variation in physicians' tendency, we find that SNF discharges significantly increase 30-day hospital readmission rates for Medicare patients who stay in a hospital for three days. That is, Medicare day-three patients who receive SNF care instead of home care by virtue of their physician tendency are more likely to be readmitted to a hospital.

Investigating different causes of readmissions, we find that the increase in hospital readmissions for these Medicare patients is driven by infection-related diagnoses. Interestingly, we find that SNF discharges have no differential impacts on hospital readmission rates than home discharges for patients who are not subject to the three-day rule, such as Medicare patients who stay in the hospital for only two days or non-Medicare patients.

To understand why Medicare day-three patients may suffer from SNF care, we investigate the quality of SNFs. SNFs differ in service quality, and we find that high-quality SNFs are more likely to be fully occupied than low-quality SNFs.

Thus, additional SNF discharges motivated by financial incentives of the three-day rule are more likely to occur in areas where local SNFs have lower occupancy rates, or lower quality on average. We confirm these patterns in our data: The increase in SNF discharges due to the three-day rule is larger in areas with low-occupancy rates and high-deficiency citations. The unintended consequence on 30-day hospital readmission rates is also concentrated in these areas with low-occupancy, low-quality SNFs. These results suggest that discharges to low-quality SNFs may worsen health for Medicare patients who use SNFs due to the three-day rule, who otherwise would have gone home.

Medicare uses the number of inpatient days as a coarse proxy for patient conditions and provides free SNF services to patients for the first 20 days. Such design invites moral hazard, encouraging Medicare beneficiaries to overuse SNF care and face the risk of being exposed to low-quality SNFs. These effects imply significant costs to Medicare. Combining the effects on additional SNF discharges and the subsequent increase in hospital readmissions, our back-of-the-envelope calculations suggest that the three-day rule may have generated an extra Medicare cost as high as $345 million per year.

Our calculations are conservative for a few reasons. First, we do not include the cost of potentially longer hospital stays to meet the three-day rule (Grebla et al., 2015). Second, low-quality, low-occupancy SNFs may have financial incentives to keep Medicare patients longer for SNF care than high-quality, high-occupancy SNFs. While we are unable to incorporate these costs due to data limitations, our calculations are likely to be an underestimate as we assume the same length of SNF stay for all SNFs. Third, our estimates are based on a specific analysis sample from New York and Florida of patients who stay in the hospital for three days after being admitted through an emergency department. Since the three-day rule applies to all fee-for-service Medicare discharges, the total cost of the three-day rule is likely to be larger.

Can we learn from private insurers?

It is difficult for patients (or their family members) to make an optimal choice of an SNF because SNF service quality is not clearly observable or verifiable. The role of the insurer is thus particularly important given that they provide a certain level of oversight and can change provider networks. So, what should Medicare do to replace or improve the three-day rule? Because we do not find a perverse effect of an SNF discharge among non-Medicare patients with private insurance, we investigate the reimbursement policies of private insurance plans.

According to the 2021 Federal Employee Health Benefits Program (FEHBP), private insurance plans use three common features in their reimbursement policies that are different from Medicare. First, most of the private plans we see in FEHBP provide limited coverage of SNF care or require a coinsurance or a copayment (including the first 20 days).

About a quarter of private insurance plans do not cover SNF care, and plans that do cover SNF care ask for a coinsurance as high as 50 percent, or a copayment that often exceeds $400 per day for the number of SNF days covered by the plan. This design alleviates moral hazard of overusing SNF care and thus may reduce demand for SNFs.

Second, almost all private plans we observe in FEHBP pay in- and out-of-network SNFs differently, and patients must pay more if they choose an SNF outside of the plan network. This feature allows insurers to select SNFs for their network and thus control quality of care delivered to their enrollees.

Third, unlike Medicare, no FEHBP plan states an explicit qualification rule based on the length of inpatient stay.

We use a machine learning approach to predict SNF discharge rates of privately insured non-Medicare patients in our sample. Extrapolating this algorithm to Medicare, we find that implementing the average decision rule of private insurers can avoid many discharges to SNFs that may generate adverse patient outcomes. Our findings suggest that it is important for Medicare to take into consideration more patient and market characteristics in its SNF qualification rule, instead of relying solely on hospital length of stay. Additionally, Medicare can learn from private insurers in their use of a coinsurance/copayment, network inclusion, and active care management and utilization review strategies to reduce the use and duration of both hospital and SNF stays.

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