Trends in Skilled Nursing and Swing-bed Use in Rural Areas, 1996-2003

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Executive Summary

This study examines trends in the delivery of skilled nursing facility (SNF) services in rural areas during a period of dramatic change in Medicare payments. We focus on the role of rural hospitals in providing SNF services, as a number of regulatory changes occurred between 1998 and 2002 that could potentially influence hospital provision of skilled nursing care; most important is the transition from cost-based reimbursement to a per-diem based prospective payment system (PPS). Although initially exempted from SNF PPS, in July of 2002 Medicare SNF services provided in swing beds within PPS hospitals also began to come under the SNF PPS rules.

While changes in post-acute care reimbursement were taking place, increasing numbers of small rural hospitals converted to Critical Access Hospital (CAH) status, and moved from PPS back to full retrospective cost-based reimbursement for Medicare acute inpatient services. Swing-bed SNF care provided in a CAH came under full cost-based reimbursement in 2001, but CAH status does not affect Medicare payments for skilled nursing units. However, the financial incentives for operating a SNF unit are very different for cost-reimbursed hospitals than they are for PPS hospitals, and concerns have been expressed that CAHs will withdraw from hospital-based SNF care.

We find that the number of hospital-based facilities is declining, but the largest absolute and proportional reductions are found in urban areas. There was a 43% decline in hospital-based SNFs in urban counties from the last full year before implementation of SNF-PPS through 2004, compared to a 20% decline in rural counties. We compared trends in two groups of rural hospitals, those that had converted to CAH status by June

2004, and those that have remained under PPS. CAHs appear to have been *less* likely than other rural hospitals to divest themselves of hospitals-based SNF units, despite the cost accounting advantages to eliminating non-cost reimbursed patient care areas. Only 8% of hospital-based SNFs that were located in CAH converting facilities had closed by the end of 2004, compared with 19% of those in rural PPS hospitals. The number of certified freestanding SNFs increased during this time.

An increasing number of rural hospitals have begun to use swing beds. Most of the increase in the number of swing bed hospitals came from the very small hospitals that were CAHs or became so by the end of the study period. Swing-bed participation in this group was always high, but rose from 83% in 1996 to 95% by 2003, while it remained around 40% for all other facilities under 100 beds.

Total Medicare SNF days are growing by about 2.5% per year. While the total number of swing bed days has also increased each year, swing bed care actually declined as a share of Medicare SNF days and as a share of all hospital-related SNF days. Even in the smallest rural counties that rely heavily on swing beds for their total SNF care capacity, increases in total Medicare days appear to have been absorbed by the freestanding facilities. More than 40% of hospitals in these counties have converted to CAH status and virtually all of these have approval to use swing-beds. There is little evidence, however, that the higher swing-bed payments available to CAHs is translating to a competitive disadvantage for the community-based facilities. Trends from 1997 through 2003 in the use of swing beds in CAHs are similar to that in other hospitals, suggesting that the conversion from PPS to cost-based reimbursement did not have much of an effect on CAHs' swing-bed utilization.

We also analyzed trends in average Medicare costs per day for SNF care. Under SNF PPS there are no payment differentials by setting, except for cost differences that arise from location in higher wage areas or treatment of higher RUG-weighted cases. Per-diem SNF costs are substantially higher in hospital-based than in freestanding units, and to the extent that per-diem *payments* look similar across the two settings, the hospital-based cost differential is not being captured by either case-mix or area wage adjusters. The setting-specific cost differential is less pronounced in very rural facilities.

In freestanding SNFs, payments appear to have been more than adequate from the outset of PPS to cover cost of care, plus provide a generous return. This occurred in large part because the freestanding facilities responded immediately to SNF PPS by reducing costs by nearly 30%. In contrast, hospital-based units either closed or absorbed the payment shortfalls into the parent hospital budget, but did not appear to adjust their per-day costs. Metropolitan and rural micropolitan hospital-based units continue to show a substantial accounting loss on their Medicare SNF patients, both from higher routine nursing costs and higher ancillary costs.

Our findings do not explain the lack of response to implementation of SNF PPS shown by CAHs. Despite potential reimbursement incentives, CAHs were less likely to divest themselves of hospital-based units than were other rural hospitals during the period covered by this study. Conversion from PPS to cost-based reimbursement also did not appear to have much of an effect on CAHs' swing-bed utilization. CAHs have little or no reimbursement incentive to substitute skilled swing bed care for acute, since Medicare pays for care under the same cost based rules for both. For the majority of CAHs, the increasing share of swing-bed business thus far appears to reflect the

declining demand for local acute care in these communities, rather than a strategic business decision toward long-term care. Given that CAHs were found to be more likely than other rural hospitals to retain hospital-based units post-SNF PPS, and, during the same time period, did not increase swing bed use more than other hospitals, our findings suggest that the decisions of CAH administrators regarding where and if they offer skilled nursing services are informed by factors other than, or at least in addition to, Medicare reimbursement.

In general, freestanding facilities appeared to be much more responsive to changes in Medicare SNF reimbursement, dramatically reducing costs per day to keep costs below Medicare payments. In contrast, hospital-based units that were not closed continue to show a substantial accounting loss on their Medicare SNF patients. We also observed a sharp rise in ancillary costs for SNF patients in swing beds. Although this trend may reverse starting in 2004, when about half of the swing-beds come under SNF PPS, it is also possible that the increasing costs are evidence that the type of patient admitted to swing beds is changing, particularly if swing-bed hospitals are absorbing patients who used to go to hospital-based units. Swing bed care did not come under SNF PPS until the last year of our data, and even then only for some providers (depending on the month in which their fiscal years begin); it will be important to track these same statistics for the non-CAH swing bed hospitals to see if the trend reverses. The cost increases are probably large enough to justify a claims-based study of Medicare swing bed patients, as a follow-up to those done in the early 1990s.

Introduction

Study Objective

This study examines trends in the delivery of skilled nursing facility (SNF) services in rural areas during a period of dramatic change in Medicare payments for both acute and post-acute care. We focus on the role of rural hospitals in providing SNF services as they respond to the new reimbursement environment. National hospital and nursing home licensure files are linked with survey outcome data, Medicare cost reports and county demographic information, to analyze changes in SNF supply and utilization between 1996 and 2003. We examine changes in the number and types of facilities providing this level of care, and compute comparative statistics on Medicare utilization, case mix, ancillary service use and per diem costs across the three different institutional settings where inpatient skilled nursing services can be provided—freestanding SNFs, hospital-based units, and swing beds in acute care hospitals.

Background

Inpatient skilled nursing care is one of several types of post-acute services covered under the Medicare program (see text box). Post-acute care may be defined as skilled services rendered to patients after an acute episode of illness, that are part of the rehabilitation or recuperative phase of recovery to the patient's expected long-term health status. The supply and organization of post-acute care have been shown to be very sensitive to changes in Medicare payment rules.[1,2]

Industry Background

Skilled nursing facility (SNF) services are defined as inpatient care in a nursing home that must be provided by or under the supervision of licensed medical and nursing personnel. SNF services can be delivered in freestanding nursing homes, in separately certified hospital-based units or in hospital "swing beds", which are acute care beds in certain qualifying hospitals that can be used for either acute or long-term care. Swing beds are only permitted in hospitals licensed for 100 or fewer routine care beds that are located in non-metropolitan counties or in non-urbanized areas within an MSA.

Within a licensed nursing home or hospital-based long-term care unit, a bed can be certified for skilled care, for non-skilled care or for either level. The majority of patients in nursing homes are receiving non-skilled services, which is care that does not have to be provided by licensed nursing or rehabilitation professionals. These are long-stay residents whose facility fees are paid by Medicaid or private funding; the Medicare program does not cover non-skilled level nursing home care, and will only cover skilled nursing services if they are provided subsequent to an acute hospitalization of at least three days. Most of the patients who are receiving skilled nursing services are covered by Medicare. Consequently the bed designation levels are often referred to in the literature as "Medicare", "Medicaid" or "dual" certification.

Most nursing homes use dually certified beds, but some homes that are both Medicare and Medicaid certified retain separate or "distinct part" units with beds that are certified only for skilled or only for non-skilled level care. Any long-term care facility with at least one Medicare or dually certified bed is given a Medicare provider number and is referred to as a SNF, even if all of the remaining beds are non-skilled and even if no skilled patients occupy the dually-certified beds. This is an idiosyncrasy of the industry that is important to keep in mind, particularly for researchers comparing utilization or average costs across facilities, or tracking trends in skilled nursing capacity. To make meaningful comparisons it is necessary to track not only the number of SNF providers but also the distribution of certified beds and the Medicare (skilled) versus Medicaid/private (generally non-skilled) use of those beds.

For a more detailed discussion of nursing home supply and certification issues, see Dalton, Slifkin *et al,* "Background Paper on Rural and Urban Differences in Nursing Home and Skilled Nursing Facility Supply", NC RHRP Working Paper #74.

A number of regulatory changes occurred between 1998 and 2002 that have the potential to influence hospital provision of skilled nursing care. The most important is the transition that began in 1998 from cost-based reimbursement to a per-diem based prospective payment system (PPS) for Medicare-certified SNFs. Other changes also occurred in the rules governing Medicare's inpatient hospital payments for selected diagnosis-related groups (DRGs), reducing the DRG payments when patients were transferred early in their acute stay. Known as the "expanded transfer policy", the intent

of these changes was to reduce hospitals' financial incentives to substitute post-acute for acute care.

As with any transition from a cost-based to a fixed payment method, SNF PPS resulted in increased payments for some institutions and decreased payments for others. Payment reductions were particularly severe for hospital-based SNFs, which historically have had shorter stays and much higher costs per day than freestanding facilities. Many hospitals responded to the transition to SNF PPS by getting out of this line of business. In an earlier working paper we reported that the number of hospital-based skilled nursing units had grown rapidly between 1990 and 1997, particularly in urban areas, but that the number of hospitals operating SNF units declined by nearly 30% during the three years when SNF-PPS was first phased in (1998 to 2001).[2] Medicare SNF services provided in rural swing beds were initially exempted from the SNF prospective payment rules, and were paid instead under the partial cost-based method (mixing a fixed per-day amount for the routine nursing care with full cost reimbursement for ancillary services) that had been in effect since the 1980s. In July of 2002, however, swing bed services delivered within PPS hospitals also began to come under the SNF PPS rules.

While these changes in post-acute care reimbursement were taking place, a major upheaval was occurring in Medicare payments to rural hospitals. Increasing numbers of small rural hospitals converted to Critical Access Hospital (CAH) status, and moved from a PPS back to full retrospective cost-based reimbursement for Medicare acute inpatient and outpatient services. By the end of 2004 about one thousand hospitals had returned to cost-based reimbursement, representing a fifth of all Medicare-participating short-stay acute care facilities, and nearly 60% of those located in non-

metropolitan areas. The cost-based reimbursement applies only to the acute care service areas — CAH status does not affect Medicare payments for skilled nursing units, home health and most types of physician clinics. However, swing-bed SNF care provided within a CAH was paid under the same partial cost-based rules through 2000, then came under full cost-based reimbursement covering both routine nursing and ancillary services after that year.

Table 1 summarizes the multiple Medicare payment systems under which hospitals and nursing homes have functioned since the period immediately preceding the Balanced Budget Act of 1997 (BBA). More recently, prospective payment systems have also been implemented for acute inpatient rehabilitation facilities, but as these changes occurred after the close of our study period they are not addressed in this paper.

Table 1: Medicare payment changes for acute and long-term care

Type of Facility	Level of care	1996	1997	1998	1999	2000	2001	2002	2003	2004
PPS Hospitals	Acute care	IP-PPS			IP-PPS w/ expanded transfer policies					
	Swing beds	cost-based ancillary; per-diem routine							full SNF-PPS	
	SNF units	cost-based			SNF-PPS phase-in				full SNF-PPS	
CAHs	Acute care	IP-PPS		cost-based						
	Swing beds	cost-based ancillary; per-diem routine					full cost-based			
	SNF units	cost-based			SNF-PPS phase-in				full SNF-PPS	
Freestanding SNFs	SNF units	cost-based			SNF-PPS phase-in				full SNF-PPS	

Any change in post-acute payment systems has the potential to alter the strategic and financial incentives to participate in long term care. The reduction in Medicare SNF payment rates was not as severe for rural as for urban hospital-based SNFs, but it was still strong enough to have potential impact on hospitals' decisions. In 1998 about 35%

of non-metropolitan hospitals operated hospital-based units and 58% used swing beds. Fourteen percent provided care in both settings. Angelelli and colleagues surveyed a nationally representative sample of rural hospitals in 1997 and re-surveyed them in 2000 to identify post-BBA changes in their long-term care participation. They found that rural hospitals that were divesting themselves of SNF units tended to add swing beds as a replacement, but that there was also a general increase in the proportion of rural facilities operating swing beds over the three years.

The rapid expansion of CAHs over this period has complicated the study of hospitals' responses to SNF-PPS. Financial incentives for operating a SNF unit or any prospectively-paid sub-provider are very different for cost-reimbursed providers than they are for PPS hospitals. CAHs have less reason to use post-acute care as a strategy to manage length of stay (although they are required to keep their overall average length-of-stay to four days or less, most meet this requirement easily because they met it before becoming a CAH [3]). But CAHs have a strong cost accounting incentive to minimize the provision of any services that do not come under cost-based reimbursement, because such services draw fixed overhead away from the cost-based acute care areas and therefore reduce Medicare payments for hospital services. In its June 2005 report to the Congress, MedPAC expressed concern that CAHs will withdraw from hospital-based SNF care for this reason. They were also concerned that CAHs will develop a competitive advantage over local freestanding facilities because Medicare's method of paying a single cost-based per-diem for routine care results in swing-bed payments that are much higher than the PPS RUG-based payments received by local freestanding facilities.[4] There is anecdotal evidence that CAH facilities with relatively small

hospital-based SNF units are being advised to maximize Medicare cost reimbursement by closing the units and substituting care in swing beds.[5] The extent to which this advice is being followed, however, has not been documented.

For CAH administrators that make the decision to operate *both* SNF units *and* swing beds, the financial implications of admitting a patient to one setting over another are not at all straightforward. The placement decision affects reimbursement for all cost-based services as well as reimbursement for the skilled nursing Medicare patient. The relative advantage to the CAH of using either setting is a complicated function of the facility's overhead, its excess capacity, its Medicare utilization and the size of the case-mix adjusted SNF per diem for that particular patient day, among other factors. Although detailed reimbursement analyses are beyond the scope of this paper, we do examine the evidence from licensure and cost report files to see if CAHs and other rural hospitals are acting on existing financial incentives to open or close units or to shift days of care across settings.

It is possible that closing hospital-based units and substituting swing beds and/or freestanding care for hospital-based SNF care could alter beneficiaries' access to care and/or treatment patterns. All three types of SNF settings—freestanding, hospital-based and swing beds—should be able to provide similar levels of care to similar patients. Historically, however, there have been differences across setting in length of stay and average ancillary and therapy service use. To the extent that these are driven by institutional differences in treatment styles rather than patient attributes, beneficiary care would be affected by changes in the distribution of SNF care across settings. In most rural counties there may be an adequate supply of freestanding Medicare-certified beds,

but if hospital-based SNF beds close in places where the hospitals are the main source of SNF care, then rural elderly will find themselves more likely to be transferred out of their local area for permanent placement.

Table 2 summarizes CMS' statistics from SNF claims in 1997, the year before SNF PPS was implemented and therefore the last year in which Medicare SNF payments per day were an accurate reflection of actual service use. Patients in freestanding facilities had lower average nursing and ancillary costs but considerably longer average stays than patients in either hospital setting. Hospital-based SNF patients had shorter lengths of stay but more intensive nursing and ancillary service use per day. Swing bed patients, which accounted for only 5% of all Medicare SNF admissions, had the shortest average length of stay and the lowest average cost per day. It is not possible to tell from this type of summary data how much of the setting-specific differentials in cost per day were due to differences in ancillary service use or to differences in routine care costs or payments.

Table 2: Medicare skilled nursing care by type of setting in calendar year 1997 from CMS analysis of SNF claims

	Admissions *(N= 2 million)*	Covered days *(N=48 million)*	Average Length of Stay	Average Payment / Day
Freestanding	63%	80%	33.5 days	$ 207
Hospital-Based	32%	18%	14.1 days	$ 344
Swing beds	5%	2%	9.9 days	$ 192
All	100%	100%	25.0 days	$ 233

Source: Adapted from Table 43, Health Care Financing Review Medicare and Medicaid Statistical Supplement, 1999.

Some, but not all, of the length of stay and per diem cost differences between settings have been shown to be attributable to case-mix differences in the patients that

get referred to each setting.[6,7] The gap in resource use between hospital-based and freestanding SNF care is substantial in urban areas, but much less pronounced in very rural areas. In two of our previous studies we documented that hospital-based SNFs in the most rural counties tend to look more like freestanding nursing homes than like other hospital-based units with respect to basic operating characteristics such as bed size, Medicare and Medicaid volumes, and staffing ratios.[2,8] This similarity may occur most often in counties where hospital-based units provide the only certified SNF beds in the county. Swing-bed days are a very small portion of total Medicare SNF care, however, and they have not been extensively studied in recent years. Swing beds were first authorized in 1982, and most of the related evaluation research has focused on utilization during the first decade.[9,10,11] Without a recent claims-level analysis it is not possible to determine to what extent the shorter length of stay for swing patients is because they are being transferred to other certified SNF beds. Yet we found in our earlier working paper on SNF supply that in some parts of the country, particularly in the plains and mountain states, there were numerous counties with no Medicare-certified nursing beds, where swing-bed hospitals provide the only local access to skilled level care.[2]

Study Questions

This study examines trends from 1996 through 2004 and seeks to answer the following study questions:

1. How has the number of freestanding, hospital-based and swing bed skilled nursing providers in rural and urban areas changed since 1996? How does hospital participation in long term care compare in rural versus urban settings and how has this changed over the study period?

2. How are Medicare SNF days of care distributed across the three settings in rural areas, and how has this changed over the study period?

3. How do CAHs differ from other rural hospitals with respect to long term care participation? Have CAHs responded differently than other rural hospitals to SNF PPS?

4. How do Medicare SNF services differ across the three settings in cost per day, intensity of rehabilitation and other ancillary service use and Medicare payment margins and how does this differ by geographic location?

While some of the measures in questions 1-4 are tracked by CMS and available at the national level, they have not been documented specifically for rural providers using more detailed county-level rural designations. Response differences between hospitals that converted to CAH status and other rural hospitals have also not been explicitly examined before. In this working paper we investigate these issues using extensive descriptive statistics. Findings are presented in two sections. First, we address changes in participation and utilization. In the second section we present data on costs and payments under SNF PPS, and detailed data on differences in SNF ancillary service use by setting and over time.

Data Sources

Project data come from the On-line Survey and Certification Analytic Reports (OSCAR) released in January 2005 (file created September 30, 2004) and from Medicare cost reports for hospitals and skilled nursing facilities that were in the CMS files as released in June 2004. Both of these have been geo-coded and merged at the

county level with information from the Area Resource File and census files. Summary data presented from the OSCAR files include information on 2004, although the number of new and terminated facilities recorded for the fourth quarter is absent. In addition to the usual OSCAR certification information, summary survey findings on numbers and types of deficiencies by SNF facility were obtained from CMS' "Nursing Home Compare" files.

A county-level summary file was created to capture net change in the number of facilities, number of certified beds and total Medicare days of care by calendar year. It is important to note that days of care were obtained from the operating statistics on the Medicare cost reports, which were then aggregated for presentation purposes by the calendar year of the facilities' accounting period-end dates. Different facilities have different accounting periods, and only sixty percent of facilities in the sample have a December 31 year-end. Consequently, total days summed across facilities with a given year-end is not the same statistic as a count of days of care delivered during a given calendar year or a sum of days of care for individual patients discharged during a given year. While the most accurate source for analyzing days of care during a specific period is the individual claims file, cost reports can still produce valid trend information on the distribution of care across settings using proportional and ratio data. Trends in volume statistics (e.g. numbers of days, discharges or beds available) can also be constructed from cost reports so long as all or nearly all of the facilities have submitted reports. Comparing 2003 reports in our analysis files, to those of prior years and to licensure information, we estimate that cost reports had not yet been filed for about 20% of facilities with calendar 2003 end-dates. Any tables and figures in this report that present

volume statistics from cost reports are therefore limited to the 1997-2002 period for which annual data are complete.

For the analyses presented here, rurality is identified from the OMB's Core Based Statistical Area (CBSA) designations as of December 2003, either by grouping all non-metropolitan counties together to compare metropolitan (urban) to non-metropolitan (rural), or by using the three categories of CBSAs, where urban is identified as "Metropolitan", and rural is split into two groups, "Rural/Micropolitan" and "Rural/Non-Micropolitan" (non-CBSAs).

The original analysis files included records for 14,488 different freestanding SNF and 5,733 different short-stay acute care hospital provider numbers, with data from accounting periods ending as early as June of 1996 and as late as December of 2003 (Table 3).

Table 3: Facility Cost Reports in Study File

	Hospitals		Freestanding SNFs	
	Number	Percent non-metro	Number	Percent non-metro
Number of records in cost report files	36,694	43%	97,391	28%
Number of unique provider IDs	5,733	45%	14,488	29%
Number of facilities, after adjusting for CAH conversions	5,267	41%		
Period covered:				
Earliest month/year-end	September 1996		June 1996	
Latest month/year-end	December 2003		December 2003	
Number of open facilities with cost report records at study period-end (defined as at least one cost report for period ending in 2002 or 2003)	4,787	43%	13,290	29%

Source: Medicare hospital and nursing facility cost reports, September 2004 update.

After adjusting for the provider number changes that occurred when some hospitals converted from PPS to CAH status, data are available for 5,267 unique

hospitals. From this group we had at least one report filed with a calendar year-end of 2002 or 2003 by 4,787 facilities. Data quality edits on cost report operating statistics eliminated 3%-4% of records for hospitals, and 6%-8% of records for freestanding SNFs, depending on the year of data. Per-diem cost data were subject to additional quality edits for some analyses, which eliminated another 3%-10% of records in the post-PPS years.

Findings

SNF participation: changes in the distribution of SNF providers, bed capacity and utilization

Hospital-based SNF units:

From analysis of the licensure data it is evident that the number of hospital-based facilities continued to decline through 2004 (Table 4). The largest proportional reductions were in urban areas, where there was a 43% decline from the last full year before the implementation of SNF-PPS, compared to a 20% decline in rural areas. Among rural counties, the decline was much greater in rural/micropolitan counties (26%) than in rural/non-micropolitan (15%). The number of certified freestanding SNFs increased during this time, serving to offset some of the losses in hospital-based capacity.

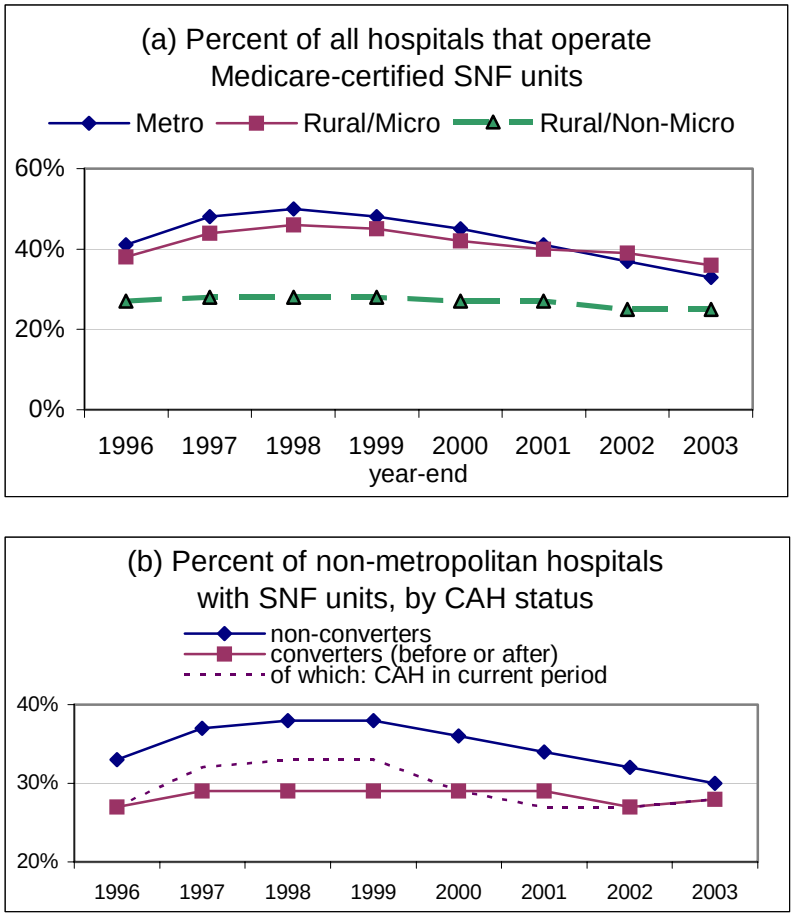
Table 4: Change in number of Medicare-certified skilled nursing facility providers

	Pre-PPS	Post-PPS phase in:			Net Change 1997 to 2004	
	1997	2000	2002	2004*	Number	Percent
Hospital-based						
Metropolitan	1,411	1,106	899	807	-604	-43%
Non-metropolitan	689	618	587	548	-141	-20%
Among these:						
Rural/Non-Micropolitan	*317*	*283*	*276*	*271*	*-46*	*-15%*
Rural/Micropolitan	*372*	*335*	*311*	*277*	*-95*	*-26%*
All Counties	2,100	1,724	1,486	1,355	-745	-35%
Freestanding						
Metropolitan	9,176	9,325	9,437	9,574	398	4%
All Non-metropolitan	6581	3685	3847	3992	411	11%
Among these:						
Rural/Non-Micropolitan	*1,702*	*1,745*	*1,822*	*1,912*	*210*	*12%*
Rural/Micropolitan	*1,879*	*1,940*	*2,025*	*2,080*	*201*	*11%*
All Counties	12,757	13,010	13,284	13,566	809	6%

**Source: CMS OSCAR files, as of September 2004.*

Some of the reduction in numbers of hospital-based SNFs may be the result of hospital closures or mergers, but the proportion of existing hospitals that operate skilled nursing units also continued to decline, from a high of 44% in the reports filed during 1998 to 31% by 2003 (Figure 1). Regional data are not presented here, but the declines were most pronounced in the Southwest, where there was a nearly 60% reduction in hospital-based units. As shown in Figure 1(a), however, the declining trend is largely present in metropolitan and rural/micropolitan areas. In the rural/non-micropolitan counties (where 25% of short-stay acute care hospitals in our study file were located) hospitals were less likely to have operated SNF units to begin with, but there was relatively little change in SNF participation through 2003. These counties accounted for 23% of all hospital-based SNFs in 1996, but 33% by 2003.

Figure 1: Declining hospital participation in certified SNF units, 1996-2003



Data aggregated by calendar year-end.
Source: CMS HCRIS files distributed June 2004.

The second frame of Figure 1 shows the same type of data, but for non-metropolitan hospitals only, by CAH conversion status. The two solid lines in Figure 1(b) show trends in two groups of rural hospitals, those that converted to CAH status some time prior to June 2004, and those that have remained under PPS. As of 2003, CAHs appear to have been *less* rather than more likely than other non-metropolitan hospitals to divest themselves of hospitals-based SNF units, in spite of the potential reimbursement incentives. CAH converters were somewhat less likely than non-converters to have hospital-based units to start with, but there is no evidence of a rush to

divest the units once the converters become cost-based. However, this statistic is important to track over the next few years, because many of these facilities have had only one year post-CAH conversion, and many new CAHs have not yet filed a completed first-year cost report.

The dashed line on Figure 1(b) is included to demonstrate how important it is to analyze CAH trend data by conversion cohorts rather than as the group of certified CAHs present in each year of data. There were only 50 CAHs with year-end dates in calendar 1998 in our edited cost report files, and 71 in 1999, but there were 650 with year end dates by 2003. The proportion of certified CAHs that operated hospital-based SNF units in each year declines suddenly after 1999, but this is an artifact of the changing number and location of new CAHs in each year of data rather than an indication that CAHs are closing their SNF units.

MedPAC noted in its March 2004 Report to Congress that the hospital-based SNFs that closed during the initial phase-in period of SNF PPS tended to be those in metropolitan areas with a high proportion of Medicare to total days of care on the SNF-certified units, and high average cost per day.[12] Our data show similar results for the period after 2000. The chief reason there were relatively few post-PPS SNF closures among the very rural hospitals may be that facilities in these areas tend to have much lower Medicare utilization, and are therefore less sensitive to changes in Medicare reimbursement. Table 5 compares key operating statistics for hospital-based and freestanding facilities in their calendar year 2000 reports and surveys, and demonstrates how in many respects the very rural hospital-based units resemble freestanding facilities.

Table 5: Differences in selected SNF characteristics by setting and county metropolitan status, for facilities with calendar year-end 2000.

	Hospital-based	Freestanding
Median Medicare utilization[(1)]		
Metropolitan	71%	20%
Non-metropolitan, of which:	23%	15%
Rural/Micropolitan	*81%*	*19%*
Rural/Non-Micropolitan	*7%*	*12%*
Median average daily census on SNF unit		
Metropolitan	17.7 days	41.3 days
Non-metropolitan, of which:	20.8 days	37.3 days
Rural/Micropolitan	*14.4 days*	*36.6 days*
Rural/Non-Micropolitan	*30.7 days*	*38.1 days*
Median ancillary cost per day[(2)]		
Metropolitan	$176	$96
Non-metropolitan, of which:	$115	$87
Rural/Micropolitan	*$151*	*$88*
Rural/Non-Micropolitan	*$87*	*$85*
Median routine cost per day[(2)]		
Metropolitan	$363.45	$131
Non-metropolitan, of which:	$205	$104
Rural/Micropolitan	*$292*	*$108*
Rural/Non-Micropolitan	*$140*	*$98*
Median percent medically high-cost cases[(3)]		
Metropolitan	55%	53%
Non-metropolitan, of which:	67%	55%
Rural/Micropolitan	*64%*	*53%*
Rural/Non-Micropolitan	*70%*	*57%*
Mean RUG index, using rehab weights[(4)]		
Metropolitan	0.76	0.79
Non-metropolitan, of which:	0.65	0.77
Rural/Micropolitan	*0.71*	*0.79*
Rural/Non-Micropolitan	*0.57*	*0.73*
Mean number health deficiencies in last survey		
Metropolitan	3.8	7.0
Non-metropolitan, of which:	4.4	6.8
Rural/Micropolitan	*3.7*	*6.1*
Rural/Non-Micropolitan	*5.2*	*5.3*
Mean number life-safety deficiencies in last survey		
Metropolitan	1.7	2.8
Non-metropolitan, of which:	1.8	2.5
Rural/Micropolitan	*1.5*	*2.6*
Rural/Non-Micropolitan	*2.1*	*2.3*

(1) Defined as covered Medicare SNF days as percent of total days of care on SNF-certified units.

(2) Computed from cost reports worksheet D series, without adjustment for case mix or area wage index.

(3) Medically high cost cases are those in the fifteen RUGs singled out for payment add-on, regardless of whether the add-on was actually in force during the reporting period.

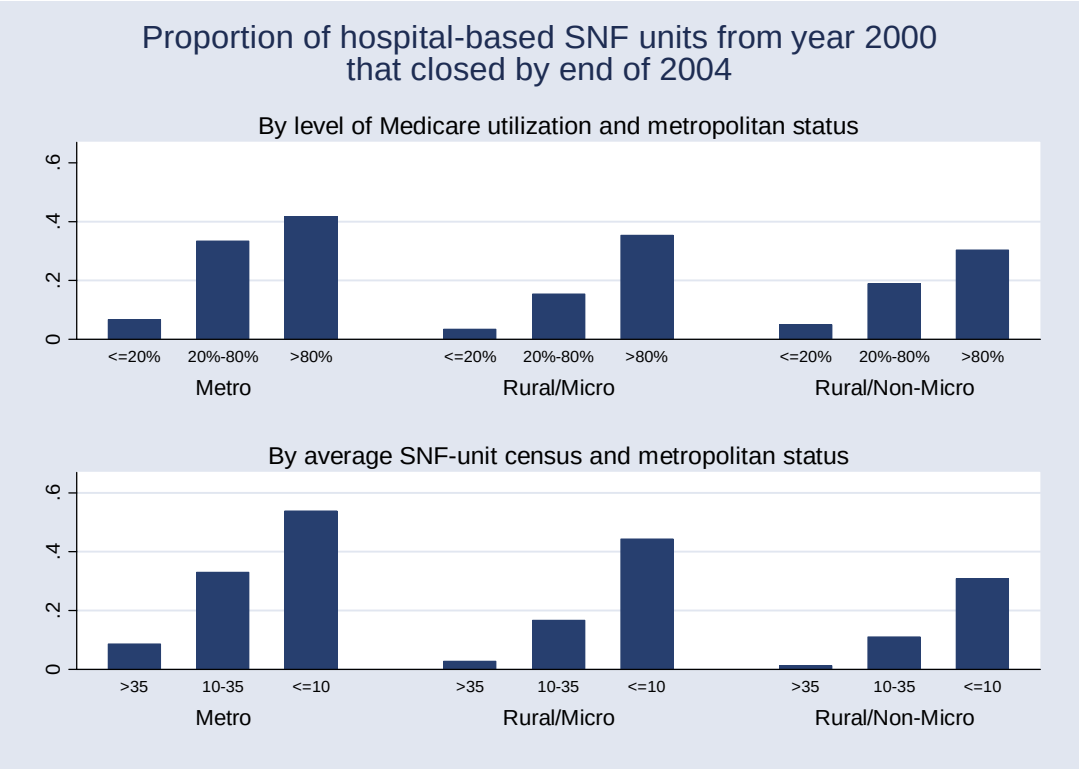
(4) Computed as the average rehab service weight for RUGs paid during this reporting period. Each RUG payment has a rehab component, nursing component and non-weighted component.

The one exception is in case-mix measures, where they appear to have a much lower concentration of rehabilitation-intensive days of care, and a higher proportion of cases that fall into one of the fifteen "high-cost" medically intensive RUGs for which Medicare incorporated temporary payment adjustments. [i]

Many of the variables in Table 5 are strongly correlated with the probability of closing post-SNF PPS, and the different responses shown in Figure 1(a) may simply reflect different average operating characteristics of the SNF units rather than differences in strategic decision-making of rural versus urban managers. For example, among hospital-based facilities open in 2000, 32% of metropolitan and 17% of non-metropolitan SNF units closed by 2004. Among rural counties, 22% had closed in micropolitan areas and only 11% in rural/non-micropolitan counties. But the differences by location are not nearly as pronounced when we look at the same statistic within facilities grouped by low, medium and high Medicare utilization or average SNF census (Figure 2). Neither the RUG-based case-mix measures nor data on health and life-safety deficiencies appeared to be strongly associated with hospital-based closures. However, freestanding facilities with higher numbers of deficiencies were more likely to close between 2000 and 2004 (data not shown).

[i] The high-cost RUG adjustments were implemented by Congress pending further refinements in the payment groups, in recognition that RUG weights did not appear to adequately capture additional non-therapy ancillary costs in these patients. Additional RUG groups for high-cost medical cases were not added to the payment system until federal fiscal year 2006.

Figure 2: Likelihood of hospital-based SNF closure associated with Medicare utilization and SNF census

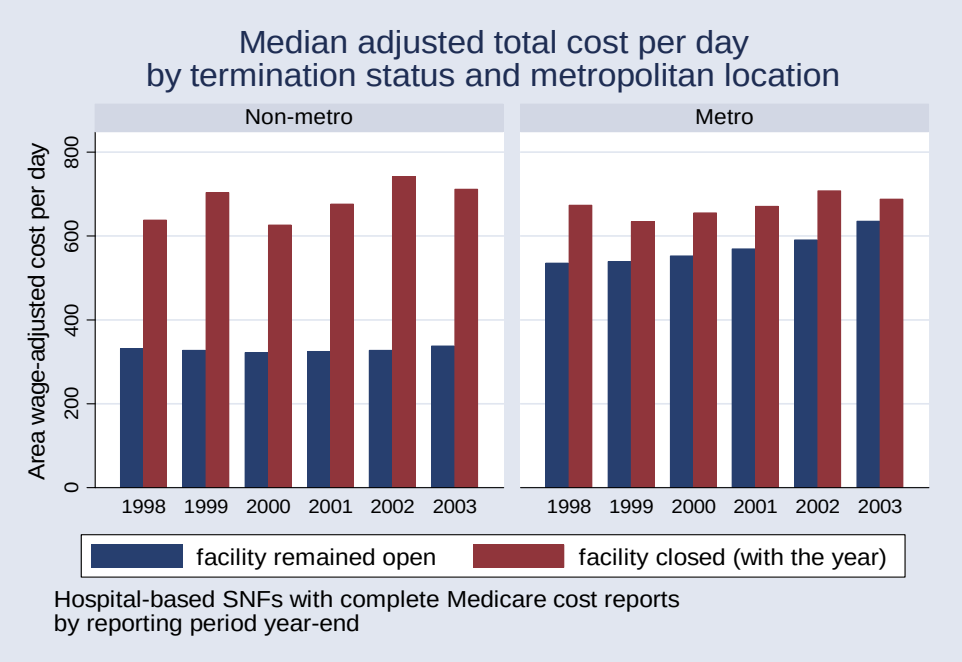


Source: CMS HCRIS files distributed June 2000; OSCAR files as of January 2005.

There were relatively few hospital-based closures in non-metropolitan areas in any given year, but those that did close tended to have area wage-adjusted Medicare per-diem costs that were similar to the per-diem costs in the closed urban units, and well above the costs of other non-metropolitan units (Figure 3).[ii] Median per-diem costs in the non-metropolitan hospital-based SNFs that remained open are substantially lower than those in the remaining metropolitan ones.

[ii] All per diem costs for Figure 3 are adjusted for area wage differences by dividing the SNF labor-related share of cost per day by the CMS wage index. This approach is consistent with the method for adjusting SNF PPS payments.

Figure 3: Wage-adjusted cost per day for terminated and non-terminated hospital-based SNFs, 1998-2003.



Source: CMS HCRIS files distributed June 200; OSCAR files as of January 2005.

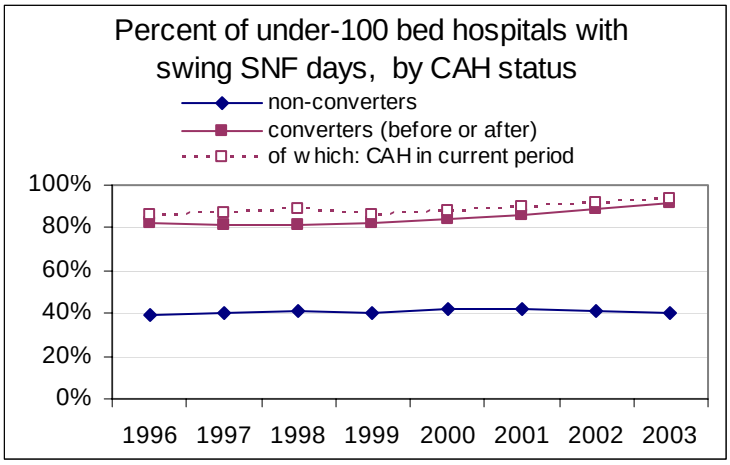
Finally, we note that despite the cost accounting advantages to eliminating non-cost reimbursed patient care areas, CAHs were actually less likely than other non-metropolitan hospitals to close SNF units during this period. For example, among all non-metropolitan hospital-based SNFs in the year 2000 data (731 facilities), only 8% of those that were located in CAH converting facilities had closed by the end of 2004, compared with 19% of those in non-converting PPS hospitals. Going back to the beginning of the downward trend in hospitals-based SNF care (1998), 12% of those located in CAH converting hospitals in 1998 were closed by the end of 2004, compared to 26% of those in non-converters.

Swing bed providers

During the same period that hospitals have been retreating from the provision of SNF care in certified units, an increasing number of rural hospitals have begun to use swing beds. In our study files, the proportion of under-100 bed hospitals using swing beds increased from 50% in 1996 to 68% by 2003. In 2003, 19% of this group reported operating *both* swing beds and SNF units. Some of the fastest growth in swing bed participation occurred in metropolitan counties, where, surprisingly, just over one-third of the hospitals had 100 or fewer acute routine care beds (although many of these would not qualify for swing beds because they are not located in non-urbanized census districts).

Part of the growth in swing bed care could be due to provisions in the Balanced Budget Refinement Act of 1999 that eliminated certificate of need requirements and eased certain regulatory restrictions on swing-bed use in the 50-100 bed facility group. Yet most of the increase in the number of swing bed hospitals came from the very small hospitals that had converted or were converting to CAH status (Figure 4). Swing-bed participation in this group was always high, but rose from 83% in 1996 to 95% by 2003, while it remained around 40% for all other facilities under 100 beds.

Figure 4: Increasing hospital participation in swing-bed options



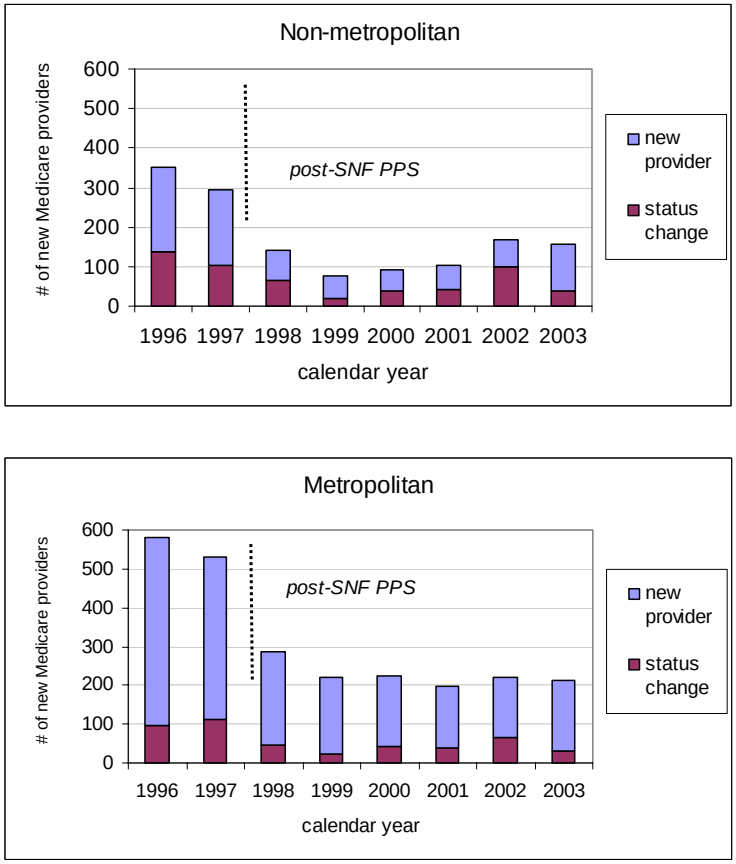
Data aggregated by calendar year-end.
Source: CMS HCRIS files distributed June 2004.

Bed capacity

Certified SNF bed capacity increased dramatically during the study period, but much of this reflects certification changes rather than real capacity growth. While the number of freestanding nursing homes increased between 1998 and 2004, many of the new Medicare provider numbers were issued as a result of a status change in homes that had previously been certified only for non-skilled care (called "NF", or "Medicaid-only" providers). A new provider number is assigned to a Medicaid-only facility if one or more beds become certified for skilled-level care, regardless of whether a skilled level patient actually ever uses the bed. The real impact on SNF bed capacity is not easy to identify from facility licensure data, because newly dual-certified beds may still be used predominantly for non-skilled care. We analyzed the termination codes for NF-only nursing homes in the licensure files, and linked these by date and address to new SNF provider numbers. We found a strong trend, across all regions of the country, for Medicaid-only providers to obtain dual certification for their beds (Figure 5). This was

especially true in rural areas. From the beginning of 1996 to the end of 2003, NF-only to combined SNF/NF status changes accounted for 31% of new SNF provider numbers assigned in nonmetropolitan counties (27% in rural/micropolitan and 35% of those in rural/non-micropolitan counties) compared to only 17% of new provider numbers assigned in metropolitan areas. To the extent that non-Medicare patients continue to occupy newly dual-certified beds, the increase in non-metropolitan SNFs shown in Table 4 overstates both the actual increase in nursing homes, and the increase in effective SNF capacity. During this same time, facilities that had some but not all of their beds certified for SNF care also chose to dually certify the beds on remaining nursing units within their facility that had previously been certified only for non-skilled care. On the cost reports, these changes appear as increased numbers of SNF beds rather than as new facilities.

Figure 5: Status changes from Medicaid-only nursing facilities as a proportion of new Medicare SNF provider numbers



Data aggregated by calendar year-end
Source: CMS OSCAR files, as of January 2005.

The key to identifying real changes in SNF bed capacity is to identify the extent to which newly dual-certified beds are actually used differently. We analyzed the available beds and days of care on SNF units and NF-only units, from the cost reports for both freestanding and hospital-based SNFs. Among freestanding SNFs the number of beds and total days of care reported in distinct-part NF units declined by about 60% over the five completely reported years from 1997 to 2002, while the number in SNF-certified units more than doubled. Yet much of this is just a matter of moving beds from one line of the cost report to another; total days of care provided in what the cost reports

identified as freestanding SNF units — those with either SNF certified or dually certified beds — grew by 92%, but Medicare covered SNF days increased only 15%. The average Medicare utilization across all freestanding facilities dropped, from 40% of all cost-report SNF unit days in 1998 to less than 20% by 2003, and this occurred across facilities in both rural and urban counties.

We conclude from these data that much of the increase in freestanding SNF capacity since 1998 is an artifact of bed certification. The real increase in SNF bed capacity is constrained by the nursing care needs of the longer term non-Medicare (predominantly Medicaid) population.

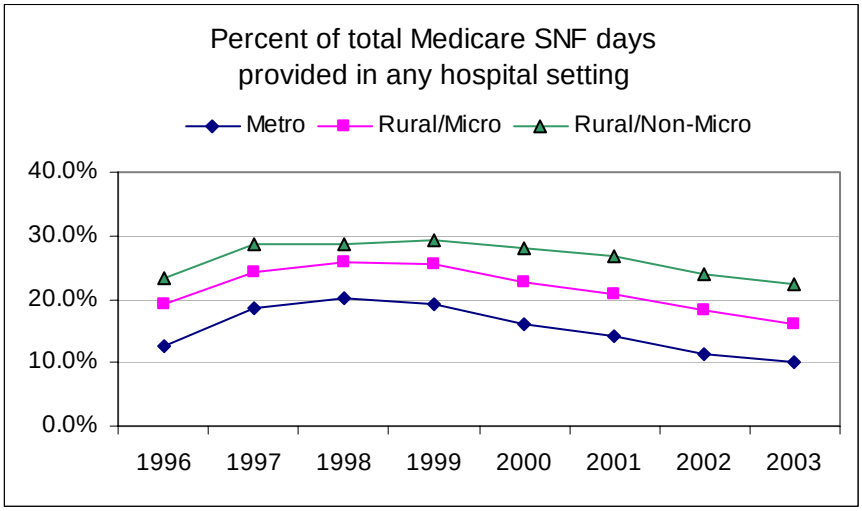
Hospital-based units in urbanized areas have always tended to be more Medicare-dominated in their care. We found only a few NF-to-SNF status changes among hospital-based providers in the licensure file, and these were all in rural/non-micropolitan counties. During the period covered by this study, hospital-based SNF Medicare utilization also declined, but the decline reflected loss in Medicare business rather than a change in the organization of Medicare-certified capacity.

Trends in Medicare SNF days of care by setting

Combined freestanding and hospitals-based SNF cost reports show total Medicare SNF days growing by about 2.5% per year. Although hospitals have always accounted for a larger share of Medicare SNF days in rural areas than in urban areas, that share is declining everywhere (Figure 6). The number of hospital-based facilities did not decline as sharply in rural areas, but their average Medicare census did decline, and it is freestanding nursing homes that are absorbing the modest increases in overall use. Between 1998 and 2003, the median Medicare census for hospital-based units in

rural non-micropolitan counties dropped 28% (from 3.6 to 2.6), while among freestanding facilities it increased by 11% (from 4.3 to 6.3).

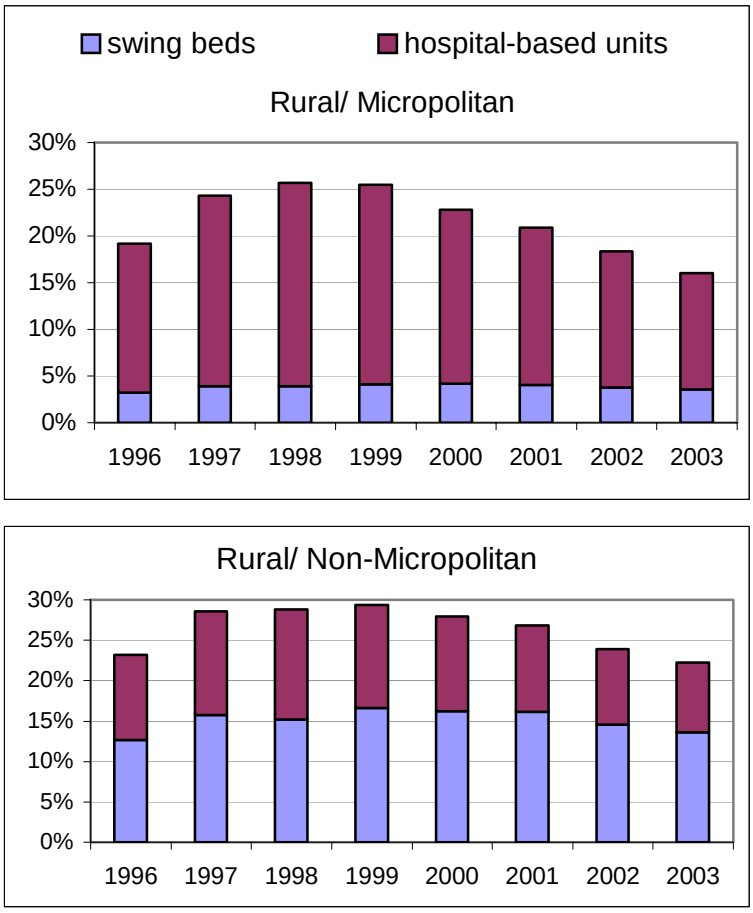
Figure 6: Hospital share of total Medicare SNF days, by location



Data aggregated by calendar year-end.
Source: CMS HCRIS and SNF cost report files distributed June 2004.

In spite of the increase in the number of hospitals approved for swing beds, swing bed care actually declined as a share of Medicare SNF days and as a share of all hospital-related SNF days (Figure 7). (As swing days have never accounted for more than one-half a percent of Medicare SNF days in metropolitan areas, these data are not shown.) The median Medicare swing bed census is less than 1.5 throughout the study period.

Figure 7: Share of rural Medicare SNF days provided in swing beds versus hospital-based units



Data aggregated by calendar year-end.
Source: CMS HCRIS and SNF cost report files, as distributed June 2004.

Table 6 shows the median and 75th percentile for the swing bed average daily census (ADC) from 1997 through 2003, by CAH status. Individual hospitals' swing-bed use has not changed much over the period, even though more hospitals are participating.

Table 6: Median values for swing-bed average daily census (ADC), over time and by type of hospital

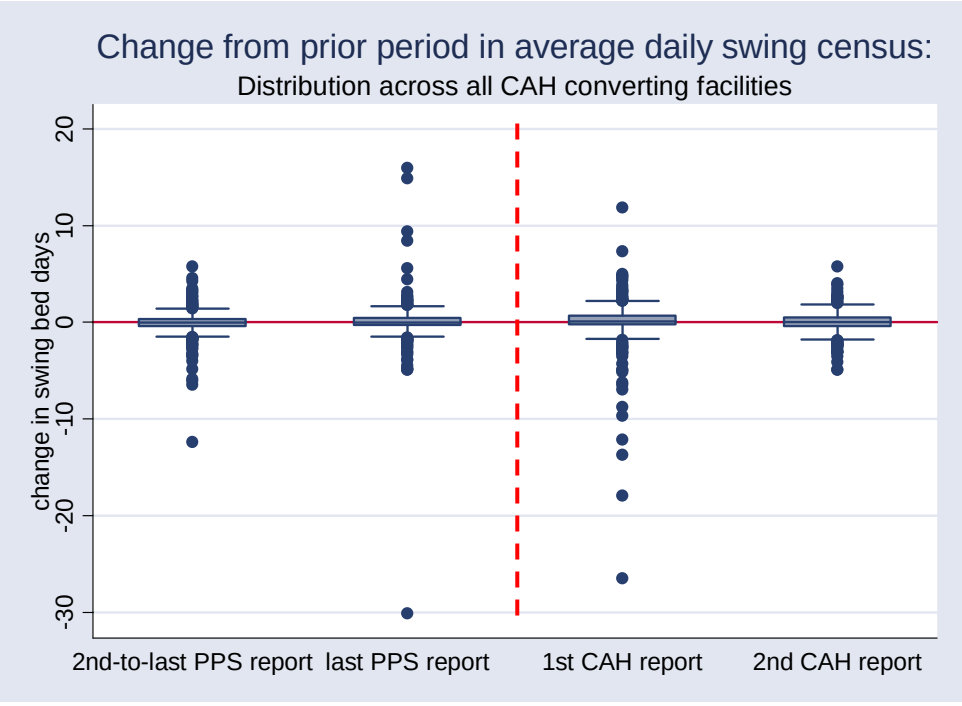
		Swing bed hospitals by CAH status		
		Always PPS	CAH, pre-conversion	CAH, post-conversion
1997	Number of hospitals	864	574	31
	Swing ADC: 50th percentile	1.8	1.8	2.0
	75th percentile	3.7	3.8	3.2
1998	Number of hospitals	867	565	34
	Swing ADC: 50th percentile	1.7	1.7	1.8
	75th percentile	3.6	3.2	4.1
1999	Number of hospitals	857	582	49
	Swing ADC: 50th percentile	1.7	1.6	1.9
	75th percentile	3.5	3.4	3.6
2000	Number of hospitals	867	509	177
	Swing ADC: 50th percentile	1.7	1.7	1.7
	75th percentile	3.6	3.0	3.1
2001	Number of hospitals	875	353	367
	Swing ADC: 50th percentile	1.7	1.7	1.9
	75th percentile	3.7	3.1	3.5
2002	Number of hospitals	838	152	554
	Swing ADC: 50th percentile	1.7	1.7	1.9
	75th percentile	3.5	3.2	3.5
2003 (1)	Number of hospitals	691	36	579
	Swing ADC: 50th percentile	1.7	1.9	1.9
	75th percentile	3.5	3.7	3.2

(1) Estimated 80% of reports filed for this years.
Notes: Number of hospitals indicates number of swing-bed hospitals with cost reports in final analysis file, organized by the calendar year-end.
Source: CMS HCRIS and SNF cost report files distributed June 2004

When we examined the behavior of individual CAHs in the form of year-to-year changes in swing bed patient census, we found that CAHs appeared less likely to increase swing bed use after their cost-based conversion than before. We computed

changes in the swing-bed ADC (including both skilled and non-skilled days) for the two years preceding and the two years following the year in which CAH facilities converted from PPS to cost-based reimbursement. Figure 8 uses box plots to show the distribution of the results, where the range from the 25th to 75th percentile of hospitals in each of the four groups is contained in the (very thin) rectangle in the middle. The horizontal lines identify the upper and lower bounds of what might be considered "inliers" or observations within expected ranges, and the individual dots identify outlier values. Large changes in swing-bed use among CAHs appear to be anomalous behavior. Large reductions are actually more common than increases in the first year following conversion to cost-based payment.

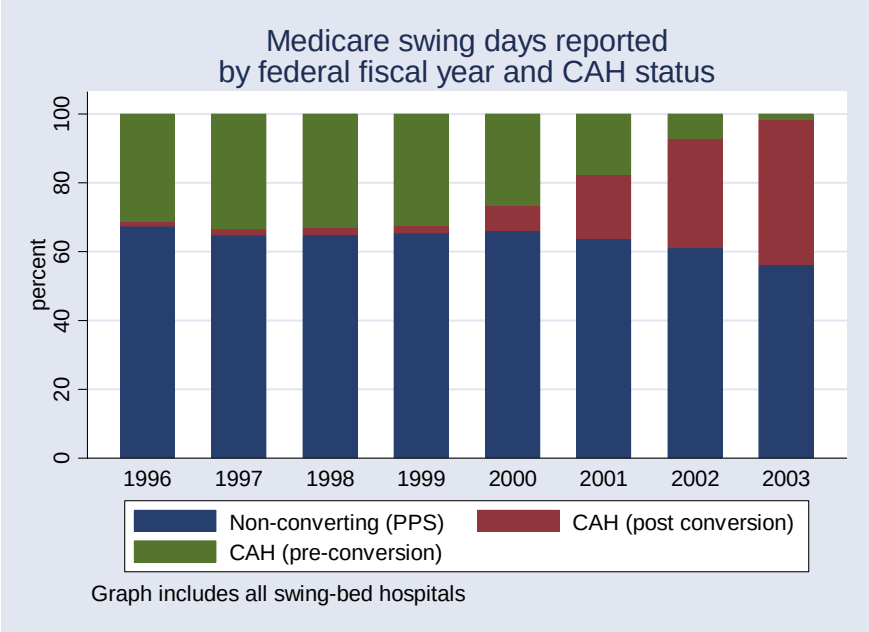
Figure 8: Trends in total swing-bed use for Critical Access Hospitals in the years immediately before and after converting



Source: CMS HCRIS files, as distributed June 2004.

It is true, however, that the total number of swing bed days has been increasing gradually each year (by about 6% in total, from the 1998 to the 2003 cost reports), and that CAH converting hospitals account for most of the increase. If we look at the distribution of Medicare swing days across hospitals, the CAH converters as a group increased their share of total swing days while the share for the facilities that have remained under PPS has declined slightly (Figure 9).

Figure 9: Declining share of total Medicare swing days accounted for by non-converting PPS hospitals

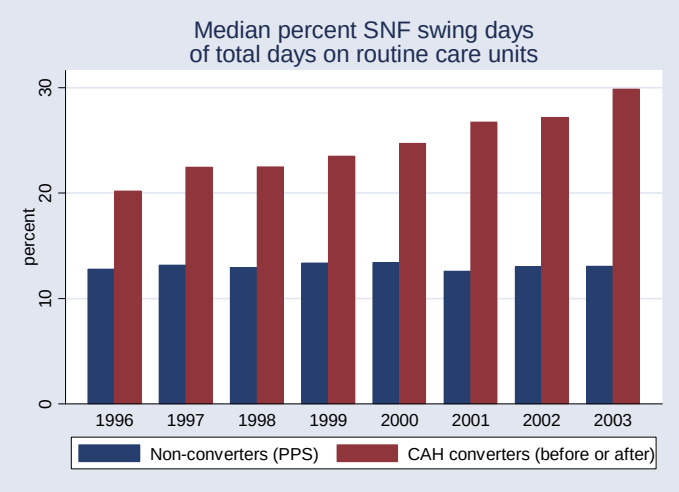


Data aggregated by calendar year-end.
Source: CMS HCRIS and SNF cost report files, as distributed June 2004.

Swing bed care also accounted for an increasing proportion of inpatient business in the CAH conversion group, but not in other swing-bed hospitals (Figure 10). This is influenced by the extremely small size of CAH's inpatient acute business; their median total hospital daily census, including both acute and swing patients, was only 4.8

patients in 1996. It declined steadily over the study period to 3.6 patients by 2003, with the decline accounted for by decreasing numbers of acute care patients.

Figure 10: Skilled swing-bed days as a share of all days on routine care units of swing-bed hospitals

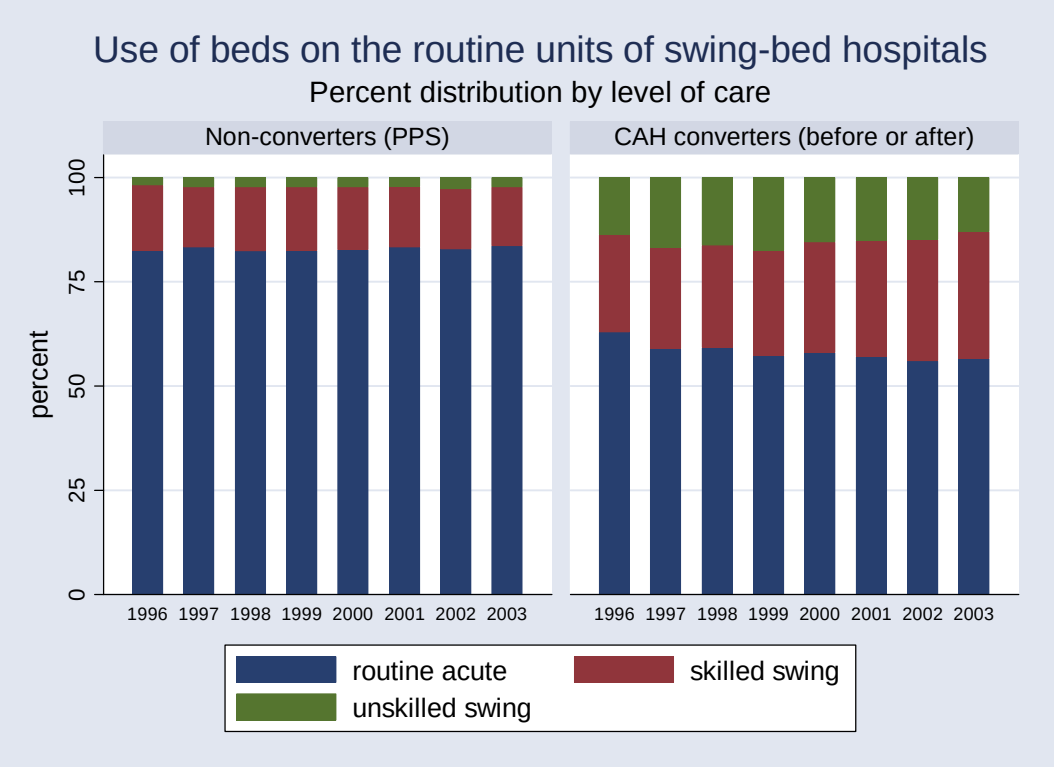


Data aggregated by calendar year-end.
Source: CMS HCRIS and SNF cost report files, as distributed June 2004.

Many swing bed hospitals are also meeting demand for non-skilled care. This is more common in the smallest and most isolated facilities and therefore more common in the group of CAH converters than in the other swing bed hospitals. Figure 11 demonstrates this, showing the distribution of all days of care in beds on the routine units of swing-bed hospitals, by level of care, year and CAH status. However, participation in non-skilled swing care is bi-modally distributed across hospitals, with most providing little or no non-skilled days but a small number (almost all CAH converters located in the west and mid-west) having more non-skilled than skilled level swing days. Although the use of swing beds for unskilled care appears to be declining slightly over time, the relative size of a swing-bed hospital's non-skilled business is a

potentially important factor to explain differences in routine cost per day as computed on the cost reports.[iii]

Figure 11: CAHs as providers of non-skilled swing-bed care



Data aggregated by calendar year-end.
Source: CMS HCRIS and SNF cost report files, as distributed June 2004.

Trends in per diem costs and payment

This section provides more detailed information on trends in average cost across the three settings for SNF care. To place the data in perspective, we start with a summary of per-diem payments and total cost per day from 1999 to 2003, covering the

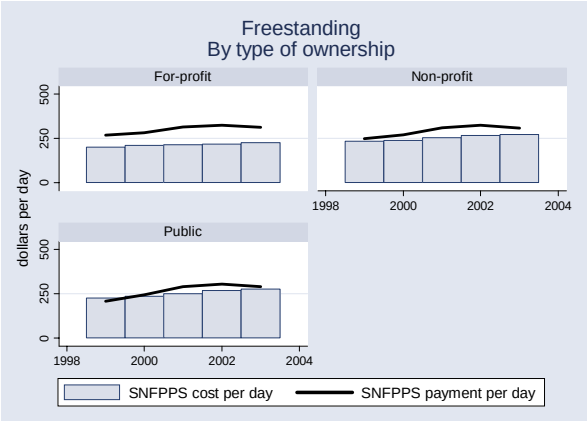
[iii] The costs of non-skilled days in swing-bed hospitals are never directly measured. An estimated cost for all non-skilled care is computed by multiplying the number of non-skilled swing days by the state's average Medicaid NF rate per day, and this amount is "carved out" of the routine care cost center before dividing the cost center by the sum of all routine and SNF-level swing days. If the Medicaid rate is less than the average cost per non-skilled swing day the resulting routine per diem will be systematically overstated, and vice-versa.

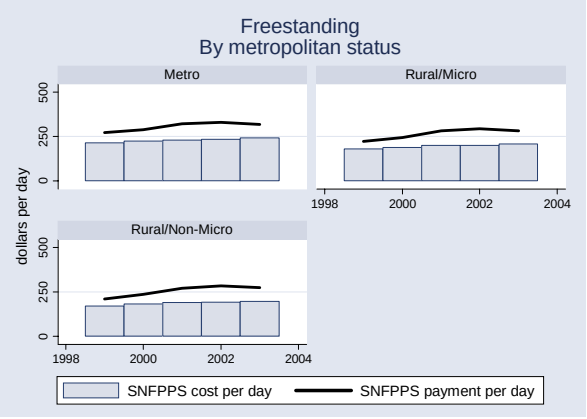
first five years of SNF PPS (Figure 12). Swing-beds are not included in Figure 12, since they did not come under PPS during this period. The cost and payment comparisons are stratified by location in metropolitan, rural/micropolitan and rural/non-micropolitan areas, and also by type of ownership. We separate rural counties by whether or not they are micropolitan, because the aggregation of these two county types masks important differences between costs per day and payments per day. Bars show discharge-weighted averages by year (which is equivalent to the aggregate ratio of cost per day), and the lines show the weighted average payment per day. Costs are not adjusted for inflation, case mix or area wage index, because the PPS payments have taken these factors into account, and the primary purpose of figure is to present the difference between payments and cost (the SNF PPS margin). There are additional, relatively small, differentials built into the payment rates based on rural or urban location, independent of the wage index. Rates are updated by CMS each year for input price inflation, but there were also substantial temporary changes made to the SNF rates in 1999 to improve payments for medically high-cost RUGs, which should be reflected in the payment lines.

The first three years of payment data also reflect the phase-in period, where each facility's payment rate was based on 75%, then 50%, then 25% of its own historical (1996) updated cost per day, with the balance made up by the applicable SNF PPS rates. Part of the rise in aggregate payments per day for the freestanding facilities reflects their phase-in to a national rate that was higher than their historical costs.

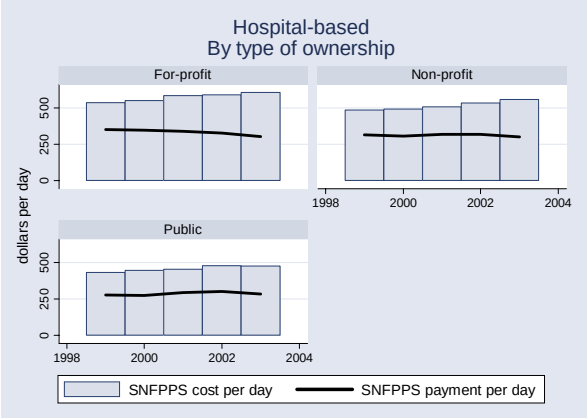
Figure 12: Aggregate average per-diem costs and payments after PPS implementation, by type of ownership and location

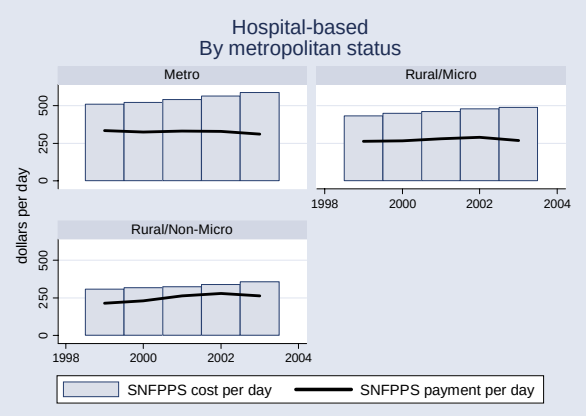
12(a): Freestanding facilities





12(b): Hospital-based facilities





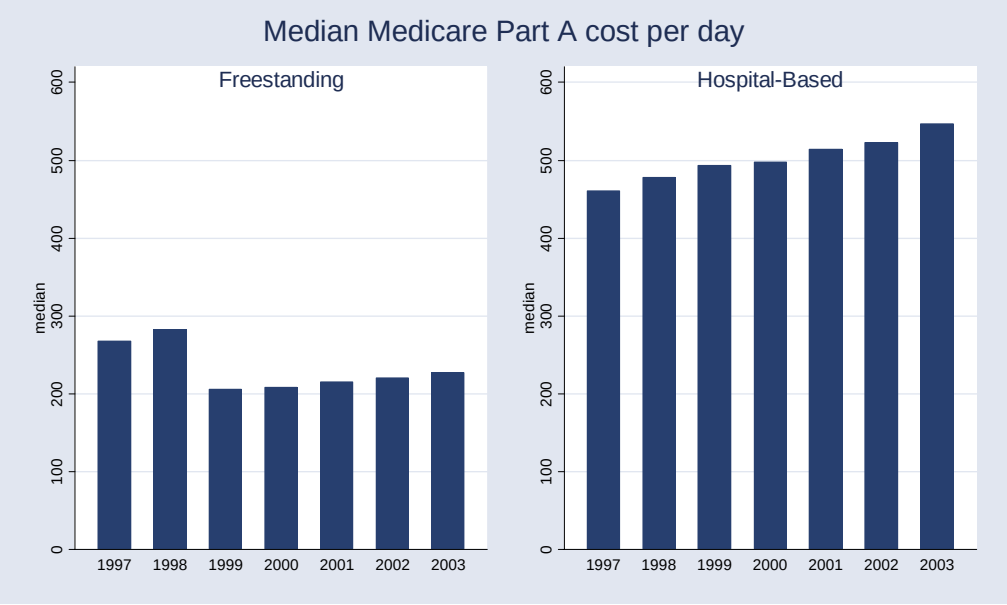
Graphs show weighted averages for facilities grouped by calendar year-end.
Source: CMS HCRIS and SNF cost report files, as distributed June 2004.

Under SNF PPS there are no payment differentials between freestanding and hospital settings. By design, the only setting-specific cost differences that are recognized by the payment system are those arising from location in higher wage areas or treatment of higher RUG-weighted cases. Per-diem SNF costs were substantially higher in hospital-based than in freestanding units, and to the extent that per-diem *payments* look similar across the two settings, the hospital-based cost differential is not being captured by either case-mix or area wage adjusters. As we mentioned earlier, the

setting-specific cost differential is less pronounced in very rural facilities. Among hospital-based providers in CAH converting facilities and among those in swing-bed hospitals, aggregate SNF payments were roughly equal to cost after 2001 (not shown). Overall, however, payments are still below aggregate costs for hospital-based providers, in all areas and for all types of ownership, and in spite of the fact that a substantial proportion of the higher-cost providers closed during this period and are therefore not in the data in the later years.

In freestanding SNFs, aggregate payments appear to have been more than adequate from the outset of PPS to cover cost of care plus a generous return. This occurred in large part because the freestanding facilities responded immediately to the economic incentives by reducing costs between 1998 and 1999 (Figure 13).

Figure 13: Changes over time in ancillary cost per day by SNF setting

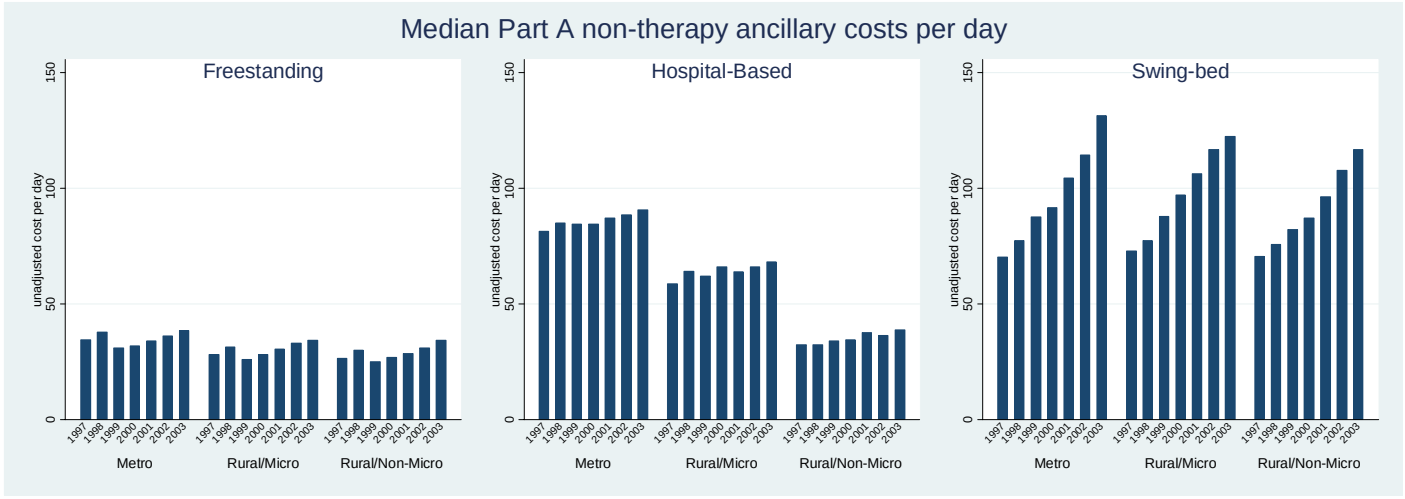


Data aggregated by calendar year-end.
Source: CMS HCRIS and SNF cost report files, as distributed June 2004.

Median cost per day in freestanding settings was already below $300 a day before SNF PPS, but it immediately dropped by nearly 30% on implementation. In contrast, hospital-based units either closed or absorbed the payment shortfalls into the parent hospital budget, but did not appear to adjust their per-day costs. To get a more detailed picture of the cost responses, we separated Medicare Part A costs into routine, rehabilitation-related therapy and other ancillary services, and then re-analyzed median costs per day for the certified units and also for patients on swing beds, stratifying by metropolitan location (Figure 14). While there do not appear to be significant differences across location in swing bed cost per day, there is a gradient of decreasing cost moving from metropolitan to increasing rural location for the other two settings. This gradient is especially pronounced for hospital-based units.

Cost reductions in freestanding facilities were accomplished primarily by cutting back on rehabilitation therapies, and to a lesser extent, on other ancillary costs (pharmacy, medical supplies or lab tests). Cost data from 1997 - 1999 show setting-specific differentials in cost of care that are very similar to those documented by CMS for the mid-1990s (and summarized earlier in Table 2). Even more startling, however, is the difference in institutional responses to the introduction of a case-mix adjusted per-diem payment system. Regardless of type of ownership, freestanding facilities appear to have reduced service intensity in order to provide care at a cost below the new PPS rates, while hospital-based facilities either closed or continued to operate at a loss for their Medicare patients, without altering service intensity or reducing routine costs. The differences between freestanding and hospital-based SNFs in responding to PPS incentives are unusual and need to be researched more fully.

Figure 14: Medicare SNF costs per day by setting and metropolitan location – (a) Ancillary services



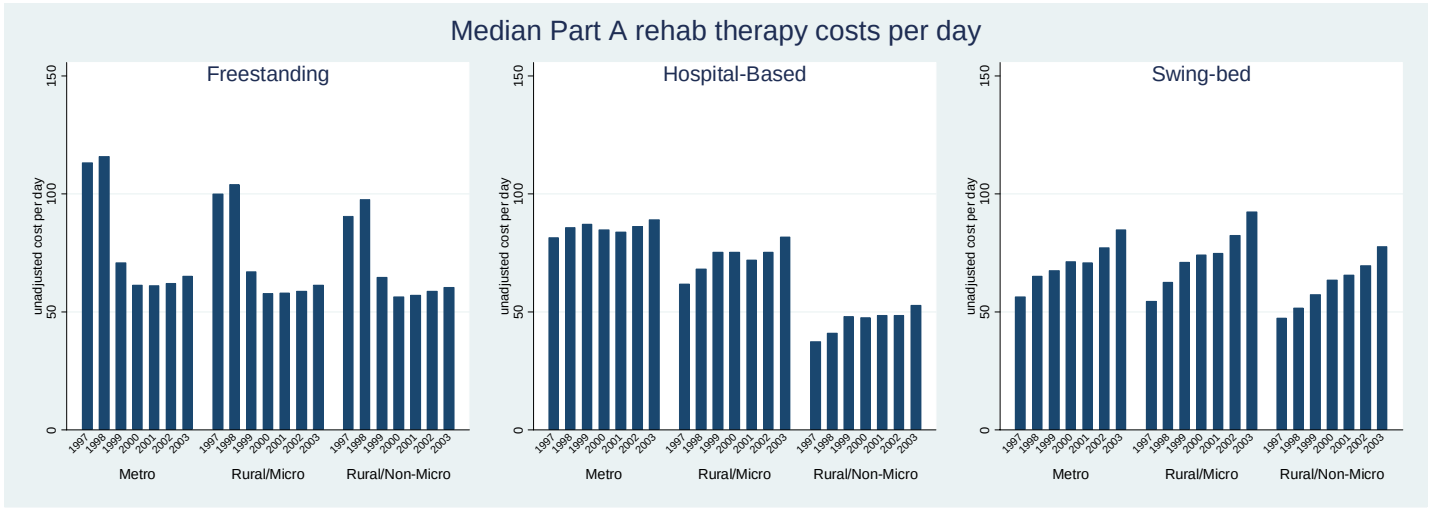
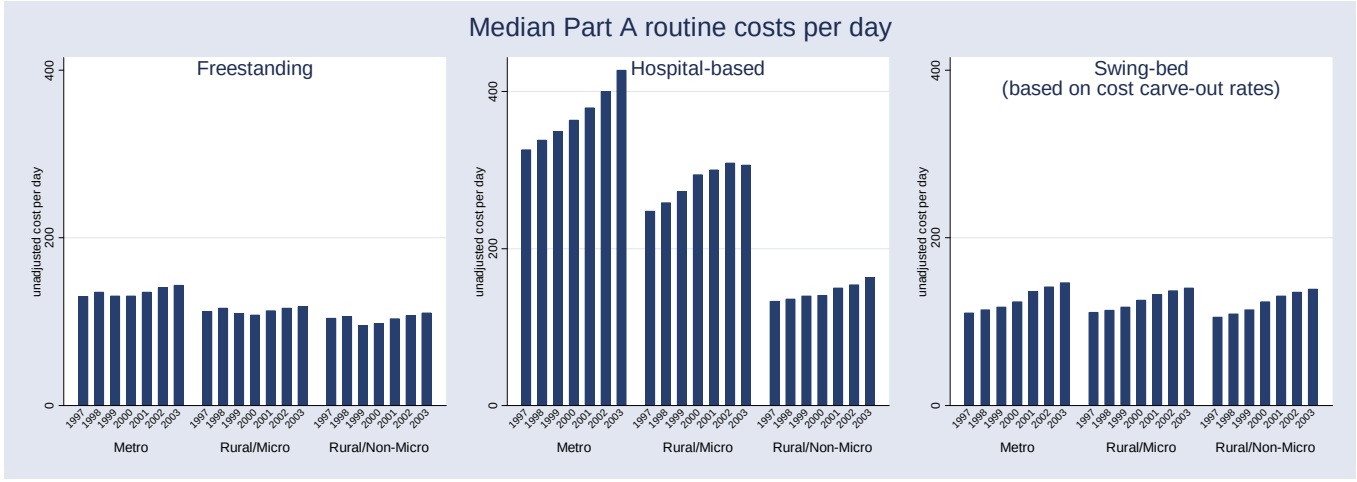


Figure 14 continued: Medicare SNF costs per day by setting and metropolitan location – (b) Routine nursing care



Source: CMS HCRIS and SNF cost report files, as distributed June 2004.

Before PPS implementation, freestanding settings in all but the most rural counties tended to have the highest rehabilitation therapy costs but the lowest non-therapy ancillary and routine costs per day.[iv] All of the cost reductions accomplished in freestanding settings stem from reduced ancillary services, and most of this is the dramatic reduction in rehabilitation services after 1999. Routine care costs in freestanding settings appear to be relatively stable over time, though in real dollar terms they would be declining over time. This is somewhat misleading, because as discussed earlier, the units within which routine costs are being calculated in the freestanding settings include more and more beds that are used predominantly for non-skilled care; their routine cost per day therefore represents an average over a mix of increasingly less acute patients.

Routine care costs for skilled nursing care are very crudely measured by the cost report, and the computed per-diems are less and less helpful for comparing costs of care across settings or for evaluating the adequacy of the PPS rates, in the absence of some form of nurse-hours or patient acuity reporting.[v] Routine care costs for swing days are not measured anywhere on the cost report. Prior to 2003 for all swing-bed providers (and after 2003 for non-CAH swing-bed providers) what appears on the cost reports as a measure of swing bed routine care costs is simply an amount equal to the approved

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[iv] Prior to 1998, rehabilitation therapy could also be delivered to Medicare SNF patients as an independent professional service under Part B. This practice does not occur under SNF PPS. The costs of these services would not have been included on the institutional cost reports, so the total Medicare covered therapy costs per day may be slightly understated.

[v] There are specific "nursing care" weights associated with each RUG under the SNF PPS. The weights were developed from a study of nursing time that was carried out in a sample of freestanding SNFs in 1996, as part of the original development work for SNF PPS. They were derived from observation of Medicare patients with specific care needs as identified by the RUGs, however, and are not significantly correlated with average routine cost per SNF day in any year of our data.

payment rate; because swing bed patients are never isolated from other acute care patients, there is no way to compute their average nursing cost per day separately from the average nursing costs of non-swing patients.[vi]

Another surprising trend from Figure 14 is the growth in ancillary per diem costs from swing beds patients, which is much more pronounced than for SNF patients in other settings. As noted previously, at the beginning of the study period swing-bed SNF patients had, on average, the shortest stays and the lowest total cost per day of any of the three settings. By 2003 their ancillary cost per day are actually higher than those of both freestanding and hospital-based settings. Our data cannot show whether this change is from higher unit costs (say, per hour of therapy) or from increased service use. The intensity of rehabilitation therapy services appears similar or slightly lower in swing beds as compared to certified SNF units (although the costs may be rising somewhat faster). Non-therapy ancillary costs, however, have risen very sharply and are now higher in Medicare swing bed patients than in either of the other two SNF settings.

Discussion and Conclusions

This study looks at the role of rural hospitals in the provision of skilled nursing services, and assesses how they have responded to changes in Medicare reimbursement for post-acute care. Although the move to SNF PPS was associated with a large decline in hospital-based skilled nursing units, this decline was much more pronounced in urban than in rural areas. For the most part, the differences in hospital-based unit closures

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[vi] After 2003, CAH cost reports began to compute a cost per day that was averaged across acute and skilled swing days, though they continue to use the payment rate as a cost-proxy for non-skilled days. This computational change makes it difficult to compare routine and swing per-day costs over time or between CAHs and other rural facilities. Routine swing bed costs per day in the third panel in Figure 14 excluded data from CAHs after the 2003 change, to maintain comparability.

across geographic areas appears to reflect differences in the units' characteristics, such as Medicare utilization, census, and cost per day, that would make them more or less sensitive to changes in Medicare reimbursement. These findings, however, do not explain the lack of response to implementation of SNF PPS shown by CAHs. Since they are cost-reimbursed for inpatient care, CAHs have cost accounting advantages to close hospital-based units. Despite potential reimbursement incentives, CAHs were less likely to divest themselves of hospital-based units than were other rural hospitals during the period covered by this study.

At the national level, the decrease in hospital-based capacity has been accompanied by an increase in freestanding capacity. Even in the rural non-micropolitan counties that rely heavily on swing beds for their total SNF care capacity, additional swing bed hospitals did not compensate for any declines in hospital-based capacity, and increases in total Medicare days appear to have been absorbed by the freestanding facilities. More than 40% of hospitals in these counties have converted to CAH status and virtually all of these have approval to use swing-beds, but at least for the period through 2003, there is little evidence that the higher swing-bed payments available to CAHs is translating to a competitive disadvantage for the community-based facilities.

Despite speculation about post-conversion incentive to increase swing bed use, we find little evidence that the majority of CAHs use swing beds more intensely than other hospitals do. Our results suggest that the conversion from PPS to cost-based reimbursement did not have much of an effect on CAHs' swing-bed utilization. CAHs have little or no reimbursement incentive to substitute skilled swing bed care for acute,

since Medicare pays for care under the same cost based rules for both. There are exceptions where an individual facility's average swing census increased dramatically, but for the majority of CAHs the increasing share of swing-bed business thus far appears to reflect the declining demand for local acute care in these communities, rather than a strategic business decision toward long-term care. As with the data on retaining or closing hospital-based SNF units, however, these are trends that should be monitored over the next few years as more complete post-conversion data become available.

Given that CAHs were found to be more likely than other rural hospitals to retain hospital-based units post-SNF PPS, and, during the same time period, did not increase swing bed use more than other hospitals, our findings suggest that the decisions of CAH administrators regarding where and if they offer skilled nursing services are informed by factors other than, or at least in addition to, Medicare reimbursement.

In general, freestanding facilities appeared to be much more responsive to changes in Medicare SNF reimbursement, dramatically reducing costs per day to keep costs below Medicare payments. In contrast, hospital-based units that were not closed continue to show a substantial accounting loss on their Medicare SNF patients. We also observed a sharp rise in ancillary costs for SNF patients in swing beds. Although this trend may reverse starting in 2004, when about half of the swing-beds come under SNF PPS, it is also possible that the increasing pharmacy and lab costs are evidence of a shift in the swing-bed case-mix. The type of patient admitted to swing beds could be changing, particularly if swing-bed hospitals are absorbing patients who used to go to hospital-based units. Swing bed care did not come under SNF PPS until the last year of our data, and even then only for some providers (depending on the month in which their

fiscal years begin); it will be important to track these same statistics for the non-CAH swing bed hospitals to see if the trend reverses. The cost increases are probably large enough to justify a claims-based study of Medicare swing bed patients, as a follow-up to those done in the early 1990s.

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