RURAL IMPLICATIONS OF MEDICARE'S POST-ACUTE CARE TRANSFER PAYMENT POLICY

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SUMMARY

Beginning in October 1998, Medicare began to pay acute-care hospital cases in 10 DRGs as transfers instead of discharges when the patient is discharged to a targeted post-acute care (PAC) provider after a short inpatient stay. These PAC providers currently include skilled nursing facilities (SNFs), home health agencies, and PPS-excluded facilities and distinct-part units. In October 2003, after several years of debate, this policy was extended to an additional 21 DRGs, and 2 of the original 10 DRGs were excluded. The Secretary is authorized to extend the policy to additional DRGs and PAC settings in future years.

The PAC transfer policy was enacted in response to concerns that the Medicare program had begun paying twice for some services, as services that had traditionally been provided in the inpatient setting (and captured in the inpatient base payment rates) have moved to PAC settings (generating separate Medicare payments). This policy attempts to recognize these shifts in the site of care, and to better align Medicare's inpatient payments with the scope of services now being provided in that setting.

The hospital industry has been critical of the transfer policy since its inception, saying that it undermines the averaging principle of inpatient PPS by reducing the profit potential for short stays while leaving the risk of losses from long stays. Rural advocates have noted that the detrimental financial impact of an expensive, long-stay case may be even greater for many rural hospitals due to their lower volume of cases over which to average any losses. Additionally, rural hospitals are more dependent on Medicare, so that any reductions in Medicare revenue are harder to offset through other sources.

Observers have also noted that the transfer policy may affect rural hospitals differently because of geographic variation in the types of patients treated and their average length of stay, as well as differences in the availability and use of PAC providers. The net impact of these influences is not known, however, and is not necessarily detrimental to rural hospitals. In general, rural areas have a lower supply of traditional PAC providers (apart from swing beds), but the mean length of stay (LOS) in 1998 was lower in rural hospitals for 8 of the 10 original DRGs targeted by this policy. Thus, it appears that rural hospitals will be somewhat less likely to discharge patients to PAC settings, but that any such discharges may be more likely to occur after a short hospital stay.

Of further potential concern for small rural hospitals is the possibility that the Secretary may extend the policy to cover discharges to swing beds. While the proposed rules for initial implementation of the policy included swing beds, the Secretary responded to concerns about a possible adverse impact on small rural hospitals and decided not to include swing beds at that time. In the final rules for FY2003, however, the Secretary reiterated the Department's intent to re-evaluate this decision.

In this study, we examine the behavioral and financial impacts of the initial 10-DRG policy, and project the likely financial impact of extending the policy to cover additional

DRGs or discharges to swing beds. The full report on which this summary is based is attached as Appendix A.

Study Methods

Using Medicare discharge records from the 100% MEDPAR files from CY1998 through 2001, we identified all patients coded by a hospital as discharged to a PAC provider. For patients coded as discharged to a SNF or PPS-excluded facility/unit, we searched the MEDPAR SNF and PPS-excluded facility records in an attempt to link the inpatient discharge to a corresponding PAC admission on the same day. For patients admitted to a swing bed, we searched the MEDPAR hospital records to identify a corresponding hospital discharge on the same day. Only patients for whom the coding could be verified through such a match were included in this study as transfers. Due to data constraints, we relied exclusively on the hospital's discharge coding to identify transfers to home health care. Patients were flagged as 'short-stay' patients if their inpatient LOS was more than one day shorter than the geometric mean LOS for the DRG. The transfer payment is less than the full DRG amount only for these short-stay cases, also referred to as transfer cases. Hospitals were classified as urban or rural based on the 1995 rural/urban continuum code corresponding to the hospital's county (added from the Area Resource File). Other hospital characteristics were added from the Medicare hospital cost reports.

To examine hospitals' behavioral response to the initial 10-DRG policy, we used the first 9 months of data from 1998 (before the policy was implemented) and corresponding periods for each of the three years after the policy went into effect to examine pre/post trends in hospital discharge behavior. We considered a number of possible behavioral changes that might be taken to mitigate the financial impact of the payment change, including a decrease in the proportion of cases discharged to PAC providers after a short stay. Trends for the 10 target DRGs were compared with 11 other 'control' DRGs exhibiting high rates of PAC use and previously considered as possible targets for the PAC transfer policy.

To examine the financial impact of the 10-DRG policy, we used FY 1998 data to simulate the changes in Medicare revenue that would have been expected if the transfer policy had been in effect in that year. Because these data reflect actual discharge behavior prior to the policy change, this approach captures the expected financial impacts if hospitals make no behavioral adjustments. We also used data from 1998 through 2001 to examine the pre/post trends in actual Medicare revenue for the 10 target DRGs; this approach captures the net impact of the payment change itself, any behavioral changes made in response to the payment change, and all other factors affecting Medicare revenue over time.

Finally, to predict the effects of possible policy expansions, we used FY 2001 data to simulate the payments that would have been made if the transfer policy had applied to additional DRGs or to discharges to swing beds. Consistent with the policy options under consideration at the time this analysis was completed, we considered expansion to 19 additional DRGs and to all DRGs. For the investigation of a swing-bed expansion, we

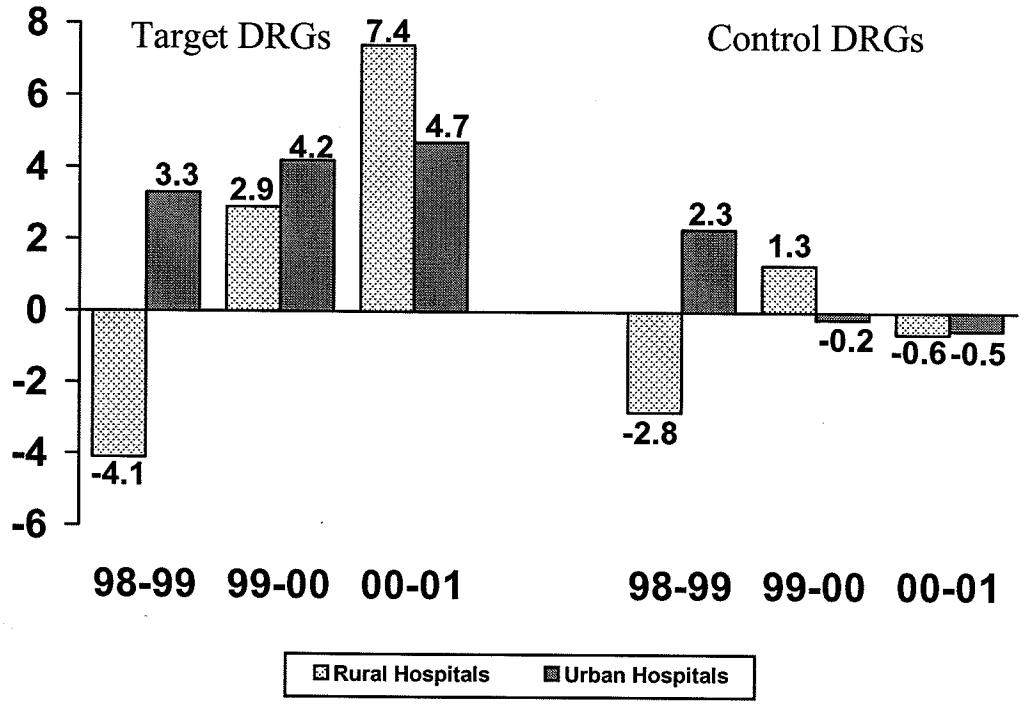
considered swing-bed transfers from the original 10 DRGs, the 19 possible expansion DRGs, and all DRGs.

Key Findings

Behavioral and Financial Impacts of the Initial Policy

Most of our investigations indicate that hospitals' discharge behavior did not change significantly in ways that would suggest a strategic response to the PAC transfer payment policy. While Figure 1 shows that rural hospitals decreased the share of cases in the 10 target DRGs that were discharged to a PAC provider after a short stay by 4 percent in the first year after the payment change took effect, a similar pattern was observed for the control DRGs, suggesting that something other than the PAC transfer policy was responsible for these declines. Furthermore, after this initial decline, the proportion of rural short-stay PAC discharges began to climb for the target DRGs, while the share for control DRGs increased at a slower pace or even declined. Urban hospitals saw their short-stay PAC use for the target DRGs grow continually throughout the post-implementation period, outpacing the changes for control DRGs in every year. Thus, neither rural nor urban hospitals appear to have reduced their short-stay PAC discharges in an attempt to avoid payment reductions under the new policy.

Figure 1. Annual Percent Change in Discharges to PAC Settings after a Short Stay

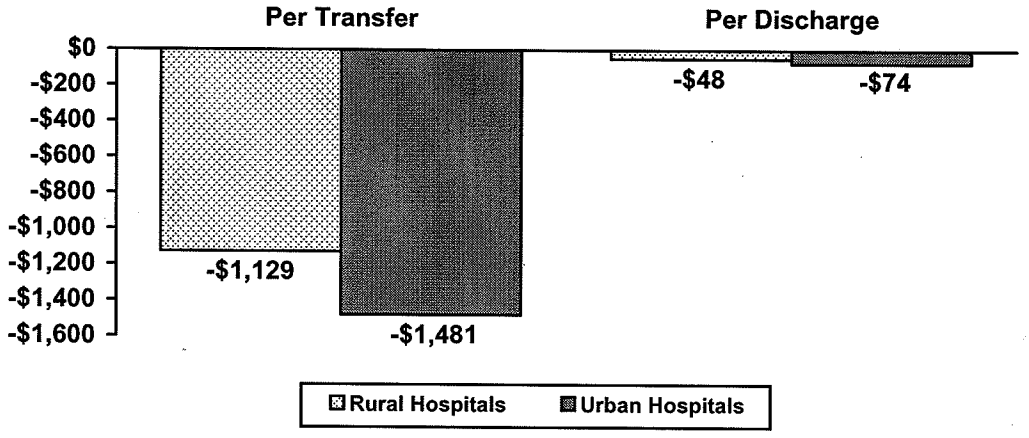


Our simulation of the financial impact of the initial policy indicates that, absent any behavioral response, rural hospitals could expect their Medicare revenue to fall by more than $1,200 for each transfer from these 10 DRGs, and by nearly $300 for each discharge (including non-transfers). The anticipated reductions for urban hospitals were larger in absolute terms, but fairly similar in relative terms. Analysis of actual Medicare revenue trends confirmed these large revenue declines in the period immediately following the payment change, in approximately the magnitude that was projected based on our simulations (supporting the finding of a minimal strategic behavioral response by hospitals). In particular, rural hospitals received an average of $1,275 less in Medicare revenue for each PAC transfer case in 1999 than in 1998, and about $200 less for each discharge from the 10 DRGs. The comparable figures for urban hospitals were $1,600 per transfer and about $400 per case.

Expected Impact of Expanding Policy to Additional DRGs

Our simulation analysis permits us to make an educated guess regarding the likely impact of the recent expansion of the PAC transfer policy to 21 additional DRGs; 17 of the 19 DRGs studied were included among the 21 DRGs targeted by the expansion. Based on FY 2001 patterns of care, we estimated that less than 5 percent of all cases discharged from these 19 DRGs would receive the PAC transfer payment instead of the full DRG payment. The proportion of transfer cases was slightly lower in rural hospitals than in urban hospitals (4.3 vs. 5.0 percent), reflecting the lower availability and use of PAC providers in rural areas. We expect the Medicare revenue earned by rural hospitals to fall by more than $1,100 for each transfer case (Figure 2). Due to the relatively small number of transfer cases, however, the average revenue decline per discharge is expected to be under $50. While larger absolute declines are expected for urban hospitals, the relative drop in revenue per discharge is similar.

Figure 2. Projected Reductions in Medicare Revenue from Expansion of Transfer Policy to 19 Additional DRGs



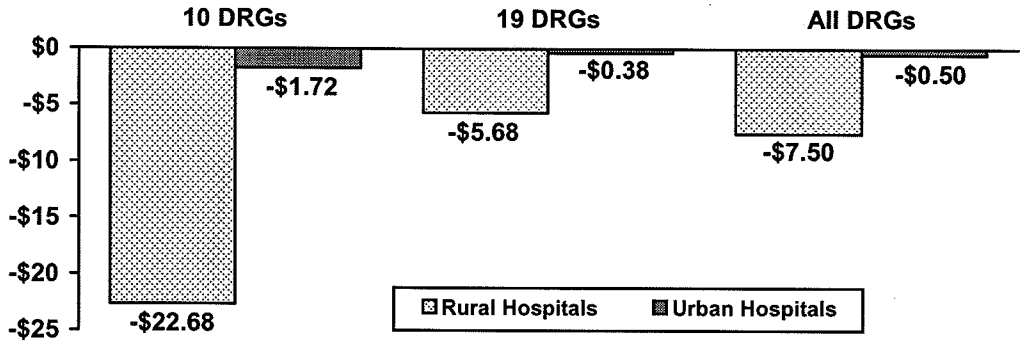
Expected Impact of Expanding Policy to Cover Discharges to Swing Beds

We project relatively small financial impacts if the Secretary ever extends the transfer policy to cover discharges to swing beds. These small impacts arise primarily because the use of swing beds is low for most hospitals—particularly following a short inpatient stay. Since swing bed discharges must be preceded by an inpatient stay of at least 3 days, and because PAC discharges are paid as transfers only when their inpatient LOS is more than 1 day shorter than the GMLOS for the DRG, only patients in DRGs with a GMLOS above 4 days would ever be paid as swing-bed transfers. In FY 2004, only about one-third of all DRGs have a GMLOS above 4 days.

Across all hospitals and all DRGs, we found that only 0.2 percent of discharges would be paid as swing-bed transfers under an expanded policy. Although swing bed use is higher among rural hospitals and hospitals with fewer than 50 beds, even these types of facilities discharge a very small proportion of their total patients to swing beds after a short stay. Under a policy that expands the transfer policy to swing bed discharges from all DRGs, for example, we estimate that less than 1 percent of the cases treated in rural hospitals, and less than 2 percent of the cases in small hospitals, would be paid as swing-bed transfers.

Depending on the DRG, revenue reductions were estimated to range from several hundred to several thousand dollars for each swing-bed transfer. The reductions expected for the average discharge were projected to be extremely small, however, since so few discharges are swing-bed transfers (Figure 3). The relatively higher rate of swing-bed transfers for rural hospitals means that these hospitals would expect larger reductions in Medicare revenue per case than their urban counterparts. Even then, however, the reductions for rural hospitals still amount to only 0.1 to 0.3 percent of the total revenue that would have been received in the absence of a swing-bed transfer policy (depending on the DRG group under consideration). Of course, small rural hospitals that make heavy use of their swing-bed capacity after short acute-care stays would expect to see larger reductions in revenue per case.

Figure 3. Projected Reductions in Medicare Revenue per Discharge under an Expansion to Swing Bed Discharges



Conclusions

Neither rural nor urban hospitals appear to have changed their discharge behavior significantly in response to the initial PAC transfer policy, and both types of facilities experienced similar relative declines in their Medicare revenue as a result of that payment change. If anything, rural hospitals have seen slightly smaller drops in revenue relative to their urban counterparts. We expect both types of hospitals to be affected similarly by the newly-expanded policy, as well.

While a possible expansion to cover discharges to swing beds would have a larger financial impact on small rural hospitals, even those impacts will be quite muted, on average. Only hospitals that make extremely heavy use of swing beds early in the acute-care episode would expect to see appreciable reductions in Medicare revenue.

Future expansions of the PAC transfer policy are uncertain at this time. Regardless of the direction taken, it does not appear that rural hospitals will be disproportionately harmed by any such expansion. One may even expect an expanded policy to benefit rural hospitals by implicitly recognizing their lower use of post-acute care and readjusting DRG payment weights (through the annual recalibration process) so that they are paid more appropriately when providing the full course of inpatient care.

APPENDIX A

Detailed Report

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1.0 STUDY PURPOSE

As a result of a policy enacted by the Balanced Budget Act of 1997, hospitals now receive per diem payments instead of the full DRG payment amount when Medicare patients in selected DRGs are transferred to certain post-acute care (PAC) providers after a short inpatient stay. Originally, 10 DRGs were targeted by this policy. In August 2003, after several years of debate, the Department of Health and Human Services published final regulations to expand this payment policy to additional DRGs. This study provides evidence regarding the PAC transfer payment policy and highlights the perspective of rural hospitals. We consider how the initial payment change affected discharge behavior and Medicare revenue for specific types of hospitals, and simulate the likely financial impacts of possible expansions to the transfer policy.

2.0 BACKGROUND

During the early 1990s, due in part to technological advances and increased availability of high-level care in post-acute settings, there was a large increase in the use of post-acute care by Medicare beneficiaries and, consequently, in Medicare expenditures for these services (ProPAC, 1996; MedPAC, 1998). PAC providers experiencing this growth included skilled nursing and rehabilitation facilities and distinct-part units, long term care hospitals, and home health agencies. Financial incentives may have also played a role in the increased use of these providers. Acute care hospitals, particularly those owning a PAC provider, can gain financially by shortening inpatient stays (still receiving the full DRG payment) and substituting post-acute care for inpatient services (receiving additional payment for the PAC services). ProPAC reported that Medicare patients were 10 percent more likely to use post-acute care when they had been treated in a hospital that owned a PAC provider. Also, among beneficiaries using post-acute care, inpatient stays were almost one day shorter when the patient was treated by a hospital with a PAC provider (ProPAC, 1996).

Section 4407 of the Balanced Budget Act responded to concerns that Medicare may be over paying for care when hospitalized patients are transferred to post-acute care after a relatively short hospital stay. As a result of that legislation, discharges from 10 DRGs began to be paid as transfers when the patient is discharged to a Medicare-certified skilled nursing facility (SNF) or to a PPS-excluded hospital or unit (see Exhibit 1). Discharges from these DRGs that are followed within three days by home health care for the same condition as the hospitalization are also treated as transfers.

Transfer payments are based on a per diem amount, computed as the full DRG payment the hospital would have received for the case divided by the national geometric mean length of stay (GMLOS) for that DRG in that year. Discharges from 7 of the 10 targeted DRGs are paid using Medicare's normal transfer payment method (in effect for cases transferred from one PPS hospital to another), which provides twice the per diem payment on the first day of the stay and the per diem amount for the remaining days, up to the full DRG payment. Three of the 10 DRGs, which incur a substantial portion of their costs early in the hospitalization, use an alternative payment formula. This formula

Exhibit 1. List of 10 DRGs Initially Targeted by PAC Transfer Policy

DRG	Description
14	Specific cerebrovascular disorders, except TIA
113	Amputation for circulatory system disorder, except upper limb and toe
209	Major joint and limb reattachment procedures of the lower extremity
210	Hip and femur procedures except major joint, age >17, with CC
211	Hip and femur procedures except major joint, age >17, without CC
236	Fractures of hip and pelvis
263 *	Skin graft and/or debridement for skin ulcer or cellulites, with CC
264 *	Skin graft and/or debridement for skin ulcer or cellulites, without CC
429	Organic disturbances and mental retardation
483	Tracheostomy except for face, mouth, and neck diagnoses

TIA=transient ischemic attack; CC=complication or comorbidity

* Effective October 1, 2003, these DRGs are no longer subject to the PAC transfer policy.

provides one-half of the full DRG payment plus one per diem payment for the first day of the hospital stay, plus one-half of the per diem for each remaining day, up to the full DRG amount. These payment formulae result in payments below the full DRG amount whenever the patient's LOS is more than one day shorter than GMLOS for that DRG. The full DRG payment is received, however, when the LOS is at least as long as the GMLOS minus one day. Transfer cases may also qualify for additional payments as cost outliers if their costs exceed a pre-determined threshold.

The PAC transfer policy went into effect on October 1, 1998 (FY1999) for the 10 designated DRGs, and the Secretary was given the authority to expand the policy to additional DRGs or PAC settings after FY2000. No expansions were proposed for either FY2001 or FY2002, but in May 2002 the Secretary proposed to expand the policy beginning in FY2003 (DHHS, 2002a). Two avenues were proposed at that time: (1) expansion to 13 additional DRGs, and (2) expansion to all DRGs.

This notification of proposed rules generated considerable public comment, and in the final regulations published in August 2002, the Secretary decided to delay expansion of the transfer policy until additional study could be undertaken (DHHS, 2002b). Based on those subsequent analyses by the Centers for Medicare and Medicaid Services, the proposed rules for FY2004 published in May 2003 laid out the Secretary's plans to expand the policy to the 19 DRGs listed in Exhibit 2 (DHHS, 2003a). Additional analyses conducted in response to comments on these proposed rule resulted in further refinements to the proposal. The final rules for FY2004, published in August 2003, dropped 2 of the 19 proposed expansion DRGs (243 and 462) as well as 2 of the 10

Exhibit 2. List of 19 DRGs Targeted by Expansion of PAC Transfer Policy in May 2003

DRG	Description
12	Degenerative nervous system disorders
24	Seizure and headache, age > 17, with CC
25 ++	Seizure and headache, age > 17, without CC
89	Simple pneumonia and pleurisy, age > 17, with CC
90 ++	Simple pneumonia and pleurisy, age > 17, without CC
121	Circulatory disorders with AMI, with major complication, discharged alive
122 ++	Circulatory disorders with AMI, without major complication, discharged alive
130	Peripheral vascular disorders, with CC
131 ++	Peripheral vascular disorders, without CC
239	Pathological fractures and musculoskeletal and connective tissue malignancy
243 *	Medical back problems
277	Cellulitis, age > 17, with CC
278 ++	Cellulitis, age > 17, without CC
296	Nutritional and miscellaneous metabolic disorders, age > 17, with CC
297 ++	Nutritional and miscellaneous metabolic disorders, age > 17, without CC
320	Kidney and urinary tract infections, age > 17, with CC
321 ++	Kidney and urinary tract infections, age > 17, without CC
462 *	Rehabilitation
468	Extensive operating room procedure unrelated to principal diagnosis

CC=complication or comorbidity; AMI=acute myocardial infarction

* The final rule for FY2004 excluded these 2 DRGs from the policy expansion, and added 4 other DRGs not considered in this study (DRGs 88, 127, 294, and 395).

++ DRG included because it is paired with another DRG meeting all criteria for the expanded policy.

original DRGs (263 and 264), and added 4 other DRGs that had not previously been proposed for an expansion of the transfer payment policy (DHHS, 2003b).[1]

The hospital industry has been highly critical of the transfer policy since its inception, saying that it undermines the averaging principle of inpatient PPS by reducing the profit potential for short stays achieved by efficient providers while leaving the risk of losses from long stays (e.g., AHA, 1998; DHHS, 2002b). Rural advocates have noted that the

[1] Initial analyses for this study considered an expansion to the 13 DRGs that were under discussion at the time this work was initiated. When the proposed rules for FY2004 were published in May 2003, the set of 13 expansion DRGs had been replaced by a different set of 19 DRGs. We repeated all simulations to evaluate the impact of an expansion to these 19 DRGs. The final regulations were published in August, after our analysis was complete, and named a slightly different set of 21 DRGs. We were unable to repeat the simulations a third time to evaluate the impact of expansion to this full set of 21 DRGs, but note that 17 of the 21 new DRGs were among the 19 DRGs evaluated in this study.

detrimental financial impact of an expensive, long-stay case may be even greater for many rural hospitals due to their lower volume of cases over which to average any losses. Additionally, rural hospitals are more dependent on Medicare revenue, so that any reductions in Medicare payments are harder to offset through other revenue sources. For example, in 1998, 41 percent of all discharges and 52 percent of all charges in rural hospitals were for Medicare patients, compared to 33 and 43 percent, respectively, for urban hospitals.[2]

Observers have also noted that the transfer policy may affect rural hospitals differently because of geographic variation in the types of patients treated and their average length of stay, as well as differences in the availability and use of PAC providers. The net impact of these influences is not known, however, and is not necessarily detrimental to rural hospitals. In general, rural areas have a lower supply of PAC providers (apart from swing beds), but the mean LOS in 1998 was lower in rural hospitals for 8 of the 10 DRGs initially targeted by the transfer policy.[3] Thus, it appears that rural hospitals will be somewhat less likely to discharge patients to PAC settings, but that any such discharges may be more likely to occur after a hospital stay that is shorter than the national geometric mean LOS for the DRG. And while rural hospitals would be more exposed to the transfer policy if the target DRGs constitute a larger share of their Medicare business, our analysis of 1998 NIS data indicates that the 10 target DRGs were of approximately equal importance to both rural and urban facilities.

Of further potential concern for small rural hospitals is the possibility that the Secretary may extend the policy to cover discharges to swing beds. Under the Medicare swing bed program, rural hospitals with under 100 beds may use some of their beds to provide non-acute skilled nursing care to patients who no longer require acute care. These swing beds revert to acute-care use when the need arises. To be eligible for swing bed care, the patient must have been receiving acute-care inpatient services for at least the three days preceding the discharge to a swing bed. Additionally, hospitals with 50 to 100 beds generally must transfer swing bed patients to nursing home care within 5 days of being notified that a SNF bed is open in their geographic area.

While the proposed rules for implementation of the initial transfer policy included swing beds as a type of SNF provider (DHHS, 1998a), the Secretary ultimately responded to concerns expressed about an adverse impact on small rural hospitals and decided not to include swing beds at that time. The Secretary also stated, however, that he was "not persuaded ...that [the] proposal to include swing beds in the transfer provision was inappropriate," and reserved the right to "reconsider this decision in the future" (DHHS, 1998b). MedPAC has also supported including swing beds in the transfer policy (MedPAC, 2001). In the final rules for FY2003, the Secretary reiterated the Department's intent to evaluate whether transfers to swing beds should continue to be excluded from the policy (DHHS, 2002b).

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[2] Analysis of the 1998 National Inpatient Sample (NIS) data from the Hospital Cost and Utilization Project, accessed through HCUPnet at http://www.ahcpr.gov/data/hcup/hcupnet.htm.
[3] Ibid.

3.0 RESEARCH QUESTIONS

In this study we address four core research questions:

1. Following implementation of the PAC transfer payment policy in FY1999, did hospitals change their discharge behavior in ways that are consistent with minimizing financial losses from the new payment policy?

2. How did the initial transfer payment policy affect hospitals' Medicare revenue?

3. What is the likely financial impact of expansions of the transfer policy to additional DRGs?

4. What is the likely financial impact of a possible expansion of the transfer policy to cover discharges from acute care to swing beds?

Each of these questions will be examined for targeted DRGs individually and in the aggregate, and for specific types of hospitals.

4.0 DATA SOURCES AND STUDY METHODS

4.1 Data Sources

The principal data used for this study are the 100% MEDPAR files from 1998 through 2001. These files contain one record for every Medicare discharge from a short-term or long-term hospital or distinct-part unit, as well as discharges from SNFs. Key variables include an encrypted beneficiary identifier, the patient's DRG (for acute-care stays), admission and discharge dates, the patient's discharge destination, and payment amounts from Medicare and other sources. Additionally, we used Medicare Hospital Cost Reports from 1997 to 1999 to construct a measure of hospital financial sustainability and obtain other variables describing the facility. Information on the hospital's urban/rural location was derived by linking the hospital's county and state with the 1997 Area Resource File.

4.2 Study Methods

4.2.1 Construction of Analytic Files

Selection of Relevant Records. We began construction of the analytic files by selecting all discharges from short-term, acute-care PPS hospitals for all DRGs of interest for each of the four years of the study. Because we were using calendar-year versions of the MEDPAR files, whereas the PAC transfer payment policy was initiated beginning on the first day of FY1999 (October 1, 1998), we used only the first three quarters in each calendar year (equivalent to the last three quarters of a fiscal year). This approach gave us a nine-month observation period prior to implementation of the transfer policy, and

Exhibit 3. List of 11 DRGs used as Control DRGs

DRG	Description
12	Degenerative nervous system disorders
79	Respiratory infections and inflammations, age > 17, with CC
80	Respiratory infections and inflammations, age > 17, without CC
148	Major small and large bowel procedures, with CC
149	Major small and large bowel procedures, without CC
239	Pathological fractures and musculoskeletal and connective tissue malignancy
243	Medical back problems
320	Kidney and urinary tract infections, age > 17, with CC
321	Kidney and urinary tract infections, age > 17, without CC
415	OR procedures for infections and parasitic diseases
468	Extensive OR procedure unrelated to principal diagnosis

CC=complication or comorbidity; OR=operating room

corresponding nine-month observation periods for each of the three years following the policy implementation.

These files were used to document the behavioral and financial impact of the initial policy change by comparing the pre- and post-implementation periods (i.e., Research Questions #1 and #2). DRGs of interest included not only the 10 DRGs originally targeted, but also 11 other DRGs selected for use as 'control' DRGs (see Exhibit 3). These control DRGs represent 11 of the 13 DRGs to which CMS and MedPAC had previously recommended the transfer policy be expanded (DHHS, 2002b; MedPAC, 2003).[4] These DRGs had been slated for possible expansion primarily because they have either a high number or high proportion of cases discharged to PAC providers; in this way, these DRGs are very similar to the 10 DRGs originally targeted under the PAC transfer policy.

We also used the CY2000 and CY2001 files to construct a separate analytic file containing all discharges from PPS hospitals for all DRGs for the full FY2001. This file was used to simulate the impact of possible expansions of the transfer policy (Research Questions #3 and #4).

Identification of Cases Discharged to PAC Providers. To make a provisional identification of patients sent to PAC providers, we relied initially on the patient's discharge destination, which is coded by the hospital upon discharge. A code of '03'

[4] Two other DRGs proposed for expansion by CMS and MedPAC, DRG 107 and DRG 109, were not included here as control DRGs because changes in the type of patients classified in these DRGs made an analysis of trends impossible (DHHS, 1998b).

should be used to indicated a discharge to a SNF, '05' identifies discharges to PPS-excluded facilities/units, and '06' captures discharges to home health care.

Because the accuracy of the discharge destination coding by the hospital is questionable (e.g., Gilman et al., 2000), we sought to verify this information by constructing episodes of care. Specifically, whenever the hospital showed that the patient was discharged to a SNF or PPS-excluded facility, we scanned MEDPAR records to find a corresponding admission for that patient on the same day as the hospital discharge. When such an admission was found, the discharge destination information was judged to be accurate, and the case was flagged as a PAC discharge. For other analytic purposes, we also tracked SNF and excluded facility admissions that occurred one, two, and three days after the hospital discharge. Depending on the year and the type of care, we were unable to confirm the hospital's discharge coding for anywhere from 17 percent to 34 percent of these discharges.[5] These discharges were excluded from further analysis.

It was not possible to implement a similar episode-based approach to validate hospitals' coding of discharges to home health care, nor to verify that the care began within the three-day window set forth in the PAC transfer policy. Purchasing the requisite four years of home health claims was beyond our project budget. Even if those claims had been available to us, however, it would not have been possible to match home health and inpatient diagnosis information in an attempt to establish whether the home care was related to the hospitalization, as is required in order for the case to be counted as a PAC transfer. According to CMS, "a common practice of PAC providers is to use the V57 diagnosis code" to indicate care involving the use of rehabilitation procedures (DHHS, 1998b). In the rare case when this non-specific code would be used by an acute-care hospital, the diagnosis would cause the patient to be classified in a DRG other than one of the ten targeted under the PAC transfer policy. Furthermore, although CMS has instructed hospitals to record a condition code of '42' on the claim when a discharge to home health is unrelated to the hospitalization (HCFA, 1998), this variable is not retained on the MEDPAR records. In light of these difficulties, we relied exclusively on the discharge destination recorded by the hospital to identify discharges to home health, implicitly assuming that the care was subsequently provided, began within 3 days of the discharge, and was related to the hospitalization.

By focusing on hospital discharges with destination codes of '03', '05', and '06' we may be omitting some PAC transfers that were not identified by the hospital. In particular, the OIG (2000, 2001a, 2001b) has shown that a significant proportion of cases in the 10 target DRGs that the hospital coded as being discharged to 'home / self-care' did, in fact, use post-acute care. The majority of these miscodings pertained to home health care. Without the home health claims, however, we were unable to identify post-acute home

[5] For records with a discharge destination of '03', we were unable to find a corresponding SNF admission within 3 days for 33 percent of the cases in 1998, 18 percent in 1999, 17 percent in 2000, and 20 percent in 2001. Comparable figures for records with a discharge destination of '05' were 32 percent, 28 percent, 26 percent, and 34 percent over the period. In light of what appears to be significant over-reporting of discharges to SNFs and excluded providers, the episode approach provides a more conservative estimate of actual PAC use for these types of providers.

health use unless it was coded by the hospital at the time of discharge. There is no evidence that the magnitude of this problem has changed over time, or that it varies by type of hospital. Furthermore, our approach of limiting the analysis to cases with discharge destination codes of '03', '05', and '06' is consistent with prior work by CMS and MedPAC.

To identify discharges to swing beds, we first found swing bed stays (a special unit code of 'U', 'W', 'Y', or 'Z'), then searched for an acute-care hospital discharge occurring on the same day as the swing bed admission. We also considered gaps of up to five days between hospital discharge and swing bed admission, but found very few of these cases, all occurring with a gap of only one day. Over 93 percent of swing bed admissions were associated with hospital discharge codes of '03' (SNFs) or '04' (intermediate care facilities—ICFs), and a very small number of cases had a code of '61'.[6] Since the '03' and '04' codes would also be used for other patients sent to SNFs or ICFs, our final rule for identifying discharges to swing beds required the presence of one of these three discharge codes, plus confirmation of a subsequent admission to a swing bed on the same day as the hospital discharge.

Identification of Short Stay and Transfer Cases. We flagged patients as 'short stay' if their inpatient length of stay was more than one day below the geometric mean length of stay for their DRG in that year. Patients could be short stay whether they subsequently used post-acute care or not. Patients who were discharged to one of the target PAC providers after a short stay were marked as 'transfer' patients. Medicare payments will be reduced below the normal DRG payment only for these patients.

Variables Describing the Hospital. Hospital-level data from the Medicare Cost Reports were added to the patient-level file by using the Medicare provider ID on the MEDPAR records. From this source we know the hospital's number of beds; its status as a sole community hospital, a Medicare dependent hospital, and a teaching hospital; and whether it received disproportionate share payments from Medicare. The hospital's state and county permitted us to determine its region, and to link to the Area Resource File to determine whether the hospital was located in an urban or a rural county (using the 1995 rural/urban continuum codes).

Finally, we used financial data from the 1997 to 1999 Cost Reports to classify hospitals into one of four financial risk categories, following a methodology developed by Stensland et al. (2002). Risk level 1 contains the most financially-secure hospitals, which have consistently generated sufficient operating revenue to ensure that their net assets are growing at least as fast as inflation (4 percent) over the period. Risk level 2 contains hospitals that have been unable to maintain the purchasing power of their reserves

[6] Beginning in FY1999, hospitals were supposed to start using a discharge code of '61' for patients who were discharged from acute care to a swing bed for skilled nursing care. Subsequently, however, CMS instructed facilities to use a code of '04' (intermediate care facility) instead of '61.' In fact we found no instance where a code of '61' was used in the CY1998 to CY2000 MEDPAR files, and only very limited use of the value in the CY2001 file.

through operating revenue alone, but that have managed to make up the shortfall from non-operating revenue. Hospitals whose net assets have been slowly dwindling because of small revenue shortfalls are classified in risk level 3, while facilities experiencing large declines in net assets are in risk level 4. This final category represents hospitals that are at a very high risk of closure in a few years.

4.2.2 Analytic Methods

To examine Research Question #1, we tracked various measures of hospital discharge behavior from the period immediately preceding the original payment change through a three-year follow-up period. Trends in discharge behavior for patients in the 10 DRGs initially targeted by the payment change were compared with trends observed for the 11 control DRGs.

We used a two-pronged approach to address Research Question #2. First, we used data from the last 3 quarters of FY1998—which reflects hospital discharge behavior immediately prior to the new payment policy—to simulate changes in revenue that would have resulted from the payment policy if no changes had been made in discharge behavior. Using the methods described above, we identified short-stay PAC discharges from the 10 target DRGs that would have been paid as transfers if the payment policy had been in effect in FY1998. Transfer payments for these cases were simulated by using the per diem payment amount, which is equal to Medicare's DRGPRICE for the case divided by the GMLOS for the DRG for that year:

$$PERDIEM = DRGPRICE / GMLOS_{(DRG,\ FY1998)}$$

For seven of the 10 target DRGs (14, 113, 236, 263, 264, 429, and 483), transfer payments were equal to 2 times the per diem amount for the first day of the stay, plus the per diem payment for all subsequent days:

$$TRANSFER = [2*PERDIEM] + [PERDIEM*(LOS - 1)]$$

$$= PERDIEM*(LOS + 1)$$

Three of the 10 target DRGs (209, 210, and 211), known to incur high costs very early in the stay, received accelerated per diem payments under the special transfer payment formula that provides for one-half of the DRG payment amount plus one-half of the normal per diem amount (or one half of the two per diem payments normally allotted) on the first day of the stay, plus one-half of the per diem for all subsequent days:

$$TRANSFER = [(0.5*DRGPRICE) + PERDIEM] + [0.5*PERDIEM*(LOS - 1)]$$

$$= [(0.5*GMLOS*PERDIEM) + PERDIEM] + [0.5*PERDIEM*(LOS - 1)]$$

$$= 0.5*PERDIEM*(GMLOS + LOS + 1)$$

We did not simulate outlier payments that may have been made for some transfer cases, nor include Medicare pass-through payments. These transfer payment amounts were then compared with the full DRG payment amount to determine the reduction in revenue resulting from the transfer payment policy. Payments were, of course, unchanged for non-transfer cases in the 10 target DRGs (i.e., for cases not using PAC at all and for cases discharged to PAC providers after a sufficiently long inpatient stay). We computed the mean revenue reduction per transfer case, as well as across all discharges from the target DRGs.

As a second way of investigating the financial impact of the original transfer policy, we examined four-year trends in actual Medicare revenue received by the hospital for the 10 target DRGs. This revenue measure included payments from Medicare and payments from or on behalf of the beneficiary, but excluded Medicare pass-through amounts and any additional outlier payments made by Medicare (it is equivalent to the variable DRGPRICE used above to compute per diem payment amounts). All revenue figures were expressed in constant 1998 dollars by deflating by the annual PPS market basket inflation factors. To account for changes in the volume of cases treated, we expressed revenue on a per-discharge basis. These trends in actual revenue capture the net impact of the transfer payment change and any other year-to-year changes affecting Medicare revenue, plus any changes in discharge behavior that may have been made in response to the transfer policy or other factors.

To address Research Questions #3 and #4, we simulated the payments that would have been made for short-stay PAC discharges from targeted expansion DRGs, using the formulae above. In this case, however, we used the full FY2001 file for the payment simulations, since these data captured the most recent information on hospital discharge behavior prior to any expansion of the transfer payment policy. At the time this analysis was conducted, expansion options under consideration by the Secretary included: (1) the 19 DRGs listed in Exhibit 2, and (2) all DRGs. Thus, for Research Question #3, we simulated the revenue reductions that would have occurred if the transfer policy had applied to either the set of 19 DRGs or to all DRGs in FY2001. For Research Question #4, we simulated the revenue reductions that would have occurred if the transfer policy had applied to discharges to swing beds from the 10 DRGs originally targeted, the 19 possible expansion DRGs, and all DRGs. While none of the 19 proposed DRGs were to be paid using the accelerated transfer payment formula (DHHS, 2003a), a small number of other DRGs had been identified as qualifying for this special payment formula when the Secretary previously discussed an expansion to all DRGs (DHHS, 2002a).[7] Thus, we applied the special formula for these DRGs when simulating the impact of expanding the policy to all DRGs.

[7] These DRGs are: 7, 159, 209, 210, 211, 218, 226, 263, 264, 306, 308, 315, 493, and 497.

5.0 RESULTS

5.1 Impact of the Initial Policy on Hospitals' Discharge Behavior

Hospitals may change their discharge behavior in a number of ways to avoid revenue reductions from the transfer policy. Most obviously, they can reduce the overall proportion of patients in targeted DRGs who are discharged to affected PAC settings. A more focused response would be to reduce the proportion of cases discharged to PAC settings after a short stay, since these are the only cases for which payment will be less than the full DRG amount. Depending on the relationship between the marginal cost of providing an additional day of care vs. the per diem payment amount, hospitals might also seek to extend the length of stay for their PAC transfer patients in order to garner additional per diem payments. In other words, inpatient LOS may be increased, but not by so much that the case receives the full DRG payment. Finally, delays in admission to a PAC provider beyond the legal time frame that causes the patient to be considered a transfer (e.g., a SNF admission not occurring on the same day as the hospital discharge) might also be used to circumvent the payment policy. In the sections below, we consider each of these possible scenarios by comparing hospital discharge behavior in the 9-month period immediately preceding the payment change (January through September 1998, or the last three quarters of FY1998) with the same 9-month periods for the three years following the payment change.

5.1.1 Did Hospitals Discharge Fewer Patients to Targeted PAC Settings?

Overall Discharges to PAC Providers. Table 1 presents the overall proportion of cases discharged to any of the three targeted PAC settings (home health, SNF, or PPS-excluded providers), for each of the 10 target DRGs and 11 control DRGs, for each of the four study years. The annual percent changes in PAC discharge proportions are also presented, along with the percent change computed over the entire study period. Prior to the initial payment change, 54 percent of patients in the target DRGs were discharged to PAC providers. This proportion ranged from a low of slightly more than one-third of the patients in DRG 483 to a high of about two-thirds of the patients in DRGs 209 through 211. As expected, the use of PAC providers was less prevalent for patients in the control DRGs; although these DRGs were identified specifically because of their high PAC use relative to all DRGs, this use was still lower than for the DRGs initially targeted under the payment policy.

Use of PAC providers increased steadily over the study period for both target and control DRGs, and the rates of increase for the target DRGs outpaced those of the control DRGs in all periods. Based on this evidence, it does not appear that hospitals reduced the overall proportion of cases discharged to post-acute care as a response to the introduction of the PAC transfer payment policy.

Discharges by Type of PAC Provider. Tables 2 through 4 present analogous information for the individual types of PAC providers. For both target and control DRGs, SNFs were the most commonly used PAC setting in all years (Table 2). While

Table 1. Changes in Hospital Discharges to Targeted PAC Settings, Target v. Control DRGs
(FY1998-FY2001 Data, Last 3 Quarters of Each Year)

DRG	Percent of Total Cases Discharged to PAC				Percent Change			
	1998	1999	2000	2001	1998-1999	1999-2000	2000-2001	1998-2001
Target DRGs								
14	42.6	44.5	44.5	44.8	4.6	-0.1	0.7	5.2
113	54.2	56.5	57.6	58.8	4.4	1.9	2.1	8.6
209	64.0	67.2	68.3	69.9	5.0	1.7	2.4	9.2
210	66.4	69.2	70.3	71.9	4.1	1.5	2.3	8.1
211	63.4	67.2	67.9	69.9	5.9	1.1	3.0	10.3
236	54.4	55.8	55.9	56.5	2.5	0.3	1.0	3.8
263	48.9	51.3	51.0	52.1	5.1	-0.7	2.2	6.7
264	41.4	43.4	45.2	43.4	4.7	4.1	-3.8	4.8
429	40.5	41.3	42.7	45.0	2.0	3.3	5.4	11.1
483	37.1	38.6	39.7	40.7	4.2	2.6	2.6	9.8
ALL TARGET DRGs	**54.1**	**56.7**	**57.5**	**58.9**	**4.8**	**1.4**	**2.5**	**9.0**
Control DRGs								
12	42.6	43.2	43.7	44.4	1.4	1.0	1.8	4.3
79	34.2	34.9	35.5	35.9	2.0	1.7	1.0	4.8
80	25.7	27.2	26.9	29.1	5.7	-1.0	7.9	12.9
148	33.1	34.5	35.1	35.3	4.0	1.7	0.8	6.7
149	14.5	14.4	14.0	14.2	-0.7	-2.3	0.9	-2.2
239	46.9	47.3	47.0	47.3	0.9	-0.7	0.6	0.8
243	34.1	35.0	35.4	35.8	2.5	1.3	0.9	4.9
320	30.0	30.9	31.4	32.5	3.0	1.7	3.5	8.4
321	18.5	19.8	19.8	20.9	7.1	-0.2	5.7	13.1
415	41.5	44.1	44.6	45.7	6.3	1.1	2.5	10.1
468	34.4	35.7	36.7	37.3	3.8	2.6	1.7	8.3
ALL CONTROL DRGs	**33.8**	**34.6**	**35.0**	**35.6**	**2.5**	**1.0**	**1.8**	**5.4**

Table 2. Changes in Hospital Discharges to SNFs, Target v. Control DRGs
(FY1998-FY2001 Data, Last 3 Quarters of Each Year)

DRG	Percent of Total Cases Discharged to SNFs				Percent Change			
	1998	1999	2000	2001	1998-1999	1999-2000	2000-2001	1998-2001
Target DRGs								
14	22.6	22.0	21.4	21.4	-2.6	-2.8	0.1	-5.3
113	31.9	31.3	31.5	32.1	-1.6	0.4	2.0	0.7
209	33.7	32.5	31.3	30.2	-3.7	-3.5	-3.5	-10.3
210	50.4	51.0	50.9	51.5	1.2	-0.2	1.1	2.0
211	43.5	44.1	43.8	43.5	1.4	-0.7	-0.6	0.1
236	40.6	39.7	39.2	39.0	-2.3	-1.3	-0.4	-4.0
263	30.4	29.4	27.9	28.4	-3.4	-5.1	1.9	-6.7
264	23.7	20.5	20.6	19.4	-13.6	0.5	-5.6	-18.0
429	26.9	26.5	27.7	29.6	-1.5	4.4	6.8	9.9
483	17.6	16.5	16.3	15.9	-6.3	-1.2	-2.3	-9.5
ALL TARGET DRGs	**31.6**	**31.0**	**30.3**	**30.1**	**-1.8**	**-2.1**	**-0.8**	**-4.6**
Control DRGs								
12	27.5	26.1	26.7	27.6	-5.1	2.3	3.1	0.1
79	23.5	23.2	23.6	24.8	-1.4	1.8	4.8	5.2
80	16.7	17.8	17.5	18.9	6.3	-1.5	7.8	12.9
148	17.5	16.6	16.8	16.5	-5.4	1.2	-1.6	-5.8
149	5.6	4.8	4.7	4.7	-14.0	-2.4	1.0	-15.2
239	30.3	28.6	28.3	28.8	-5.7	-1.0	1.7	-5.1
243	21.2	19.9	20.0	20.3	-5.8	0.4	1.7	-3.9
320	18.1	17.8	18.3	19.9	-1.7	3.0	8.8	10.1
321	9.7	10.0	10.5	11.9	2.2	5.2	13.4	21.9
415	23.1	22.7	22.9	23.7	-1.9	0.9	3.6	2.5
468	19.4	18.8	19.3	20.1	-3.1	2.5	4.0	3.3
ALL CONTROL DRGs	**20.7**	**19.9**	**20.1**	**20.9**	**-3.8**	**1.1**	**4.0**	**1.1**

Table 3. Changes in Hospital Discharges to PPS-Excluded Providers, Target v. Control DRGs
(FY1998-FY2001 Data, Last 3 Quarters of Each Year)

DRG	Percent of Total Cases Discharged to PPS-Excluded Providers				Percent Change			
	1998	1999	2000	2001	1998-1999	1999-2000	2000-2001	1998-2001
Target DRGs								
14	12.2	13.5	14.2	14.6	10.3	5.0	3.1	19.4
113	13.6	15.2	16.4	17.7	12.2	7.4	8.3	30.6
209	18.6	20.8	23.3	25.5	11.8	12.0	9.5	37.2
210	12.1	13.6	14.8	15.9	12.2	9.3	7.1	31.4
211	14.0	15.9	17.8	19.7	13.2	12.0	10.7	40.5
236	7.1	8.0	8.9	10.0	13.3	11.2	11.8	40.8
263	2.3	3.1	3.8	4.8	30.6	23.9	27.8	106.8
264	2.2	2.0	2.6	3.9	-7.1	27.5	51.6	79.6
429	4.6	5.2	5.6	6.2	14.2	7.4	10.0	34.9
483	15.7	17.8	19.0	20.3	13.2	6.9	7.2	29.7
ALL TARGET DRGs	**13.9**	**15.6**	**17.1**	**18.6**	**12.0**	**9.9**	**8.7**	**33.7**
Control DRGs								
12	5.1	5.7	6.0	6.5	11.4	4.5	8.7	26.5
79	1.3	1.6	1.8	1.8	25.7	14.3	-0.2	43.3
80	0.8	1.0	1.3	1.3	35.2	20.2	6.4	73.0
148	1.6	2.1	2.5	3.1	30.5	18.2	23.2	89.9
149	0.2	0.4	0.5	0.7	86.7	10.3	34.4	176.8
239	3.8	4.7	4.9	5.4	23.8	4.2	9.3	41.0
243	4.0	5.0	5.4	5.7	22.4	9.2	5.5	41.1
320	1.1	1.3	1.5	1.7	25.3	14.6	9.6	57.3
321	0.9	1.0	1.0	1.2	11.3	0.6	21.9	36.6
415	3.4	3.9	4.5	5.4	16.1	14.1	19.9	58.9
468	3.9	4.8	5.2	5.4	21.5	8.8	4.2	37.7
ALL CONTROL DRGs	**2.2**	**2.7**	**3.0**	**3.3**	**23.0**	**11.0**	**10.3**	**50.7**

Table 4. Changes in Hospital Discharges to Home Health Care, Target v. Control DRGs
(FY1998-FY2001 Data, Last 3 Quarters of Each Year)

DRG	Percent of Total Cases Discharged to Home Health				Percent Change			
	1998	1999	2000	2001	1998-1999	1999-2000	2000-2001	1998-2001
Target DRGs								
14	7.7	9.0	8.9	8.7	16.4	-0.9	-1.8	13.3
113	8.7	10.0	9.8	9.0	14.1	-1.8	-7.9	3.2
209	11.7	13.9	13.7	14.2	18.9	-1.8	3.6	21.0
210	3.9	4.6	4.5	4.5	16.9	-1.9	0.2	14.8
211	5.9	7.2	6.3	6.7	22.1	-12.2	6.1	13.8
236	6.7	8.1	7.9	7.6	20.4	-2.9	-3.9	12.3
263	16.1	18.9	19.3	18.9	17.4	2.3	-2.2	17.3
264	15.5	20.9	22.0	20.1	34.2	5.4	-8.6	29.3
429	9.0	9.6	9.4	9.2	6.2	-2.0	-1.5	2.5
483	3.8	4.4	4.4	4.4	16.1	-0.4	0.9	16.6
ALL TARGET DRGs	**8.6**	**10.2**	**10.1**	**10.2**	**17.6**	**-0.9**	**1.8**	**18.6**
Control DRGs								
12	9.9	11.4	11.0	10.4	14.3	-3.7	-5.2	4.3
79	9.4	10.1	10.0	9.3	7.1	-0.4	-7.7	-1.5
80	8.3	8.4	8.2	8.9	1.7	-2.7	8.5	7.4
148	14.0	15.8	15.8	15.8	12.8	0.0	-0.1	12.7
149	8.7	9.1	8.9	8.8	5.4	-2.9	-1.0	1.3
239	12.8	14.0	13.8	13.1	9.9	-1.8	-4.7	2.9
243	8.9	10.1	10.0	9.7	13.4	-0.7	-3.0	9.3
320	10.8	11.7	11.5	10.9	8.7	-1.8	-5.7	0.6
321	7.9	8.9	8.4	7.9	12.8	-6.3	-5.8	-0.4
415	15.0	17.5	17.2	16.6	16.7	-1.6	-3.4	10.9
468	11.1	12.1	12.2	11.8	9.8	0.3	-3.1	6.7
ALL CONTROL DRGs	**11.0**	**12.1**	**11.9**	**11.4**	**10.2**	**-1.3**	**-4.1**	**4.4**

use of this setting declined in the year immediately following the implementation of the transfer payment policy, use fell more for the control DRGs than for the target DRGs. This suggests that something other than the transfer payment policy, such as prospective payment for SNF services, may have been a factor in this decline. SNF use rates began increasing slowly for the control DRGs after the initial decline, but continued to decline slightly for the target DRGs. The direction of these changes is consistent with the hypothesis that hospitals reduced their discharges to SNFs as a way of reducing losses from the transfer policy; the net declines are fairly small, however.

The rate of discharges to PPS-excluded facilities grew very rapidly throughout the period for all study DRGs, although the relative importance of this setting remained low for the control DRGs (Table 3). Discharges to home health also increased immediately following the implementation of the transfer payment policy, but then held steady or declined, especially for the control DRGs (Table 4). It is likely that the onset of home health prospective payment, which began in October 2000, played a larger role than the transfer payment policy in slowing the use of home health services.

In sum, with the possible exception of discharges to SNFs, these results generally confirm the overall results of Table 1. Use of PAC providers was more likely to increase, sometimes dramatically, than it was to decrease after the new payment policy was implemented. Thus, we find little evidence that hospitals began to reduce their discharges to PAC settings as a way to avoid payment reductions under the new policy.

PAC Discharges by Type of Hospital. Table 5 examines the overall trends in PAC use for various types of hospitals for target and control DRGs, while Figure 1 highlights the trends for rural vs. urban hospitals. We see a very pronounced relationship in Table 5 between hospital size and changes in PAC use. The smallest hospitals dramatically reduced their PAC use (which was already low relative to larger facilities), particularly in the initial period following the payment change. Large declines in PAC use were also observed for Medicare dependent hospitals immediately following the payment change. And while urban hospitals' use of PAC providers increased throughout the study period, PAC use initially declined modestly for rural hospitals. Similar patterns were observed for the control DRGs, however, indicating more general secular trends rather than a direct effect from the transfer payment policy. Alternatively, the similarity in the patterns may reflect a 'spillover' effect from behavioral changes directed at the 10 DRGs.

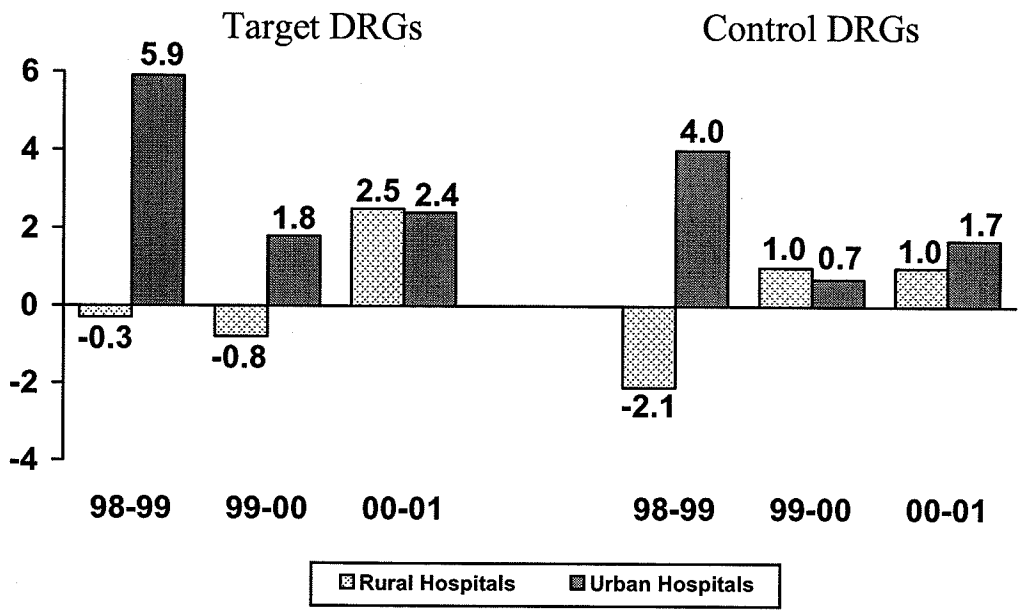
Table 5. Changes in Hospital Discharges to Targeted PAC Settings, by Type of Hospital, Target v. Control DRGs
(FY1998-FY2001 Data, Last 3 Quarters of Each Year)

Type of Hospital	Percent of Total Cases Discharged to PAC				Percent Change			
	1998	1999	2000	2001	1998-1999	1999-2000	2000-2001	1998-2001
ALL TARGET DRGs	**54.1**	**56.7**	**57.5**	**58.9**	**4.8**	**1.4**	**2.5**	**9.0**
Rural Location	53.6	53.5	53.1	54.4	-0.3	-0.8	2.5	1.4
Urban Location	54.9	58.1	59.2	60.6	5.9	1.8	2.4	10.5
New England	64.4	67.9	66.8	69.1	5.4	-1.6	3.4	7.3
Middle Atlantic	52.7	56.1	56.9	59.6	6.5	1.5	4.8	13.2
South Atlantic	53.0	57.9	59.3	60.8	9.3	2.4	2.6	14.8
East South Central	50.7	54.4	55.0	56.1	7.3	1.1	1.9	10.5
West South Central	53.6	54.9	55.1	55.5	2.6	0.4	0.7	3.7
East North Central	56.5	57.0	58.1	59.7	0.8	1.9	2.9	5.7
West North Central	58.4	56.1	55.4	56.7	-4.0	-1.1	2.4	-2.9
Mountain	54.8	57.0	59.0	60.6	4.0	3.4	2.7	10.5
Pacific	53.3	58.6	61.0	61.0	9.9	4.0	0.1	14.5
1-25 beds	38.8	31.1	31.0	28.7	-19.8	-0.3	-7.6	-26.1
26-50 beds	48.3	40.9	39.4	41.6	-15.4	-3.7	5.6	-14.0
51-100 beds	54.5	53.8	52.7	53.7	-1.3	-2.0	1.8	-1.6
101-200 beds	56.7	59.7	60.2	61.2	5.3	0.7	1.7	7.9
201-500 beds	55.3	59.0	60.1	61.2	6.7	1.8	1.8	10.7
500+ beds	51.4	53.8	55.6	58.4	4.7	3.4	4.9	13.6
Sole Community Hospitals	54.5	54.5	53.9	54.7	0.1	-1.0	1.5	0.5
Medicare Dependent Hosps.	55.0	46.0	44.4	46.9	-16.4	-3.5	5.7	-14.8
Disproportionate Share Hosps.	52.4	56.1	57.3	58.9	7.2	2.0	2.8	12.5
Teaching Hospitals	54.1	56.3	58.0	59.7	4.1	2.9	3.0	10.3
Financial Vulnerability								
RISK=1 (Lowest Risk)	55.7	59.4	60.0	60.7	6.6	0.9	1.2	8.9
RISK=2	56.1	57.5	57.7	59.3	2.5	0.3	2.9	5.7
RISK=3	52.6	56.1	57.5	59.9	6.6	2.4	4.2	13.9
RISK=4 (Highest Risk)	51.9	54.4	54.0	56.7	4.7	-0.7	5.0	9.1

Table 5. Changes in Hospital Discharges to Targeted PAC Settings, by Type of Hospital, Target v. Control DRGs
(FY1998-FY2001 Data, Last 3 Quarters of Each Year)

Type of Hospital	Percent of Total Cases Discharged to PAC				Percent Change			
	1998	1999	2000	2001	1998-1999	1999-2000	2000-2001	1998-2001
ALL CONTROL DRGs	**33.8**	**34.6**	**35.0**	**35.6**	**2.5**	**1.0**	**1.8**	**5.4**
Rural Location	30.4	29.8	30.1	30.4	-2.1	1.0	1.0	-0.2
Urban Location	35.4	36.8	37.1	37.7	4.0	0.7	1.7	6.5
New England	48.9	49.1	49.7	51.0	0.3	1.1	2.8	4.2
Middle Atlantic	35.2	38.7	39.9	40.9	9.9	2.9	2.5	16.1
South Atlantic	31.3	33.0	34.0	34.9	5.6	2.8	2.6	11.4
East South Central	28.8	30.4	31.1	31.7	5.7	2.0	2.1	10.0
West South Central	29.3	28.0	27.0	26.5	-4.5	-3.4	-1.7	-9.3
East North Central	36.2	36.7	37.1	38.0	1.4	1.0	2.5	5.0
West North Central	35.5	33.2	32.9	33.5	-6.5	-0.9	1.7	-5.8
Mountain	33.6	33.5	34.4	34.6	-0.4	2.9	0.6	3.1
Pacific	36.8	38.3	38.2	38.1	4.0	-0.2	-0.2	3.6
1-25 beds	26.7	22.3	24.4	23.3	-16.2	9.3	-4.7	-12.6
26-50 beds	29.3	25.1	25.2	25.4	-14.2	0.2	0.9	-13.2
51-100 beds	31.4	30.3	30.6	31.0	-3.4	0.8	1.4	-1.2
101-200 beds	35.1	36.2	36.5	36.7	3.2	0.8	0.6	4.6
201-500 beds	35.4	37.4	37.7	38.1	5.7	0.7	1.2	7.7
500+ beds	33.5	34.0	34.5	36.1	1.5	1.4	4.7	7.7
Sole Community Hospitals	30.4	29.9	30.1	30.0	-1.5	0.5	-0.2	-1.2
Medicare Dependent Hosps.	31.9	25.7	26.5	26.7	-19.5	3.0	1.0	-16.2
Disproportionate Share Hosps.	33.1	34.5	34.7	35.4	4.3	0.7	2.1	7.2
Teaching Hospitals	34.9	36.1	36.7	37.3	3.5	1.7	1.4	6.8
Financial Vulnerability								
RISK=1 (Lowest Risk)	34.0	35.7	36.0	36.5	4.9	1.0	1.4	7.4
RISK=2	35.2	35.8	35.6	36.3	1.9	-0.5	2.0	3.4
RISK=3	32.8	34.1	35.0	35.7	4.1	2.4	2.0	8.7
RISK=4 (Highest Risk)	33.4	33.7	34.2	35.7	1.0	1.4	4.3	6.8

Figure 1. Trends in Discharges to PAC Settings, Rural vs. Urban Hospitals



5.1.2 Were Fewer Cases Discharged to PAC Settings After a Short Inpatient Stay?

The evidence presented above generally indicates that hospitals did not significantly reduce their overall use of PAC providers as a result of the change in the payment policy. In this section, we examine whether they employed a more focused response, namely, reducing the proportion of PAC discharges made after a short inpatient stay.

Changes in Short-Stay PAC Discharges. Table 6 presents the four-year trends in short-stay PAC discharges as a percent of all PAC discharges, and the annual percent changes. In the period preceding the payment change, just under one-half of all target DRG cases discharged to PAC providers (47 percent) had an inpatient stay that was more than one day shorter than the relevant GMLOS and would have been paid as transfers. By the end of the study period, this figure had fallen by 42 percent, with a precipitous decline of 36 percent occurring immediately after the implementation of the new payment policy. In contrast, the percent of short-stay PAC discharges for the control DRGs fell by only 10 percent over this same period. At first blush, this evidence appears to support the hypothesis that hospitals fine-tuned their discharge behavior so that fewer PAC discharges from the targeted DRGs had short stays and were subject to the transfer payment policy.

This conclusion is not correct, however. A closer examination of the data in Table 6 reveals that in any given period only a few DRGs exhibited sharp changes in the proportion of PAC discharges that were short-stay cases. For instance, the 36 percent

Table 6. Changes in Short-Stay PAC Discharges as Percent of Total PAC Discharges, Current Year GMLOS Values (FY1998-FY2001, Last 3 Quarters of Each Year)

DRG	Short-Stay PAC Discharges as Percent of Total PAC Discharges				Percent Change			
	1998	1999	2000	2001	1998-1999	1999-2000	2000-2001	1998-2001
Target DRGs								
14	37.1	21.1	21.6	21.5	-43.1	2.3	-0.5	-42.1
113	48.1	46.0	46.1	44.4	-4.3	0.1	-3.7	-7.8
209	55.2	25.1	26.8	28.8	-54.4	6.8	7.1	-47.9
210	50.3	48.2	28.9	28.4	-4.3	-40.0	-1.8	-43.6
211	24.7	22.5	22.1	21.7	-8.8	-2.0	-1.7	-12.1
236	40.0	38.8	8.7	8.6	-3.0	-77.6	-1.0	-78.5
263	45.1	43.3	42.4	40.9	-3.9	-2.1	-3.5	-9.2
264	39.6	37.8	34.0	35.2	-4.5	-10.1	3.5	-11.2
429	45.8	44.7	29.8	30.2	-2.3	-33.3	1.2	-34.1
483	50.1	47.7	45.4	47.3	-4.7	-4.9	4.2	-5.5
ALL TARGET DRGs	**47.2**	**30.5**	**26.8**	**27.5**	**-35.5**	**-12.0**	**2.6**	**-41.8**
Control DRGs								
12	29.6	30.0	29.9	29.5	1.2	-0.1	-1.3	-0.2
79	27.8	27.1	27.2	27.0	-2.6	0.2	-0.4	-2.7
80	21.1	20.2	22.9	19.9	-4.5	13.7	-13.4	-6.0
148	34.0	33.5	33.1	31.7	-1.4	-1.3	-4.3	-6.9
149	21.3	21.6	22.8	21.8	1.5	5.5	-4.5	2.2
239	42.7	26.6	25.7	24.8	-37.7	-3.4	-3.4	-41.9
243	8.4	8.9	8.8	8.6	6.2	-1.6	-2.8	1.5
320	24.6	24.3	25.0	24.4	-1.2	2.6	-2.1	-0.8
321	13.2	11.7	13.5	12.8	-11.4	15.2	-5.3	-3.4
415	39.7	39.4	38.2	37.5	-0.8	-2.9	-1.8	-5.4
468	26.8	27.3	27.3	27.2	2.2	-0.2	-0.4	1.6
ALL CONTROL DRGs	**28.0**	**26.2**	**26.0**	**25.4**	**-6.5**	**-0.6**	**-2.5**	**-9.5**

decline in short-stay PAC discharges between 1998 and 1999 for all target DRGs is due to the very large declines for DRGs 14 and 209. These declines are actually an artifact of the year-to-year changes in the GMLOS for these DRGs. For DRG 14, for example, the GMLOS in 1998 was 5.1 days, and any case with a LOS of 4 days (or less) was a short-stay case ($4 < 5.1 - 1$). By 1999, the GMLOS for this DRG was 4.9, and patients with the same LOS of 4 days began to be counted as long-stay cases ($4 > 4.9 - 1$). Similar changes in GMLOS account for all of the large changes in the percent of short-stay PAC cases observed in Table 6. It is these year-to-year changes in the GMLOS threshold, rather than any change in discharge behavior, that is primarily responsible for the declines in the proportion of short-stay PAC cases.

Changes in Short-Stay PAC Discharges Holding GMLOS Constant. In Table 7, we recalculate the percent change in short-stay PAC cases by holding the GMLOS constant between years. That is, in computing the change between 1998 and 1999, we assumed that the GMLOS values from 1998 remained in effect through 1999. In this way, for example, patients in DRG 14 who stayed 4 days were classified as short-stay patients in both years. Similarly, in computing the percent change between 1999 and 2000, we used the 1999 GMLOS to identify short-stay cases in both years. By holding GMLOS constant in this way, we are able to isolate the impact of any behavioral changes made by hospitals.

This approach reveals that hospitals reduced the proportion of short-stay PAC discharges made from targeted DRGs by 3 percent in the year after the new payment policy was introduced. The fall in the proportion of short-stay PAC discharges from control DRGs—which were not subject to the payment change—was only slightly smaller at 2 percent. Furthermore, the share of short-stay PAC cases continued to fall slightly throughout the study period for the control DRGs, while it began to increase for the target DRGs. Thus, any initial response by hospitals to reduce short-stay PAC discharges in reaction to the payment change was small and short-lived.

Changes in Short-Stay PAC Discharges by Type of Hospital. Table 8 examines the changes in short-stay PAC discharges for different types of hospitals. In general, we see that the patterns observed overall hold for most types of hospitals. That is, with few exceptions, most hospitals showed a reduction in the share of short-stay PAC discharges for target DRGs just after the payment policy change, followed by two years of increases. For control DRGs, most types of hospitals experienced continuous declines in short-stay PAC discharges. Furthermore, we observe no consistent patterns by hospital size or financial vulnerability.

The experiences of rural and urban hospitals are highlighted in Figure 2. Relative to urban hospitals, rural hospitals initially saw a larger decline in short-stay PAC discharges from target DRGs, but then experienced larger increases in the following two periods. For control DRGs, both types of hospitals generally exhibited declines throughout the period, with the magnitude of these declines being smaller for rural hospitals.

Table 7. Changes in Relative Importance of Short-Stay PAC Discharges, Constant GMLOS Values (FY1998-FY2001, Last 3 Quarters of Each Year)

DRG	Percent Change in Short-Stay PAC Discharges as Percent of PAC Discharges		
	1998-1999	1999-2000	2000-2001
Target DRGs			
14	-1.0	2.3	-0.5
113	-4.3	0.1	-3.7
209	-2.7	6.8	7.1
210	-4.3	0.4	-1.8
211	-8.8	-2.0	-1.7
236	-3.0	-1.1	-1.0
263	-3.9	-2.1	-3.5
264	-4.5	-10.1	3.5
429	-2.3	1.6	1.2
483	-4.7	-0.4	-0.9
ALL TARGET DRGs	**-2.9**	**2.3**	**2.3**
Control DRGs			
12	1.2	-0.1	-1.3
79	-2.6	0.2	-0.4
80	-4.5	13.7	-13.4
148	-1.4	-1.3	-4.3
149	1.5	5.5	-4.5
239	-1.1	-3.4	-3.4
243	6.2	-1.6	-2.8
320	-1.2	2.6	-2.1
321	-11.4	15.2	-5.3
415	-0.8	-2.9	-1.8
468	2.2	-0.2	-0.4
ALL CONTROL DRGs	**-1.8**	**-0.6**	**-2.5**

Table 8. Changes in Relative Importance of Short-Stay PAC Discharges, Constant GMLOS Values, by Type of Hospital (FY1998-FY2001, Last 3 Quarters of Each Year)

Type of Hospital	Percent Change in Short-Stay PAC Discharges as Percent of PAC Discharges		
	1998-1999	1999-2000	2000-2001
ALL TARGET DRGs	**-2.9**	**2.3**	**2.3**
Rural Location	-3.8	3.7	4.8
Urban Location	-2.4	2.4	2.2
New England	6.6	-0.7	-1.2
Middle Atlantic	3.2	6.8	9.5
South Atlantic	-0.9	4.0	0.4
East South Central	-2.8	0.0	1.3
West South Central	-4.0	0.6	0.2
East North Central	-4.3	4.3	4.1
West North Central	-9.5	2.7	4.3
Mountain	-3.7	2.7	3.7
Pacific	-5.6	-3.1	-3.5
1-25 beds	0.9	5.2	-4.0
26-50 beds	-10.0	5.6	-1.0
51-100 beds	-4.2	1.7	2.7
101-200 beds	-1.9	2.9	1.7
201-500 beds	-3.1	2.4	3.5
500+ beds	0.6	2.4	2.0
Sole Community Hospitals	-6.3	3.1	6.9
Medicare Dependent Hosps.	-2.5	-1.8	-6.7
Disproportionate Share Hosps.	-2.4	1.1	2.0
Teaching Hospitals	-2.4	2.1	4.1
Financial Vulnerability			
RISK=1 (Lowest Risk)	-3.3	1.1	3.3
RISK=2	-2.4	3.5	3.5
RISK=3	-3.4	2.4	6.4
RISK=4 (Highest Risk)	0.5	5.0	0.3

Table 8. Changes in Relative Importance of Short-Stay PAC Discharges, Constant GMLOS Values, by Type of Hospital (FY1998-FY2001, Last 3 Quarters of Each Year)

Type of Hospital	Percent Change in Short-Stay PAC Discharges as Percent of PAC Discharges		
	1998-1999	1999-2000	2000-2001
ALL CONTROL DRGs	**-1.8**	**-0.6**	**-2.5**
Rural Location	-0.7	0.3	-1.6
Urban Location	-1.6	-0.9	-2.2
New England	3.6	2.4	-3.4
Middle Atlantic	7.3	4.4	2.2
South Atlantic	-1.3	-1.8	-1.7
East South Central	-0.8	2.4	-4.1
West South Central	-3.8	-1.6	-7.4
East North Central	-0.4	-0.6	-2.2
West North Central	-0.9	-3.1	-4.2
Mountain	-4.8	-0.9	-2.5
Pacific	-7.5	-5.2	-2.0
1-25 beds	10.5	2.3	-10.9
26-50 beds	0.3	2.0	-3.3
51-100 beds	0.5	-0.1	-3.5
101-200 beds	-3.2	-0.7	-1.7
201-500 beds	-1.5	-0.4	-2.4
500+ beds	1.3	-1.0	1.6
Sole Community Hospitals	-0.2	-1.7	-0.2
Medicare Dependent Hosps.	1.8	-0.8	-1.3
Disproportionate Share Hosps.	-2.1	-0.5	-1.1
Teaching Hospitals	-0.9	0.2	-1.2
Financial Vulnerability			
RISK=1 (Lowest Risk)	-3.2	-0.8	-3.5
RISK=2	-0.1	-0.6	-2.7
RISK=3	-0.3	-0.3	-1.1
RISK=4 (Highest Risk)	0.5	3.7	-2.1

Figure 2. Trends in PAC Discharges after a Short Stay, Rural vs. Urban Hospitals

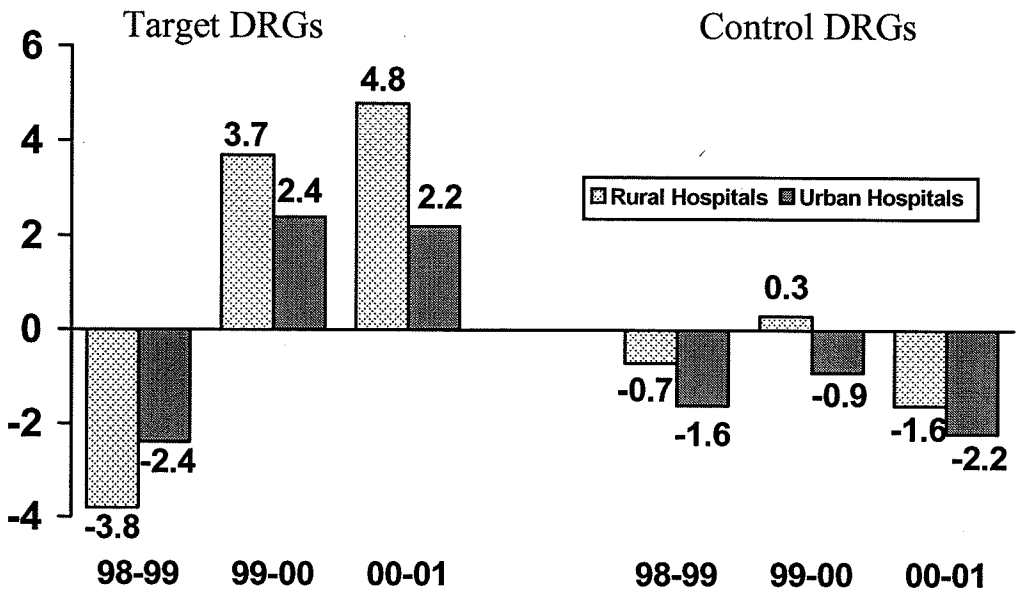


Figure 3. Trends in Discharges to PAC Settings after a Short Stay, Rural vs. Urban Hospitals

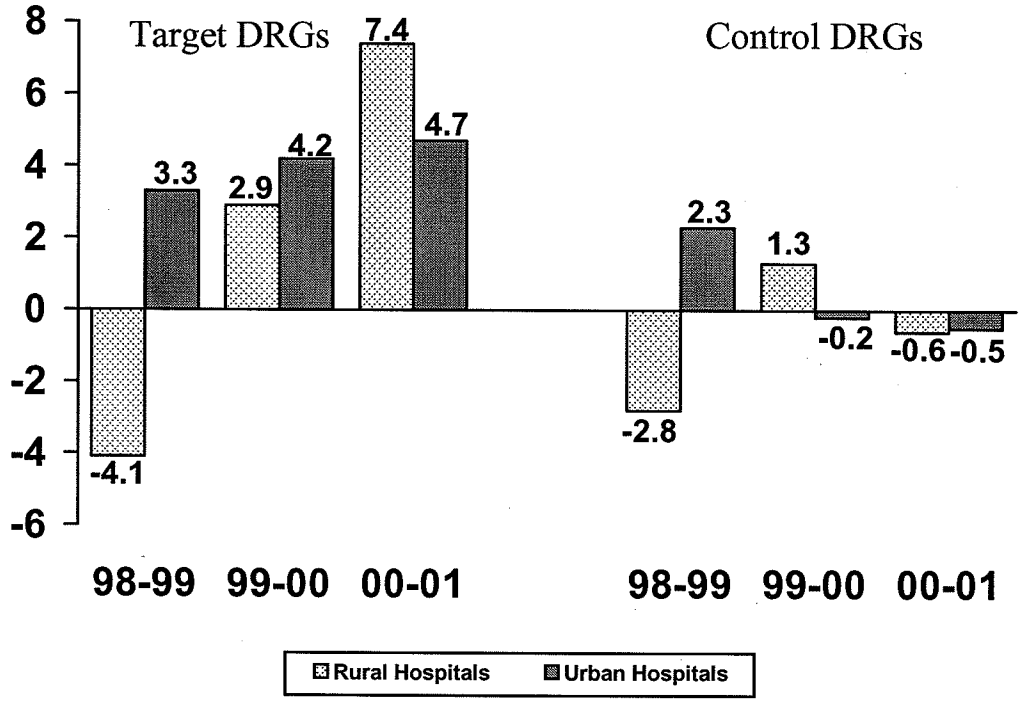


Figure 3 shows the annual changes in the share of all discharges that would be paid as transfers. These numbers represent the combined impact of changes in the share of all discharges that went to PAC providers (Figure 1) and the share of PAC discharges that occurred after a short inpatient stay (Figure 2). Except for rural hospitals for the period immediately after the start of the transfer payment policy, the net effect of these two possible behavioral changes was to increase—rather than decrease—the share of cases in the targeted DRGs that received the transfer payment. Control DRGs exhibited changes that were smaller in magnitude and, ironically, were more likely to show a decline in the share of transfer cases even though the transfer payment policy did not apply to these DRGs. From this evidence, we conclude that the implementation of the transfer payment policy did not lead hospitals to change their discharge behavior in any significant or long-term manner in an attempt to minimize the number of cases receiving transfer payments.

5.1.3 Did Inpatient LOS Increase for PAC Transfer Cases?

Even with the proportion of transfer cases remaining steady or increasing, hospitals might extend the inpatient LOS slightly for their transfer cases in an attempt to earn more per diem payments and minimize the reductions in revenue relative to the full DRG payment. Table 9 presents the mean inpatient LOS for transfer cases for the four study years, as well as the annual percent changes in LOS. We see that inpatient LOS for transfer cases stayed quite constant throughout the period for both target and control DRGs considered as a group. A few DRGs exhibited large declines in LOS; this result is an artifact of the changing GMLOS threshold discussed above and its resultant impact on the composition of the group of transfer cases. For example, cases in DRG 14 with an inpatient stay of 4 days were counted as transfer cases in 1998, but not in 1999. Removal of these 4-day stay cases from the transfer group in 1999 resulted in a decline in mean LOS for the remaining transfer cases.

Table 10 presents information on changes in transfer-case LOS by type of hospital. Across the full period, rural hospitals, sole community and Medicare-dependent hospitals, and those with fewer beds experienced declines in LOS for their transfer cases in targeted DRGs, with reductions ranging from 0.2 to 0.4 days on average. These declines either did not occur, or were less pronounced, for these types of hospitals for the control DRGs. Thus, the hypothesis that hospitals would increase LOS for transfer cases in an attempt to garner additional per diem payments is not supported for these types of hospitals. In contrast, inpatient LOS increased slightly over the study period for target DRG transfer cases treated in larger hospitals, teaching hospitals, disproportionate share hospitals, and hospitals at the greatest financial risk. LOS either decreased or remained unchanged for control DRG transfer cases from these hospitals. Thus, there is some evidence that these types of hospitals responded to the incentives of the transfer payment policy by keeping their transfer cases for slightly longer inpatient stays.

Table 9. Changes in Inpatient LOS for Cases Paid as Transfers, Target v. Control DRGs
(FY1998-FY2001, Last 3 Quarters of Each Year)

DRG	Mean LOS				Percent Change			
	1998	1999	2000	2001	1998-1999	1999-2000	2000-2001	1998-2001
Target DRGs								
14	3.2	2.7	2.7	2.7	-15.6	0.0	0.0	-15.6
113	5.4	5.5	5.5	5.5	1.9	0.0	0.0	1.9
209	3.4	2.9	2.9	2.9	-14.7	0.0	0.0	-14.7
210	4.1	4.2	3.6	3.6	2.4	-14.3	0.0	-12.2
211	2.9	2.9	2.9	2.9	0.0	0.0	0.0	0.0
236	2.7	2.7	1.7	1.7	0.0	-37.0	0.0	-37.0
263	4.8	4.8	4.8	4.9	0.0	0.0	2.1	2.1
264	3.0	3.0	2.9	2.9	0.0	-3.3	0.0	-3.3
429	3.1	3.0	2.5	2.5	-3.2	-16.7	0.0	-19.4
483	20.6	20.9	20.7	21.1	1.5	-1.0	1.9	2.4
ALL TARGET DRGs	**4.1**	**4.2**	**4.1**	**4.1**	**2.4**	**-2.4**	**0.0**	**0.0**
Control DRGs								
12	2.6	2.6	2.6	2.6	0.0	0.0	0.0	0.0
79	3.9	3.9	3.9	3.9	0.0	0.0	0.0	0.0
80	2.7	2.7	2.6	2.6	0.0	-3.7	0.0	-3.7
148	7.2	7.2	7.2	7.2	0.0	0.0	0.0	0.0
149	4.2	4.3	4.3	4.3	2.4	0.0	0.0	2.4
239	3.2	2.7	2.7	2.7	-15.6	0.0	0.0	-15.6
243	1.7	1.7	1.7	1.7	0.0	0.0	0.0	0.0
320	2.6	2.6	2.6	2.6	0.0	0.0	0.0	0.0
321	1.7	1.7	1.7	1.7	0.0	0.0	0.0	0.0
415	6.1	6.1	6.1	6.1	0.0	0.0	0.0	0.0
468	5.7	5.8	5.8	5.8	1.8	0.0	0.0	1.8
ALL CONTROL DRGs	**4.4**	**4.4**	**4.3**	**4.3**	**0.0**	**-2.3**	**0.0**	**-2.3**

Table 10. Changes in Inpatient LOS for Cases Paid as Transfers, by Type of Hospital, Target v. Control DRGs
(FY1998-FY2001, Last 3 Quarters of Each Year)

Type of Hospital	Mean LOS				Percent Change			
	1998	1999	2000	2001	1998-1999	1999-2000	2000-2001	1998-2001
ALL TARGET DRGs	**4.1**	**4.2**	**4.1**	**4.1**	**2.4**	**-2.4**	**0.0**	**0.0**
Rural Location	3.8	3.8	3.6	3.6	0.0	-5.3	0.0	-5.3
Urban Location	4.2	4.3	4.2	4.2	2.4	-2.3	0.0	0.0
New England	4.1	4.1	3.9	3.8	0.0	-4.9	-2.6	-7.3
Middle Atlantic	4.2	4.4	4.1	4.0	4.8	-6.8	-2.4	-4.8
South Atlantic	4.1	4.2	4.1	4.1	2.4	-2.4	0.0	0.0
East South Central	4.2	4.4	4.3	4.3	4.8	-2.3	0.0	2.4
West South Central	4.2	4.5	4.5	4.4	7.1	0.0	-2.2	4.8
East North Central	4.1	4.3	4.2	4.2	4.9	-2.3	0.0	2.4
West North Central	3.9	4.0	3.9	4.0	2.6	-2.5	2.6	2.6
Mountain	3.9	3.9	3.8	3.7	0.0	-2.6	-2.6	-5.1
Pacific	4.0	4.1	3.9	4.0	2.5	-4.9	2.6	0.0
1-25 beds	3.5	3.3	3.4	3.1	-5.7	3.0	-8.8	-11.4
26-50 beds	3.6	3.5	3.3	3.3	-2.8	-5.7	0.0	-8.3
51-100 beds	3.7	3.7	3.5	3.4	0.0	-5.4	-2.9	-8.1
101-200 beds	4.0	4.0	3.8	3.8	0.0	-5.0	0.0	-5.0
201-500 beds	4.1	4.3	4.1	4.2	4.9	-4.7	2.4	2.4
500+ beds	4.5	4.9	4.9	4.8	8.9	0.0	-2.0	6.7
Sole Community Hospitals	3.8	3.8	3.7	3.5	0.0	-2.6	-5.4	-7.9
Medicare Dependent Hosps.	3.7	3.7	3.5	3.4	0.0	-5.4	-2.9	-8.1
Disproportionate Share Hosps.	4.3	4.5	4.4	4.4	4.7	-2.2	0.0	2.3
Teaching Hospitals	4.2	4.5	4.4	4.4	7.1	-2.2	0.0	4.8
Financial Vulnerability								
RISK=1 (Lowest Risk)	4.0	4.1	4.0	4.0	2.5	-2.4	0.0	0.0
RISK=2	4.1	4.3	4.2	4.1	4.9	-2.3	-2.4	0.0
RISK=3	4.1	4.2	4.1	4.1	2.4	-2.4	0.0	0.0
RISK=4 (Highest Risk)	4.2	4.4	4.3	4.3	4.8	-2.3	0.0	2.4

Table 10. Changes in Inpatient LOS for Cases Paid as Transfers, by Type of Hospital, Target v. Control DRGs
(FY1998-FY2001, Last 3 Quarters of Each Year)

Type of Hospital	Mean LOS				Percent Change			
	1998	1999	2000	2001	1998-1999	1999-2000	2000-2001	1998-2001
ALL CONTROL DRGs	**4.4**	**4.4**	**4.3**	**4.3**	**0.0**	**-2.3**	**0.0**	**-2.3**
Rural Location	4.3	4.2	4.2	4.2	-2.3	0.0	0.0	-2.3
Urban Location	4.4	4.4	4.4	4.4	0.0	0.0	0.0	0.0
New England	4.3	4.3	4.2	4.1	0.0	-2.3	-2.4	-4.7
Middle Atlantic	4.7	4.7	4.6	4.6	0.0	-2.1	0.0	-2.1
South Atlantic	4.5	4.5	4.4	4.4	0.0	-2.2	0.0	-2.2
East South Central	4.1	4.1	4.1	4.1	0.0	0.0	0.0	0.0
West South Central	4.3	4.4	4.3	4.3	2.3	-2.3	0.0	0.0
East North Central	4.4	4.4	4.4	4.3	0.0	0.0	-2.3	-2.3
West North Central	4.4	4.3	4.4	4.3	-2.3	2.3	-2.3	-2.3
Mountain	4.3	4.2	4.3	4.2	-2.3	2.4	-2.3	-2.3
Pacific	4.2	4.2	4.2	4.2	0.0	0.0	0.0	0.0
1-25 beds	3.7	3.7	3.6	3.7	0.0	-2.7	2.8	0.0
26-50 beds	4.0	3.9	3.8	3.8	-2.5	-2.6	0.0	-5.0
51-100 beds	4.2	4.2	4.2	4.1	0.0	0.0	-2.4	-2.4
101-200 beds	4.4	4.4	4.3	4.3	0.0	-2.3	0.0	-2.3
201-500 beds	4.4	4.5	4.4	4.4	2.3	-2.2	0.0	0.0
500+ beds	4.6	4.6	4.5	4.5	0.0	-2.2	0.0	-2.2
Sole Community Hospitals	4.3	4.3	4.3	4.2	0.0	0.0	-2.3	-2.3
Medicare Dependent Hosps.	4.1	4.2	4.0	4.1	2.4	-4.8	2.5	0.0
Disproportionate Share Hosps.	4.4	4.4	4.4	4.3	0.0	0.0	-2.3	-2.3
Teaching Hospitals	4.4	4.5	4.4	4.4	2.3	-2.2	0.0	0.0
Financial Vulnerability								
RISK=1 (Lowest Risk)	4.4	4.4	4.4	4.4	0.0	0.0	0.0	0.0
RISK=2	4.4	4.4	4.4	4.3	0.0	0.0	-2.3	-2.3
RISK=3	4.3	4.4	4.3	4.3	2.3	-2.3	0.0	0.0
RISK=4 (Highest Risk)	4.3	4.3	4.3	4.2	0.0	0.0	-2.3	-2.3

Table 11. Changes in Timing of Discharge for Follow-Up Care in SNF, Target v. Control DRGs
(FY1998-FY2001 Data, Last 3 Quarters of Each Year)

DRG	1998				1999			
	Same Day	1 Day	2 Days	3 Days	Same Day	1 Day	2 Days	3 Days
Target DRGs								
14	98.5	0.5	0.4	0.5	98.7	0.5	0.4	0.4
113	98.7	0.5	0.4	0.4	98.6	0.6	0.4	0.4
209	98.9	0.3	0.3	0.4	99.0	0.3	0.3	0.4
210	98.6	0.5	0.4	0.5	98.8	0.4	0.4	0.5
211	98.6	0.4	0.4	0.6	98.6	0.6	0.3	0.5
236	98.6	0.5	0.3	0.5	99.1	0.3	0.3	0.3
263	99.0	0.4	0.3	0.3	98.9	0.6	0.3	0.2
264	99.0	0.7	0.0	0.3	99.2	0.5	0.3	0.0
429	98.1	0.6	0.5	0.8	98.5	0.6	0.5	0.4
483	98.8	0.4	0.4	0.4	98.9	0.4	0.3	0.4
ALL TARGET DRGs	**98.7**	**0.4**	**0.4**	**0.5**	**98.8**	**0.4**	**0.3**	**0.4**
Control DRGs								
12	98.6	0.5	0.4	0.5	98.7	0.6	0.5	0.3
79	98.2	0.8	0.5	0.6	98.4	0.7	0.4	0.5
80	97.6	1.2	0.7	0.5	98.2	0.7	0.5	0.6
148	99.0	0.4	0.3	0.4	99.1	0.3	0.3	0.3
149	98.8	0.7	0.3	0.1	98.3	0.9	0.2	0.6
239	99.0	0.3	0.3	0.4	99.0	0.3	0.3	0.3
243	98.7	0.5	0.3	0.5	98.9	0.5	0.3	0.3
320	98.0	0.9	0.6	0.5	98.2	0.8	0.5	0.6
321	97.6	1.2	0.6	0.6	98.5	0.6	0.5	0.4
415	98.7	0.6	0.4	0.4	99.1	0.5	0.1	0.3
468	98.9	0.4	0.3	0.4	98.9	0.5	0.3	0.3
ALL CONTROL DRGs	**98.5**	**0.6**	**0.4**	**0.5**	**98.6**	**0.6**	**0.4**	**0.4**

Table 11. Changes in Timing of Discharge for Follow-Up Care in SNF, Target v. Control DRGs
(FY1998-FY2001 Data, Last 3 Quarters of Each Year)

DRG	2000				2001			
	Same Day	1 Day	2 Days	3 Days	Same Day	1 Day	2 Days	3 Days
Target DRGs								
14	98.7	0.5	0.4	0.4	98.7	0.5	0.4	0.4
113	98.6	0.7	0.3	0.4	98.6	0.6	0.4	0.4
209	99.0	0.3	0.3	0.4	99.0	0.3	0.3	0.4
210	98.6	0.5	0.4	0.5	98.6	0.5	0.4	0.5
211	98.7	0.5	0.3	0.5	98.8	0.4	0.3	0.5
236	99.0	0.4	0.3	0.4	98.8	0.5	0.2	0.5
263	98.9	0.5	0.3	0.3	98.9	0.5	0.3	0.3
264	99.2	0.3	0.2	0.3	99.3	0.2	0.5	0.0
429	98.4	0.7	0.4	0.5	98.7	0.5	0.3	0.5
483	98.9	0.4	0.3	0.4	98.7	0.6	0.4	0.3
ALL TARGET DRGs	**98.8**	**0.4**	**0.3**	**0.4**	**98.8**	**0.4**	**0.3**	**0.4**
Control DRGs								
12	98.3	0.6	0.5	0.6	98.4	0.5	0.5	0.5
79	98.4	0.7	0.4	0.5	98.5	0.7	0.4	0.5
80	98.1	0.6	0.6	0.6	98.8	0.6	0.4	0.2
148	99.0	0.5	0.2	0.3	99.1	0.3	0.3	0.3
149	98.8	0.6	0.3	0.3	98.5	0.6	0.4	0.4
239	99.0	0.3	0.3	0.4	98.9	0.4	0.3	0.4
243	98.9	0.3	0.4	0.4	98.8	0.4	0.4	0.4
320	98.2	0.8	0.5	0.5	98.4	0.8	0.4	0.4
321	98.1	1.0	0.5	0.4	98.0	0.8	0.6	0.6
415	98.8	0.5	0.3	0.4	98.8	0.5	0.3	0.4
468	98.7	0.5	0.4	0.4	98.9	0.4	0.3	0.4
ALL CONTROL DRGs	**98.6**	**0.6**	**0.4**	**0.4**	**98.6**	**0.6**	**0.4**	**0.4**

Table 12. Changes in Timing of Discharge for Follow-Up Care in PPS-Excluded Providers, Target v. Control DRGs (FY1998-FY2001 Data, Last 3 Quarters of Each Year)

DRG	1998				1999			
	Same Day	1 Day	2 Days	3 Days	Same Day	1 Day	2 Days	3 Days
Target DRGs								
14	99.5	0.2	0.1	0.2	99.5	0.2	0.1	0.2
113	99.6	0.1	0.2	0.1	99.6	0.2	0.1	0.1
209	99.5	0.2	0.1	0.2	99.6	0.1	0.1	0.2
210	99.5	0.2	0.1	0.2	99.5	0.2	0.1	0.2
211	99.6	0.1	0.1	0.2	99.6	0.1	0.1	0.1
236	99.4	0.2	0.1	0.2	99.6	0.2	0.2	0.1
263	99.3	0.0	0.2	0.4	99.5	0.4	0.0	0.2
264	100.0	0.0	0.0	0.0	95.1	4.9	0.0	0.0
429	97.9	1.6	0.3	0.2	98.7	0.3	0.7	0.4
483	99.5	0.2	0.1	0.1	99.5	0.2	0.1	0.1
ALL TARGET DRGs	**99.5**	**0.2**	**0.1**	**0.2**	**99.5**	**0.2**	**0.1**	**0.2**
Control DRGs								
12	99.4	0.4	0.1	0.1	98.7	0.9	0.4	0.1
79	99.1	0.4	0.2	0.3	99.4	0.5	0.1	0.0
80	100.0	0.0	0.0	0.0	98.5	0.0	0.0	1.5
148	99.5	0.2	0.2	0.1	99.7	0.2	0.1	0.0
149	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
239	99.6	0.2	0.1	0.1	99.5	0.2	0.2	0.2
243	99.5	0.4	0.1	0.0	99.3	0.2	0.1	0.3
320	99.0	0.6	0.2	0.2	98.9	0.5	0.2	0.4
321	100.0	0.0	0.0	0.0	99.5	0.0	0.0	0.5
415	99.2	0.6	0.0	0.2	99.2	0.3	0.1	0.3
468	98.9	0.3	0.2	0.6	99.5	0.2	0.1	0.2
ALL CONTROL DRGs	**99.3**	**0.4**	**0.1**	**0.2**	**99.3**	**0.4**	**0.2**	**0.2**

Table 12. Changes in Timing of Discharge for Follow-Up Care in PPS-Excluded Providers, Target v. Control DRGs (FY1998-FY2001 Data, Last 3 Quarters of Each Year)

DRG	2000				2001			
	Same Day	1 Day	2 Days	3 Days	Same Day	1 Day	2 Days	3 Days
Target DRGs								
14	99.5	0.2	0.1	0.1	99.5	0.2	0.1	0.2
113	99.7	0.2	0.1	0.1	99.4	0.3	0.1	0.1
209	99.6	0.1	0.1	0.2	99.6	0.2	0.1	0.2
210	99.6	0.1	0.1	0.1	99.5	0.2	0.1	0.2
211	99.6	0.2	0.0	0.1	99.5	0.2	0.2	0.1
236	99.4	0.2	0.2	0.3	99.5	0.2	0.1	0.2
263	99.5	0.3	0.2	0.0	99.4	0.4	0.0	0.1
264	98.7	0.0	1.3	0.0	100.0	0.0	0.0	0.0
429	98.0	1.2	0.4	0.4	98.2	0.9	0.4	0.5
483	99.6	0.2	0.0	0.2	99.6	0.2	0.1	0.1
ALL TARGET DRGs	**99.6**	**0.2**	**0.1**	**0.2**	**99.5**	**0.2**	**0.1**	**0.2**
Control DRGs								
12	99.0	0.6	0.1	0.4	98.9	0.5	0.2	0.5
79	99.3	0.2	0.2	0.3	99.4	0.4	0.1	0.2
80	98.7	0.0	1.3	0.0	100.0	0.0	0.0	0.0
148	99.4	0.2	0.2	0.2	99.5	0.2	0.2	0.1
149	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
239	99.6	0.3	0.0	0.1	99.8	0.1	0.1	0.1
243	99.4	0.4	0.1	0.1	99.6	0.2	0.0	0.2
320	99.0	0.6	0.2	0.2	99.4	0.2	0.1	0.3
321	98.7	0.9	0.4	0.0	98.2	1.1	0.4	0.4
415	99.5	0.2	0.2	0.2	99.3	0.4	0.1	0.2
468	99.4	0.3	0.0	0.2	99.5	0.3	0.0	0.2
ALL CONTROL DRGs	**99.3**	**0.4**	**0.1**	**0.2**	**99.4**	**0.3**	**0.1**	**0.2**

5.1.4 Were Admissions to PAC Settings Delayed Beyond the Day of Discharge from the Acute Care Hospital?

A final behavioral change that might be envisioned as a way of avoiding the transfer payment would be to delay admission to the PAC provider beyond the time frame that causes the case to be considered a transfer. Tables 11 and 12 consider this possibility for admissions to SNFs and PPS-excluded settings.[8] It is obvious that for both target and control DRGs virtually all acute-care cases that were coded as being discharged to these settings (and for which a subsequent PAC admission could be confirmed) were admitted to the PAC provider on the same day as the hospital discharge. Furthermore, there was no appreciable change in this discharge behavior following implementation of the transfer payment policy.

One important caveat to this analysis is that it is dependent on accurate coding of discharge destination by the hospital. Our analysis is limited to cases with specific PAC discharge destination codes, and confirmation of a subsequent PAC episode within three days of the hospital discharge. Cases that the hospital coded as discharged to settings other than SNFs or PPS-excluded providers—in particular, discharges to home / self-care—are not included in the analysis. Investigations by the OIG have shown that a large proportion of cases coded as discharged to home subsequently received PAC care (most often, home health care) that should have qualified the case as a transfer (OIG 2000, 2001a, 2001b). Investigating inaccurate discharge coding as a way of circumventing the transfer payment policy was beyond the scope of this study.

5.2 Impact of the Initial Policy on Hospitals' Medicare Revenue

5.2.1 Simulated Revenue Impacts of the Initial Transfer Policy

Table 13 presents the results of the analysis to simulate the revenue impact of the initial transfer policy. This analysis was based on the last three quarters of FY1998 data. As such, the figures in Table 13 show the revenue hospitals would have earned if the policy had been implemented in 1998 with no behavioral change from hospitals in response to the new policy. In 1998, 199,532 of the 780,992 discharges in the 10 target DRGs would have been paid as transfer cases if the policy had existed in that year. The mean DRG payment for these cases was $10,589. If payments had been computed under the transfer policy, however, the mean payment per transfer case would have fallen by more than $1,900 to $8,686. When computed across all discharges from these target DRGs, including non-transfer cases as well as transfers, the average decline in revenue was nearly $500 per discharge.

Variations in these revenue impacts by type of hospital are examined in Table 14, and the impacts for rural vs. urban hospital are highlighted in Figure 4. We see very defined patterns by hospital location, size, financial vulnerability and special status within Medicare. Hospitals in urban areas, those with more beds, a teaching mission, or a

[8] We were unable to examine delays between the hospital discharge and admission to home health care because we did not have access to home health claims.

Table 13. Simulated Change in Medicare Revenue for 10 DRGs Originally Targeted, Assuming No Changes in Hospital Behavior (FY1998 Data, Last 3 Quarters)

DRG	Total Discharges	Total Paid as Transfers	Average Revenue for Transfer Cases Before Policy	Average Revenue for Transfer Cases After Policy	Average Change in Revenue Per Transfer Case	Average Change in Revenue Per Discharge
14	260,720	41,217	$5,333	$4,420	-$913	-$144
113	34,781	9,062	$12,247	$8,094	-$4,153	-$1,082
209	260,642	92,047	$10,063	$9,218	-$845	-$298
210	97,875	32,742	$8,306	$7,415	-$890	-$298
211	21,691	3,398	$5,722	$5,079	-$643	-$101
236	28,852	6,277	$3,483	$3,038	-$444	-$97
263	19,060	4,198	$9,472	$6,135	-$3,336	-$735
264	2,858	469	$4,975	$3,637	-$1,338	-$220
429	21,671	4,024	$4,021	$3,022	-$999	-$185
483	32,842	6,098	$79,432	$50,896	-$28,535	-$5,298
ALL TARGET DRGs	**780,992**	**199,532**	**$10,589**	**$8,686**	**-$1,904**	**-$486**

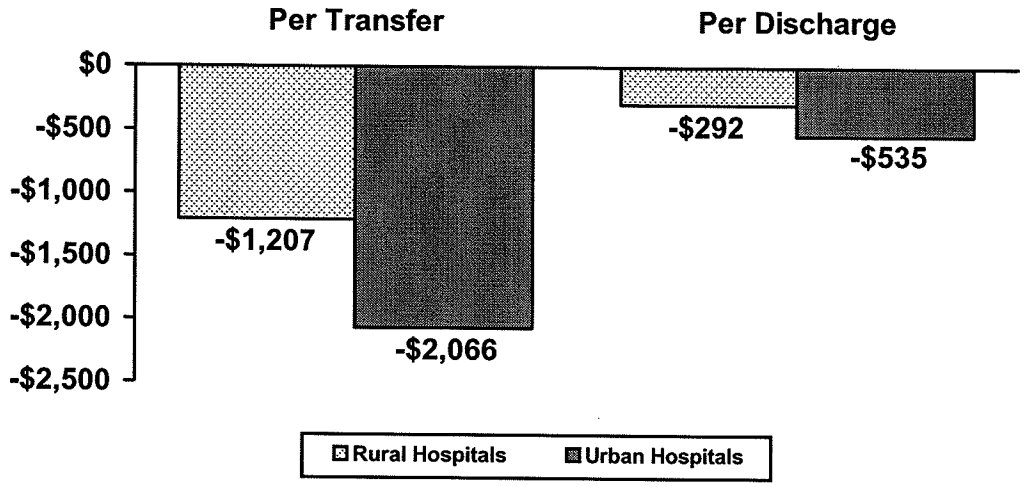
Medicare revenue includes any payments made by beneficiaries (copayments, deductibles) or made on their behalf by other payers. It excludes any outlier payments made by Medicare for the case, and any pass through amounts.

Table 14. Simulated Change in Medicare Revenue for 10 DRGs Originally Targeted, by Type of Hospital, Assuming No Changes in Hospital Behavior (FY1998 Data, Last 3 Quarters)

Type of Hospital	Total Discharges	Total Paid as Transfers	Average Revenue for Transfer Cases Before Policy	After Policy	Average Change in Revenue Per Transfer Case	Per Discharge
ALL TARGET DRGs	**780,992**	**199,532**	**$10,589**	**$8,686**	**-$1,904**	**-$486**
Rural Location	143,917	34,765	$7,809	$6,602	-$1,207	-$292
Urban Location	548,068	142,054	$11,237	$9,172	-$2,066	-$535
New England	37,180	11,690	$11,738	$9,765	-$1,973	-$620
Middle Atlantic	111,730	20,807	$12,110	$10,099	-$2,011	-$375
South Atlantic	143,016	33,889	$10,116	$8,341	-$1,775	-$421
East South Central	59,442	12,651	$9,427	$7,705	-$1,722	-$367
West South Central	82,583	21,675	$10,747	$8,476	-$2,271	-$596
East North Central	139,204	38,985	$10,710	$8,781	-$1,929	-$540
West North Central	69,201	20,612	$9,037	$7,630	-$1,407	-$419
Mountain	37,410	12,196	$9,624	$7,988	-$1,636	-$533
Pacific	83,253	24,195	$11,444	$9,204	-$2,239	-$651
1-25 beds	3,153	609	$6,128	$5,227	-$900	-$174
26-50 beds	23,281	5,794	$6,761	$5,761	-$1,000	-$249
51-100 beds	61,460	16,436	$7,842	$6,636	-$1,206	-$322
101-200 beds	176,262	47,323	$9,724	$7,989	-$1,735	-$466
201-500 beds	327,843	85,776	$10,998	$8,996	-$2,002	-$524
500+ beds	115,669	25,396	$13,426	$10,926	-$2,500	-$549
Sole Community Hospitals	50,142	12,365	$8,151	$6,933	-$1,218	-$300
Medicare Dependent Hosps.	6,616	1,705	$6,726	$5,655	-$1,071	-$276
Disproportionate Share Hosps.	394,621	93,248	$12,018	$9,642	-$2,376	-$561
Teaching Hospitals	350,058	87,720	$12,066	$9,825	-$2,241	-$562
Financial Vulnerability						
RISK=1 (Lowest Risk)	180,308	48,500	$9,905	$8,204	-$1,701	-$457
RISK=2	251,437	64,608	$10,641	$8,806	-$1,835	-$472
RISK=3	110,644	26,866	$10,684	$8,735	-$1,950	-$473
RISK=4 (Highest Risk)	71,084	16,524	$11,500	$9,218	-$2,282	-$530

Medicare revenue includes any payments made by beneficiaries (copayments, deductibles) or made on their behalf by other payers. It excludes any outlier payments made by Medicare for the case, and any pass through amounts.

Figure 4. Simulated Changes in Revenue from Initial Transfer Policy, Rural vs. Urban Hospitals



disproportionate share of low-income patients, and those at high risk of financial failure saw their Medicare revenue fall by larger absolute amounts when compared to other types of hospitals. One reason for the large declines in absolute terms was the fact that initial payments to these facilities were typically at much higher levels. However, the declines experienced by these hospitals were also usually larger in relative terms (not shown). For rural hospitals, we estimate that—absent a behavioral response—the implementation of the transfer payment policy would have caused their Medicare revenue to fall by more than $1,200 for each transfer case, and by nearly $300 for each discharge from the 10 target DRGs. While these are large reductions, urban hospitals would have expected approximately 70 to 80 percent larger declines in revenue in absolute terms (and larger relative declines as well).

5.2.2 *Trends in Actual Medicare Revenue Before and After the Policy Change*

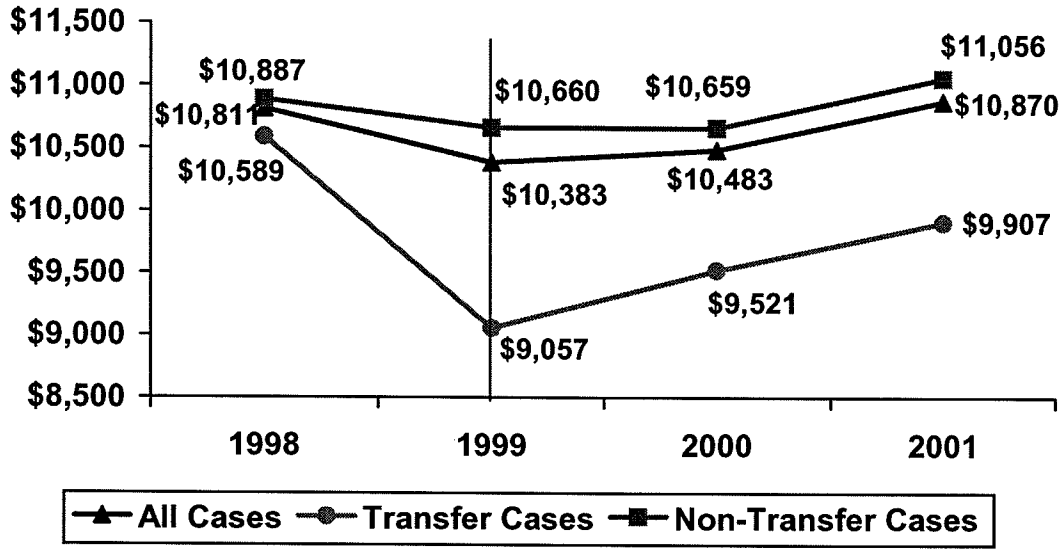
Table 15 presents the trends in actual Medicare revenue per discharge for cases in the 10 initial target DRGs, for the period immediately preceding the policy change through the three years after the policy took effect. The figures are expressed in constant 1998 dollars, and are shown for rural vs. urban hospitals and for cases paid as transfers (or, in the case of 1998, cases that would have been paid as transfers) and for non-transfer cases that received the full DRG payment.

Across all types of hospitals, there was a 14.5 percent decline in the mean Medicare revenue per transfer case in the first year after the transfer policy was implemented (see also, Figure 5). After this initial decline, revenues per transfer grew at an annual rate of 4 to 5 percent. There was also a small decline in revenues for non-transfer cases between 1998 and 1999. Overall, for all cases discharged from the 10 target DRGs, real revenue per case fell by 4 percent in the first year following the payment change, and then began to grow at a moderate pace.

Table 15. Trends in Real Medicare Revenues Per Discharge for Target DRGs, 1998 Dollars (FY1998-FY2001, Last 3 Quarters)

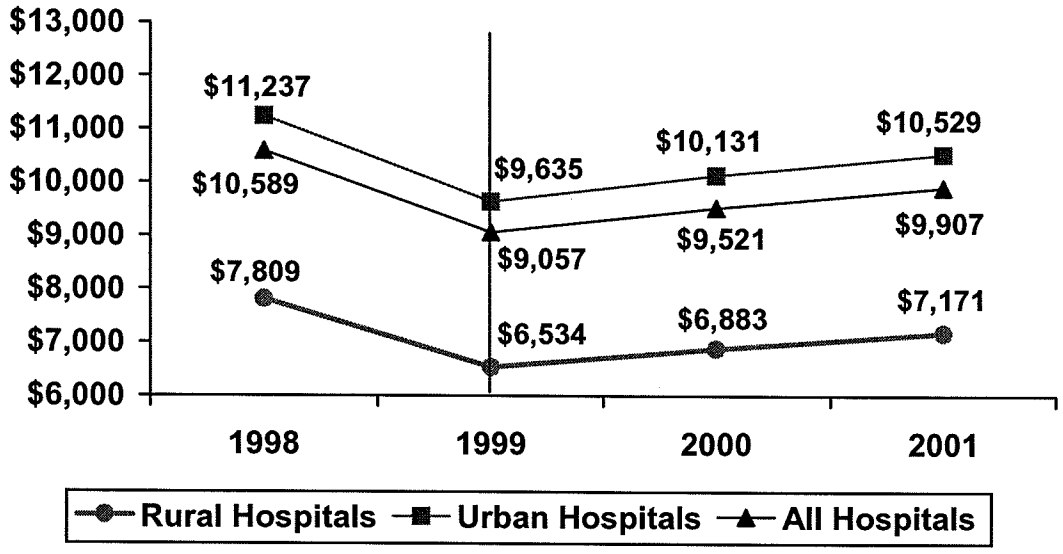
Type of Hospital	Mean Medicare Revenue Per Discharge				Percent Change			
	1998	1999	2000	2001	1998-1999	1999-2000	2000-2001	1998-2001
Rural Location								
Transfer Cases	$7,809	$6,534	$6,883	$7,171	-16.3	5.3	4.2	-8.2
Non-Transfer Cases	$7,127	$7,195	$7,162	$7,612	1.0	-0.5	6.3	6.8
All Cases	$7,292	$7,094	$7,125	$7,550	-2.7	0.4	6.0	3.5
Urban Location								
Transfer Cases	$11,237	$9,635	$10,131	$10,529	-14.3	5.1	3.9	-6.3
Non-Transfer Cases	$11,930	$11,684	$11,724	$12,075	-2.1	0.3	3.0	1.2
All Cases	$11,751	$11,318	$11,468	$11,814	-3.7	1.3	3.0	0.5
All Hospitals								
Transfer Cases	$10,589	$9,057	$9,521	$9,907	-14.5	5.1	4.1	-6.4
Non-Transfer Cases	$10,887	$10,660	$10,659	$11,056	-2.1	0.0	3.7	1.6
All Cases	$10,811	$10,383	$10,483	$10,870	-4.0	1.0	3.7	0.5

Figure 5. Trends in Actual Medicare Revenue per Case, All Hospitals Combined



Very similar patterns are observed for both urban and rural hospitals. Medicare revenue fell by an average of 14 to 16 percent for each transfer case immediately after implementation of the transfer policy, then rebounded with an annual growth rate of approximately 4 to 5 percent. Figure 6 illustrates this similarity in patterns for urban and rural facilities. After three years, average Medicare revenue per transfer case was still approximately 6 to 8 percent lower than it had been prior to the policy change.

Figure 6. Trends in Actual Medicare Revenue per Transfer, Rural vs. Urban Hospitals



Some of these revenue declines appear to have been counterbalanced by revenue gains for non-transfer cases, especially for rural hospitals, which saw nearly a 7 percent gain in revenue per non-transfer case over the three year period. This strong growth for these non-transfer cases meant the average case in the 10 target DRGs generated almost 4 percent more Medicare revenue for rural hospitals at the end of the period than before the payment policy change, despite the payment reductions for the cases transferred to PAC settings from these DRGs. Revenue growth for non-transfer cases was not as strong for urban hospitals, so that the average revenue per case in these facilities was only 0.5 percent higher at the end of the period than it had been in 1998.

5.3 Impact of Expanding the Policy to Additional DRGs

Prevalence of Transfer Cases. The financial impact of any expansion of the initial transfer policy to additional DRGs will depend on the extent to which patients are discharged from these DRGs to a PAC setting after a short inpatient stay. In Table 16, we present evidence regarding the rate of short-stay PAC discharges for the 19 DRGs that were targeted for possible expansion in May 2003 and for all DRGs. For comparison purposes, we also present data for the 10 DRGs initially targeted by the transfer policy. Data reflect the discharge behavior of hospitals for all of FY2001.

Overall, 28 percent of all patients discharged from the 19 expansion DRGs went to a SNF, a PPS-excluded facility, or home health care. This rate of PAC use was much lower than for the 10 DRGs originally targeted by the policy, and only slightly higher than the PAC use rate computed across all DRGs. One reason the use rate is relatively low is because of the inclusion of so many 'paired' DRGs in the group of 19 expansion DRGs (and in all DRGs). These DRGs have low rates of PAC use but were still targeted under an expanded transfer policy because each is paired with a DRG that has higher PAC use.[9] Inclusion of these DRGs serves to lower the average rate of PAC use for the expansion group. Even for those expansion DRGs that were targeted specifically for their high PAC use, however, PAC use rates are generally much lower than the rates observed for the 10 original DRGs. This finding illustrates the fact that it will be increasingly difficult to target policy expansions to DRGs with high PAC use as the policy is expanded to more and more DRGs.

Of the PAC discharges from the targeted 19 expansion DRGs, 17 percent had an inpatient stay that was sufficiently below the GMLOS that the case qualified a PAC transfer. These short-stay PAC transfers amounted to 4.8 percent of all discharges from the 19 expansion DRGs. When all DRGs were considered, we found an almost identical proportion of the discharges (4.9 percent) to be short-stay PAC transfers. These are the only cases for which Medicare payment would be reduced as a result of an expanded policy.

Tables 17 and 18 examine variations in PAC use rates by type of hospital for the 19 possible expansion DRGs (Table 17) and all DRGs (Table 18). With only a few

[9] If the paired DRG is not included, a hospital could avoid being paid under the transfer policy simply by failing to code complicating diagnoses and comorbidities.

Table 16. Discharge Patterns for Additional Targeted DRGs
(FY2001 Data, Full Year)

DRG	Total Cases	PAC Discharges as Percent of Total Discharges	Short-Stay PAC Discharges as Percent of Total PAC Discharges	Short-Stay PAC Discharges as Percent of Total Discharges
Original Target DRGs				
14	315,880	43.8	21.4	9.4
113	40,913	57.8	44.1	25.5
209	366,651	69.1	28.3	19.6
210	120,282	70.8	28.3	20.0
211	32,372	69.0	21.5	14.9
236	39,501	55.9	8.4	4.7
263 *	24,203	51.5	40.4	20.8
264 *	3,938	43.1	34.8	15.0
429	26,561	44.3	29.9	13.2
483	42,772	38.8	47.1	18.3
ALL ORIGINAL DRGs	**1,013,073**	**58.0**	**27.1**	**15.7**
Target Expansion DRGs				
12	48,792	43.8	29.3	12.9
24	54,637	24.3	12.2	3.0
25 ++	27,094	11.9	7.5	0.9
89	496,337	26.2	15.6	4.1
90 ++	46,554	14.9	8.7	1.3
121	163,867	28.3	18.8	5.3
122 ++	80,651	10.1	5.9	0.6
130	87,629	27.7	19.1	5.3
131 ++	27,537	16.7	18.7	3.1
239	47,844	46.9	24.6	11.5
243 *	93,282	35.5	8.5	3.0
277	92,989	30.8	20.7	6.4
278 ++	31,594	18.6	10.4	1.9
296	247,852	30.9	10.2	3.2
297 ++	47,398	20.7	5.8	1.2
320	190,776	32.2	24.4	7.9
321 ++	30,632	20.7	12.5	2.6
462 *	7,774	31.8	34.6	11.0
468	61,381	36.9	27.2	10.1
ALL 19 EXPANSION DRGs	**1,884,620**	**28.0**	**17.0**	**4.8**
ALL DRGs	**11,280,161**	**25.0**	**19.6**	**4.9**

* The final rule for FY2004, published in August 2003, excluded these DRGs from the transfer policy, and added 4 DRGs not considered in this analysis (DRGs 88, 127, 294, and 395).

++ DRG is included because it is paired with another DRG meeting all criteria for inclusion.

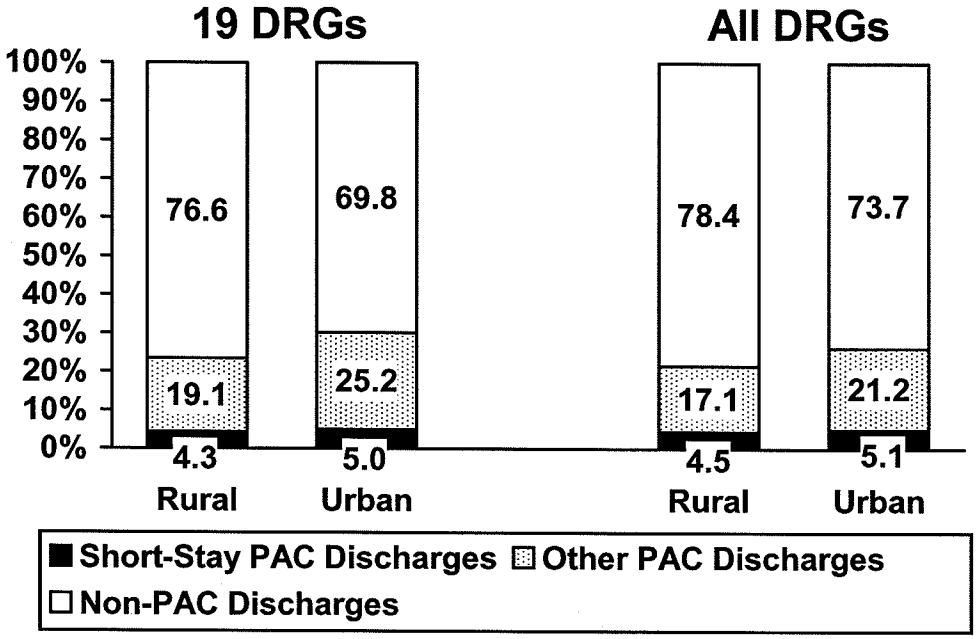
Table 17. Discharge Patterns for 19 DRGs Targeted for Possible Expansion, by Type of Hospital (FY2001 Data, Full Year)

Type of Hospital	Total Cases	PAC Discharges as Percent of Total Discharges	Short-Stay PAC Discharges as Percent of Total PAC Discharges	Short-Stay PAC Discharges as Percent of Total Discharges
ALL 19 EXPANSION DRGs	**1,884,620**	**28.0**	**17.0**	**4.8**
Rural Location	453,716	23.4	18.3	4.3
Urban Location	1,235,729	30.2	16.6	5.0
New England	93,939	44.4	22.8	10.1
Middle Atlantic	280,471	33.8	12.6	4.2
South Atlantic	344,430	26.2	15.6	4.1
East South Central	173,042	24.1	16.8	4.0
West South Central	221,555	20.1	16.4	3.3
East North Central	337,701	29.9	17.5	5.2
West North Central	151,928	26.5	19.4	5.1
Mountain	75,162	26.4	21.5	5.7
Pacific	159,973	29.7	20.0	5.9
1-25 beds	14,969	19.4	24.5	4.7
26-50 beds	102,087	20.3	22.6	4.6
51-100 beds	198,020	24.1	19.4	4.7
101-200 beds	454,236	28.9	16.9	4.9
201-500 beds	723,422	30.6	16.2	4.9
500+ beds	240,450	28.8	15.9	4.6
Sole Community Hospitals	152,437	22.6	18.9	4.3
Medicare Dependent Hosps.	26,665	22.1	21.3	4.7
Disproportionate Share Hosps.	950,195	27.9	16.2	4.5
Teaching Hospitals	764,098	30.2	17.2	5.2
Financial Vulnerability				
RISK=1 (Lowest Risk)	434,092	28.1	16.5	4.6
RISK=2	606,494	28.9	16.8	4.9
RISK=3	276,053	28.6	17.4	5.0
RISK=4 (Highest Risk)	191,338	28.1	17.0	4.8

Table 18. Discharge Patterns for All DRGs, by Type of Hospital
(FY2001 Data, Full Year)

Type of Hospital	Total Cases	PAC Discharges as Percent of Total Discharges	Short-Stay PAC Discharges as Percent of Total PAC Discharges	Short-Stay PAC Discharges as Percent of Total Discharges
ALL DRGs	**11,280,161**	**25.0**	**19.6**	**4.9**
Rural Location	2,241,861	21.6	20.9	4.5
Urban Location	7,826,855	26.3	19.2	5.1
New England	533,012	39.0	23.9	9.3
Middle Atlantic	1,642,773	29.5	16.1	4.8
South Atlantic	2,188,989	23.7	18.5	4.4
East South Central	997,733	20.9	18.6	3.9
West South Central	1,267,721	19.3	19.7	3.8
East North Central	1,987,722	26.7	20.4	5.4
West North Central	910,703	24.3	20.9	5.1
Mountain	471,040	23.8	24.4	5.8
Pacific	985,320	25.5	21.4	5.5
1-25 beds	57,646	16.6	27.6	4.6
26-50 beds	410,294	17.9	25.2	4.5
51-100 beds	916,174	22.2	22.2	4.9
101-200 beds	2,466,140	26.2	19.9	5.2
201-500 beds	4,667,420	26.6	19.1	5.1
500+ beds	1,816,521	24.7	18.2	4.5
Sole Community Hospitals	768,847	21.3	21.2	4.5
Medicare Dependent Hosps.	109,847	20.3	22.5	4.6
Disproportionate Share Hosps.	5,974,641	24.6	18.8	4.6
Teaching Hospitals	5,108,752	26.2	19.5	5.1
Financial Vulnerability				
RISK=1 (Lowest Risk)	2,637,225	25.2	19.1	4.8
RISK=2	3,722,399	25.5	19.5	5.0
RISK=3	1,620,044	25.6	19.9	5.1
RISK=4 (Highest Risk)	1,008,231	25.4	19.6	5.0

Figure 7. Prevalence of PAC Transfer Cases for Possible Expansion DRGs, Rural vs. Urban Hospitals



exceptions, rates of short-stay PAC use as a percent of all discharges appear to be fairly similar across hospitals. It appears that smaller hospitals send fewer of their patients to PAC providers, but are more likely to have short inpatient stays for those patients discharged to a PAC setting. The converse is true for larger hospitals. The combined effect of these two factors is that hospitals of all sizes would have about 4.5 to 5.2 percent of their patients affected by the transfer policy under either expansion option. Barring any change in discharge behavior, hospitals in New England and on the West Coast would have more transfer cases, while those in the South would generally be less affected by the policy expansion.

Figure 7 divides total discharges into three mutually exclusive categories: short-stay discharges to PAC settings (i.e., transfer cases, represented by the solid black portion of the bar), other discharges to PAC settings (i.e., long-stay PAC discharges, represented by the shaded portion of the bar), and discharges to non-PAC settings. Two facts are readily apparent. First, a very small proportion of discharges would receive less than the full DRG amount due to the transfer policy under either expansion option. Second, the proportion of affected cases is similar for both rural and urban hospitals.

Financial Impact. The reductions in Medicare revenue that would be expected as a result of using the per diem payment formula for the PAC transfer cases are presented in Table 19. For the 19 expansion DRGs, nearly 90,000 discharges (or 4.8 percent of all discharges) would have been paid as transfers under the expanded policy. On average, Medicare payments would have fallen by approximately $1,400 per transfer—from $5,804 per discharge to $4,404. When averaged over all discharges from these 19 DRGs, the change to a per diem payment for some cases would have caused the average

Table 19. Simulated Change in Medicare Revenue for Possible Expansion DRGs, Assuming No Changes in Hospital Behavior (FY2001 Data, Full Year)

DRG	Total Discharges	Total Paid as Transfers	Average Revenue for Transfer Cases Before Policy	Average Revenue for Transfer Cases After Policy	Average Change in Revenue Per Transfer Case	Average Change in Revenue Per Discharge
19 Expansion DRGs						
12	48,792	6,274	$4,411	$3,482	-$930	-$120
24	54,637	1,618	$5,031	$3,679	-$1,352	-$40
25	27,094	243	$3,111	$2,393	-$718	-$6
89	496,337	20,310	$5,222	$3,839	-$1,383	-$57
90	46,554	602	$3,329	$2,554	-$775	-$10
121	163,867	8,699	$7,926	$6,336	-$1,590	-$84
122	80,651	482	$5,502	$4,628	-$874	-$5
130	87,629	4,630	$4,752	$3,487	-$1,265	-$67
131	27,537	863	$2,996	$2,113	-$883	-$28
239	47,844	5,523	$4,690	$3,551	-$1,140	-$132
243 *	93,282	2,808	$3,520	$2,577	-$943	-$28
277	92,989	5,914	$4,227	$3,266	-$961	-$61
278	31,594	610	$2,936	$2,232	-$704	-$14
296	247,852	7,814	$4,275	$2,884	-$1,391	-$44
297	47,398	571	$2,678	$1,913	-$765	-$9
320	190,776	15,023	$4,290	$3,604	-$686	-$54
321	30,632	794	$2,869	$2,455	-$414	-$11
462 *	7,774	854	$6,050	$4,284	-$1,766	-$194
468	61,381	6,171	$17,980	$13,193	-$4,786	-$481
ALL 19 EXPANSION DRGs	**1,884,620**	**89,803**	**$5,804**	**$4,404**	**-$1,399**	**-$67**
ALL DRGS	**11,280,161**	**552,323**	**$9,266**	**$7,375**	**-$1,890**	**-$93**

Medicare revenue includes any payments made by beneficiaries (copayments, deductibles) or made on their behalf by other payers. It excludes any outlier payments made by Medicare for the case, and any pass through amounts.

* The final rule for FY2004, published in August 2003, excluded these DRGs from the transfer policy, and added 4 DRGs not considered in this analysis (DRGs 88, 127, 294, and 395).

Medicare revenue to fall by $67 per discharge. We estimate larger reductions per case from an expansion of the policy to all DRGs. In that case, the average transfer case would receive nearly $1,900 less from Medicare than if the full DRG payment were made, and the mean revenue per discharge would decline by $93. In percentage terms (not shown), the revenue reductions under these two expansion options are equivalent to 20 to 25 percent of the full DRG amount for transfer cases, and about a 1 percent decline for each discharge.

Table 20 explores variation by type of hospital in the financial impact of expanding the transfer policy to 19 additional DRGs, and Table 21 presents comparable information relative to an expansion to all DRGs. In absolute terms, we see that an expansion to the 19 additional DRGs would reduce the mean Medicare revenue by anywhere from $986 to $1,774 per transfer case. Urban hospitals, facilities with more beds, and teaching and disproportionate share hospitals would expect the largest absolute declines. Similar patterns are found in Table 21 for the possible expansion to all DRGs, with even larger absolute declines occurring due to the higher mean revenue amounts initially. When taking this variation in initial revenue levels into account, we find that the revenue reductions did not vary appreciably in relative terms by type of hospital, except for hospitals located in New England (not shown). These facilities could expect larger-than-average reductions in Medicare revenue per discharge under either expansion option, due to their relatively high rate of PAC transfers (see Tables 17 and 18).

Figures 8 and 9 highlight these findings for rural vs. urban hospitals. Under either expansion option, we see large absolute reductions in revenue per transfer for both types of hospitals, with reductions for urban hospitals that are approximately 30 to 50 percent higher than for rural hospitals. On a per-discharge basis, however, the absolute revenue reductions are much smaller, and amount to about a 1 percent decline in Medicare revenue for both urban and rural facilities.

Figure 8. Simulated Changes in Revenue from Expansion of Transfer Policy to 19 Additional DRGs, Rural vs. Urban Hospitals

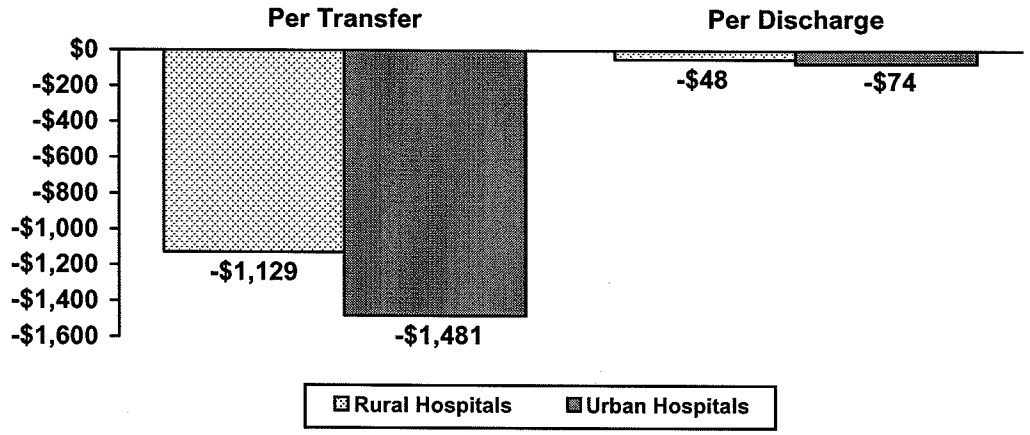


Table 20. Simulated Change in Medicare Revenue for 19 Possible Expansion DRGs, by Type of Hospital, Assuming No Changes in Hospital Behavior (FY2001 Data, Full Year)

Type of Hospital	Total Discharges	Total Paid as Transfers	Average Revenue for Transfer Cases Before Policy	Average Revenue for Transfer Cases After Policy	Average Change in Revenue Per Transfer Case	Average Change in Revenue Per Discharge
ALL 19 EXPANSION DRGs	**1,884,620**	**89,803**	**$5,804**	**$4,404**	**-$1,399**	**-$67**
Rural Location	453,716	19,430	$4,773	$3,645	-$1,129	-$48
Urban Location	1,235,729	61,840	$6,111	$4,631	-$1,481	-$74
New England	93,939	9,490	$6,286	$4,704	-$1,582	-$160
Middle Atlantic	280,471	11,914	$6,464	$4,906	-$1,558	-$66
South Atlantic	344,430	14,047	$5,609	$4,275	-$1,334	-$54
East South Central	173,042	6,998	$4,831	$3,657	-$1,174	-$47
West South Central	221,555	7,305	$5,277	$3,985	-$1,292	-$43
East North Central	337,701	17,635	$5,684	$4,342	-$1,343	-$70
West North Central	151,928	7,820	$5,363	$4,076	-$1,287	-$66
Mountain	75,162	4,263	$5,464	$4,171	-$1,293	-$73
Pacific	159,973	9,487	$6,636	$5,029	-$1,607	-$95
1-25 beds	14,969	710	$4,499	$3,477	-$1,022	-$48
26-50 beds	102,087	4,693	$4,434	$3,415	-$1,019	-$47
51-100 beds	198,020	9,257	$4,834	$3,692	-$1,141	-$53
101-200 beds	454,236	22,194	$5,503	$4,203	-$1,300	-$64
201-500 beds	723,422	35,766	$6,081	$4,606	-$1,475	-$73
500+ beds	240,450	10,991	$7,028	$5,254	-$1,774	-$81
Sole Community Hospitals	152,437	6,526	$5,107	$3,892	-$1,214	-$52
Medicare Dependent Hosps.	26,665	1,253	$4,484	$3,498	-$986	-$46
Disproportionate Share Hosps.	950,195	42,979	$6,303	$4,756	-$1,548	-$70
Teaching Hospitals	764,098	39,648	$6,484	$4,876	-$1,609	-$83
Financial Vulnerability						
RISK=1 (Lowest Risk)	434,092	20,178	$5,543	$4,239	-$1,304	-$61
RISK=2	606,494	29,446	$5,904	$4,465	-$1,439	-$70
RISK=3	276,053	13,698	$5,822	$4,409	-$1,414	-$70
RISK=4 (Highest Risk)	191,338	9,106	$5,798	$4,400	-$1,398	-$67

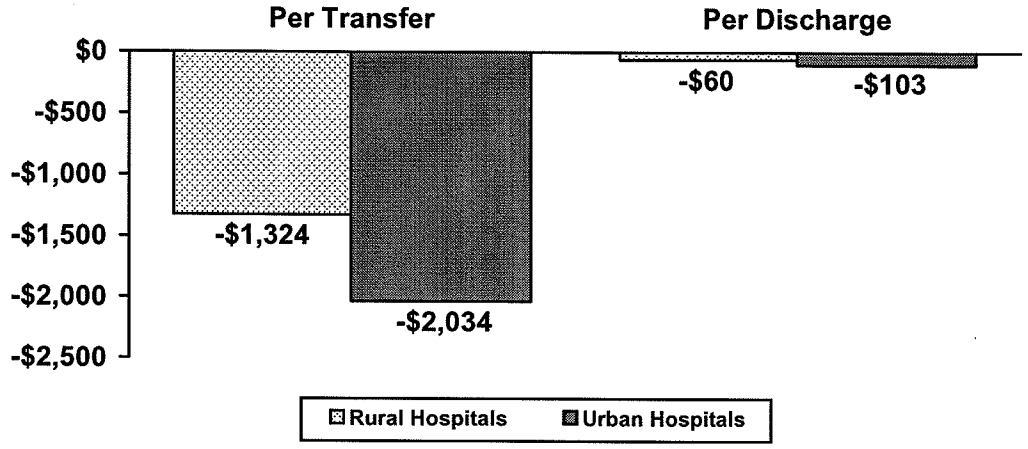
Medicare revenue includes any payments made by beneficiaries (copayments, deductibles) or made on their behalf by other payers. It excludes any outlier payments made by Medicare for the case, and any pass through amounts.

Table 21. Simulated Change in Medicare Revenue for Possible Expansion to All DRGs, by Type of Hospital, Assuming No Changes in Hospital Behavior (FY2001 Data, Full Year)

Type of Hospital	Total Discharges	Total Paid as Transfers	Average Revenue for Transfer Cases Before Policy	Average Revenue for Transfer Cases After Policy	Average Change in Revenue Per Transfer Case	Average Change in Revenue Per Discharge
ALL DRGs	**11,280,161**	**552,323**	**$9,266**	**$7,375**	**-$1,890**	**-$93**
Rural Location	2,241,861	101,548	$6,596	$5,272	-$1,324	-$60
Urban Location	7,826,855	396,722	$9,936	$7,903	-$2,034	-$103
New England	533,012	49,707	$9,620	$7,539	-$2,081	-$194
Middle Atlantic	1,642,773	78,075	$10,529	$8,411	-$2,118	-$101
South Atlantic	2,188,989	95,924	$8,801	$7,052	-$1,750	-$77
East South Central	997,733	38,715	$7,580	$5,982	-$1,598	-$62
West South Central	1,267,721	48,398	$8,588	$6,799	-$1,789	-$68
East North Central	1,987,722	108,279	$9,389	$7,500	-$1,889	-$103
West North Central	910,703	46,188	$8,598	$6,860	-$1,739	-$88
Mountain	471,040	27,355	$8,498	$6,831	-$1,667	-$97
Pacific	985,320	53,764	$10,458	$8,276	-$2,182	-$119
1-25 beds	57,646	2,647	$5,342	$4,206	-$1,135	-$52
26-50 beds	410,294	18,547	$5,428	$4,284	-$1,144	-$52
51-100 beds	916,174	45,196	$6,329	$5,054	-$1,274	-$63
101-200 beds	2,466,140	128,234	$7,857	$6,283	-$1,574	-$82
201-500 beds	4,667,420	236,994	$9,904	$7,897	-$2,007	-$102
500+ beds	1,816,521	81,653	$12,345	$9,737	-$2,608	-$117
Sole Community Hospitals	768,847	34,668	$7,045	$5,662	-$1,382	-$62
Medicare Dependent Hosps.	109,847	5,026	$5,620	$4,483	-$1,138	-$52
Disproportionate Share Hosps.	5,974,641	276,446	$10,357	$8,185	-$2,172	-$101
Teaching Hospitals	5,108,752	260,859	$10,837	$8,578	-$2,259	-$115
Financial Vulnerability						
RISK=1 (Lowest Risk)	2,637,225	127,220	$8,573	$6,900	-$1,674	-$81
RISK=2	3,722,399	185,765	$9,674	$7,687	-$1,987	-$99
RISK=3	1,620,044	82,616	$9,233	$7,319	-$1,914	-$98
RISK=4 (Highest Risk)	1,008,231	50,121	$9,200	$7,267	-$1,933	-$96

Medicare revenue includes any payments made by beneficiaries (copayments, deductibles) or made on their behalf by other payers. It excludes any outlier payments made by Medicare for the case, and any pass through amounts.

Figure 9. Simulated Changes in Revenue from Expansion of Transfer Policy to All DRGs, Rural vs. Urban Hospitals



5.4 Impact of Expanding the Policy to Cover Discharges to Swing Beds

Prevalence of Swing Bed Transfers. Table 22 examines the prevalence of swing bed discharges overall, and of short-stay discharges to swing beds (i.e., transfers), for the 10 DRGs originally targeted by the transfer policy, the 19 proposed expansion DRGs, and all DRGs. As expected, discharges to swing beds account for a very small portion of all discharges. Across all DRGs, there were approximately 88,700 discharges to swing beds in FY2001 (0.8 percent of all discharges), and only about 19,000 of these cases (21.6 percent) were discharged after a short stay in the acute care setting. This means that only 0.2 percent of all discharges would be paid as swing bed transfers if the payment policy were expanded to cover swing bed discharges from all DRGs. Very similar figures would apply for the group of 19 possible expansion DRGs, and would be only slightly higher if discharges to swing beds were targeted to only the 10 DRGs originally affected by the transfer policy. Even for those 10 DRGs, which are known to have relatively high rates of PAC use, less than 1 percent of all discharges would be affected if swing beds were included as a PAC setting.

Tables 23 through 25 present data on swing bed transfer rates by type of hospital for each of the three sets of DRGs under consideration. Not surprisingly, rural hospitals have much higher rates of swing bed use, as do hospitals with under 50 beds. Other types of hospitals, including urban facilities and those with more than 50 beds, also make use of swing beds on occasion by discharging patients to the swing bed unit of a different facility. However, not only do these facilities discharge to swing beds less frequently, they are also less likely to make the discharge after a short stay, so very few of their discharges would be paid as swing bed transfers. Medicare dependent hospitals and those located in the West North Central region also have consistently higher rates of swing bed use, regardless of the group of DRGs being considered. Even for these high-use types of hospitals, however, the number and proportion of cases that would be paid as swing bed transfers is relatively small.

Table 22. Swing Bed Discharge Patterns for Targeted DRGs (FY2001 Data, Full Year)

DRG	Total Discharges	Total Discharges to Swing Beds	Total Discharges to Swing Beds After a Short Stay	Swing-Bed Discharges as Percent of Total Discharges	Short-Stay Swing-Bed Discharges as Percent of Total Swing-Bed Discharges	Short-Stay Swing-Bed Discharges as Percent of Total Discharges
Original Target DRGs						
14	315,880	5,202	1,324	1.6	25.5	0.4
113	40,913	492	265	1.2	53.9	0.6
209	366,651	9,437	2,452	2.6	26.0	0.7
210	120,282	3,523	1,108	2.9	31.5	0.9
211	32,372	956	191	3.0	20.0	0.6
236	39,501	1,172	9	3.0	0.8	0.0
263 *	24,203	437	257	1.8	58.8	1.1
264 *	3,938	45	22	1.1	48.9	0.6
429	26,561	249	76	0.9	30.5	0.3
483	42,772	123	46	0.3	37.4	0.1
ALL 10 ORIGINAL DRGs	**1,013,073**	**21,636**	**5,750**	**2.1**	**26.6**	**0.6**
Target Expansion DRGs						
12	48,792	409	141	0.8	34.5	0.3
24	54,637	267	5	0.5	1.9	0.0
25	27,094	49	0	0.2	0.0	0.0
89	496,337	7,503	1,752	1.5	23.4	0.4
90	46,554	455	2	1.0	0.4	0.0
121	163,867	1,552	440	0.9	28.4	0.3
122	80,651	289	2	0.4	0.7	0.0
130	87,629	846	214	1.0	25.3	0.2
131	27,537	165	1	0.6	0.6	0.0
239	47,844	1,045	315	2.2	30.1	0.7
243 *	93,282	1,761	17	1.9	1.0	0.0
277	92,989	1,163	318	1.3	27.3	0.3
278	31,594	308	2	1.0	0.6	0.0
296	247,852	2,493	36	1.0	1.4	0.0
297	47,398	372	2	0.8	0.5	0.0
320	190,776	1,948	533	1.0	27.4	0.3
321	30,632	240	5	0.8	2.1	0.0
462 *	7,774	31	22	0.4	71.0	0.3
468	61,381	377	147	0.6	39.0	0.2
ALL 19 EXPANSION DRGs	**1,884,620**	**21,273**	**3,954**	**1.1**	**18.6**	**0.2**
ALL DRGS	**11,280,161**	**88,695**	**19,116**	**0.8**	**21.6**	**0.2**

* The final rule for FY2004, published in August 2003, excluded these DRGs from the transfer policy, and added 4 DRGs not considered in this analysis (DRGs 88, 127, 294, and 395).

Table 23. Swing Bed Discharge Patterns for 10 DRGs Originally Targeted, by Type of Hospital (FY2001 Data, Full Year)

Type of Hospital	Total Discharges	Total Discharges to Swing Beds	Total Discharges to Swing Beds After a Short Stay	Swing-Bed Discharges as Percent of Total Discharges	Short-Stay Swing-Bed Discharges	
					as Percent of Total Swing-Bed Discharges	as Percent of Total Discharges
ALL 10 ORIGINAL DRGs	**1,013,073**	**21,636**	**5,750**	**2.1**	**26.6**	**0.6**
Rural Location	192,373	15,417	4,165	8.0	27.0	2.2
Urban Location	712,501	4,941	1,241	0.7	25.1	0.2
New England	47,644	997	280	2.1	28.1	0.6
Middle Atlantic	137,652	802	210	0.6	26.2	0.2
South Atlantic	193,807	2,225	666	1.1	29.9	0.3
East South Central	79,352	1,479	235	1.9	15.9	0.3
West South Central	109,492	2,717	649	2.5	23.9	0.6
East North Central	184,916	3,179	972	1.7	30.6	0.5
West North Central	91,176	8,073	2,062	8.9	25.5	2.3
Mountain	49,458	986	245	2.0	24.8	0.5
Pacific	94,201	1,015	388	1.1	38.2	0.4
1-25 beds	3,654	556	189	15.2	34.0	5.2
26-50 beds	27,893	5,337	1,707	19.1	32.0	6.1
51-100 beds	80,907	7,719	2,199	9.5	28.5	2.7
101-200 beds	232,423	3,483	694	1.5	19.9	0.3
201-500 beds	427,330	2,927	575	0.7	19.6	0.1
500+ beds	156,168	551	103	0.4	18.7	0.1
Sole Community Hospitals	68,669	5,249	1,192	7.6	22.7	1.7
Medicare Dependent Hosps.	8,080	1,586	430	19.6	27.1	5.3
Disproportionate Share Hosps.	518,756	3,814	786	0.7	20.6	0.2
Teaching Hospitals	459,611	3,986	771	0.9	19.3	0.2
Financial Vulnerability						
RISK=1 (Lowest Risk)	249,952	5,635	1,389	2.3	24.6	0.6
RISK=2	336,007	8,259	2,366	2.5	28.6	0.7
RISK=3	141,678	3,024	746	2.1	24.7	0.5
RISK=4 (Highest Risk)	82,081	1,980	522	2.4	26.4	0.6

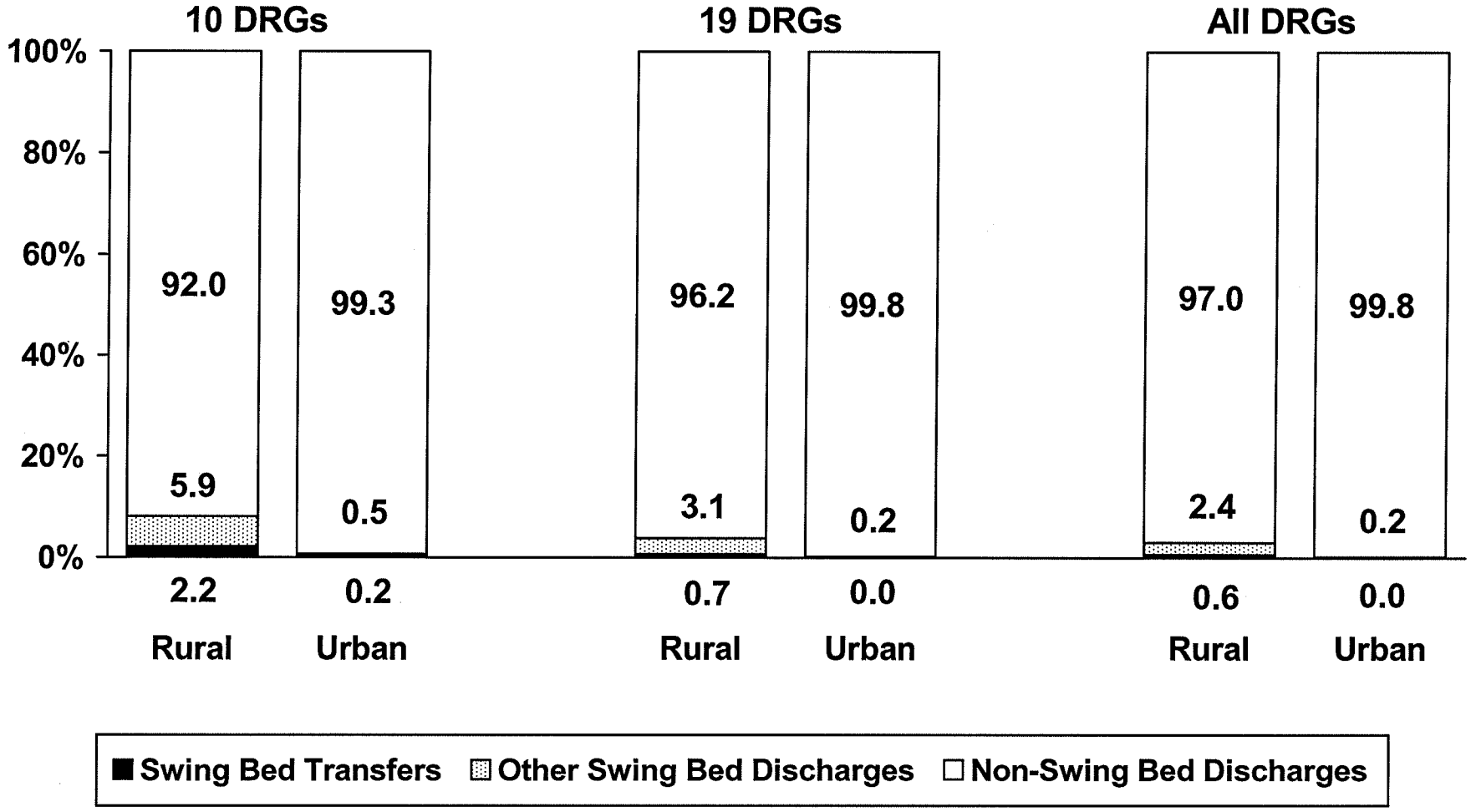
Table 24. Swing Bed Discharge Patterns for 19 Expansion DRGs, by Type of Hospital (FY2001 Data, Full Year)

Type of Hospital	Total Discharges	Total Discharges to Swing Beds	Total Discharges to Swing Beds After a Short Stay	Swing-Bed Discharges as Percent of Total Discharges	Short-Stay Swing-Bed Discharges	
					as Percent of Total Swing-Bed Discharges	as Percent of Total Discharges
ALL 19 EXPANSION DRGs	**1,884,620**	**21,273**	**3,954**	**1.1**	**18.6**	**0.2**
Rural Location	453,716	17,172	3,077	3.8	17.9	0.7
Urban Location	1,235,729	2,529	433	0.2	17.1	0.0
New England	93,939	873	170	0.9	19.5	0.2
Middle Atlantic	280,471	867	118	0.3	13.6	0.0
South Atlantic	344,430	1,602	242	0.5	15.1	0.1
East South Central	173,042	1,804	201	1.0	11.1	0.1
West South Central	221,555	4,217	743	1.9	17.6	0.3
East North Central	337,701	2,288	372	0.7	16.3	0.1
West North Central	151,928	7,825	1,703	5.2	21.8	1.1
Mountain	75,162	933	199	1.2	21.3	0.3
Pacific	159,973	661	144	0.4	21.8	0.1
1-25 beds	14,969	1,236	253	8.3	20.5	1.7
26-50 beds	102,087	8,732	1,752	8.6	20.1	1.7
51-100 beds	198,020	7,424	1,203	3.7	16.2	0.6
101-200 beds	454,236	1,815	277	0.4	15.3	0.1
201-500 beds	723,422	596	82	0.1	13.8	0.0
500+ beds	240,450	133	16	0.1	12.0	0.0
Sole Community Hospitals	152,437	5,832	1,085	3.8	18.6	0.7
Medicare Dependent Hosps.	26,665	2,967	522	11.1	17.6	2.0
Disproportionate Share Hosps.	950,195	2,229	388	0.2	17.4	0.0
Teaching Hospitals	764,098	1,088	138	0.1	12.7	0.0
Financial Vulnerability						
RISK=1 (Lowest Risk)	434,092	2,950	446	0.7	15.1	0.1
RISK=2	606,494	7,238	1,334	1.2	18.4	0.2
RISK=3	276,053	4,573	737	1.7	16.1	0.3
RISK=4 (Highest Risk)	191,338	3,355	588	1.8	17.5	0.3

Table 25. Swing Bed Discharge Patterns for All DRGs, by Type of Hospital (FY2001 Data, Full Year)

Type of Hospital	Total Discharges	Total Discharges to Swing Beds	Total Discharges to Swing Beds After a Short Stay	Swing-Bed Discharges as Percent of Total Discharges	Short-Stay Swing-Bed Discharges	
					as Percent of Total Swing-Bed Discharges	as Percent of Total Discharges
ALL DRGs	**11,280,161**	**88,695**	**19,116**	**0.8**	**21.6**	**0.2**
Rural Location	2,241,861	67,273	14,369	3.0	21.4	0.6
Urban Location	7,826,855	14,929	2,908	0.2	19.5	0.0
New England	533,012	3,908	833	0.7	21.3	0.2
Middle Atlantic	1,642,773	3,548	618	0.2	17.4	0.0
South Atlantic	2,188,989	7,730	1,519	0.4	19.7	0.1
East South Central	997,733	7,054	982	0.7	13.9	0.1
West South Central	1,267,721	15,516	3,333	1.2	21.5	0.3
East North Central	1,987,722	10,844	2,460	0.5	22.7	0.1
West North Central	910,703	31,732	7,247	3.5	22.8	0.8
Mountain	471,040	4,121	899	0.9	21.8	0.2
Pacific	985,320	3,404	956	0.3	28.1	0.1
1-25 beds	57,646	4,106	1,016	7.1	24.7	1.8
26-50 beds	410,294	29,389	6,929	7.2	23.6	1.7
51-100 beds	916,174	30,314	6,451	3.3	21.3	0.7
101-200 beds	2,466,140	10,743	1,899	0.4	17.7	0.1
201-500 beds	4,667,420	7,221	1,132	0.2	15.7	0.0
500+ beds	1,816,521	1,567	201	0.1	12.8	0.0
Sole Community Hospitals	768,847	22,763	4,651	3.0	20.4	0.6
Medicare Dependent Hosps.	109,847	9,762	2,004	8.9	20.5	1.8
Disproportionate Share Hosps.	5,974,641	13,002	2,429	0.2	18.7	0.0
Teaching Hospitals	5,108,752	10,423	1,651	0.2	15.8	0.0
Financial Vulnerability						
RISK=1 (Lowest Risk)	2,637,225	16,051	3,009	0.6	18.7	0.1
RISK=2	3,722,399	31,455	6,828	0.8	21.7	0.2
RISK=3	1,620,044	15,969	3,106	1.0	19.5	0.2
RISK=4 (Highest Risk)	1,008,231	11,749	2,521	1.2	21.5	0.3

Figure 10. Prevalence of Swing Bed Transfers, Rural vs. Urban Hospitals



The relative importance of swing bed transfers is illustrated in Figure 10, which apportions total discharges into swing bed transfers, other discharges to swing beds, and discharges to settings other than swing beds. Regardless of the DRG group being considered, swing bed transfers account for only a tiny portion of the total discharges, and this is true for rural hospitals as well as urban facilities.

Financial Impact. The financial impact of extending the transfer policy to include swing beds as a PAC setting is examined in Tables 26 through 29. Table 26 shows the impact by DRG for the 10 DRGs originally covered by the transfer payment policy, the 19 possible expansion DRGs, and all DRGs. Tables 27 through 29 examine differences in the financial impact by type of hospital for each of these groups of DRGs.

Our simulation analysis shows that, absent a change in discharge behavior, expansion of the transfer policy to cover swing bed discharges from the 10 original DRGs would result in a decline in Medicare payments of approximately $1,000 for each swing bed transfer. The mean payment reductions range from a low of $314 for DRG 211 to a high of $24,183 for the very small number of swing bed transfers made from DRG 483. These reductions are much smaller, however, when considered on a per-discharge basis, which includes cases that are not transfers to swing beds as well as those that are. Similar impacts would be expected if swing bed discharges from additional DRGs were targeted. Revenue reductions would range from several hundred dollars to several thousand dollars for each transfer case, but the reductions expected for the average discharge would be extremely small due to the low prevalence of swing bed transfers.

The anticipated financial impacts differ by type of hospital. While not uniformly true, smaller hospitals would expect to see smaller absolute revenue reductions for their swing bed transfer cases because their initial revenue levels are below those of larger hospitals. However, because swing bed transfers are more prevalent in smaller hospitals, the expected revenue reduction per discharge would be somewhat higher for the smaller hospitals, particularly for those with fewer than 50 beds. Likewise, hospitals in the West North Central region and those that are Medicare dependent would tend to have larger absolute revenue reductions per discharge due to their higher rates of swing bed transfers. The revenue reductions also are higher in relative terms for these types of hospitals (not shown), but in no case would revenue fall by more than one percent relative to the amount that would have been earned in the absence of a swing-bed transfer policy. In fact, for most types of hospitals, an expansion to swing bed discharges would reduce the average Medicare revenue per case by less than one-tenth of one percent.

The size of these revenue reductions for rural vs. urban hospitals is depicted in Figures 11 and 12. Depending on which group of DRGs is targeted, inclusion of swing beds as a PAC setting would be expected to reduce Medicare revenue by anywhere from $837 to $1,354 per transfer (Figure 11). These impacts are similar for rural and urban hospitals if only the 10 original DRGs are targeted, while the absolute reductions would be somewhat greater for urban hospitals for either of the other two target groups of DRGs. Rural hospitals would always expect larger declines in revenue per discharge (Figure 12) due to their higher rate of transfers to swing beds. However, the absolute reductions in revenue

Table 26. Simulated Change in Medicare Revenue if Swing Beds are Targeted, Assuming No Changes in Hospital Behavior (FY2001 Data, Full Year)

DRG	Total Discharges	Total Paid as Transfers	Average Revenue for Transfer Cases Before Policy	Average Revenue for Transfer Cases After Policy	Average Change in Revenue Per Transfer Case	Average Change in Revenue Per Discharge
Original Target DRGs						
14	315,880	1,324	$4,604	$3,899	-$705	-$3
113	40,913	265	$10,144	$6,845	-$3,299	-$21
209	366,651	2,452	$8,689	$8,121	-$568	-$4
210	120,282	1,108	$7,308	$6,487	-$821	-$8
211	32,372	191	$5,279	$4,965	-$314	-$2
236	39,501	9	$3,020	$2,115	-$905	$0
263 *	24,203	257	$7,515	$5,019	-$2,496	-$27
264 *	3,938	22	$4,280	$3,479	-$801	-$4
429	26,561	76	$3,360	$2,702	-$658	-$2
483	42,772	46	$60,712	$36,529	-$24,183	-$26
ALL 10 ORIGINAL DRGs	**1,013,073**	**5,750**	**$7,703**	**$6,660**	**-$1,043**	**-$6**
Target Expansion DRGs						
12	48,792	141	$3,687	$3,214	-$473	-$1
24	54,637	5	$4,033	$3,060	-$973	$0
25	27,094	0	----	----	----	----
89	496,337	1,752	$4,231	$3,359	-$871	-$3
90	46,554	2	$2,882	$2,011	-$871	$0
121	163,867	440	$6,540	$5,387	-$1,153	-$3
122	80,651	2	$4,110	$3,736	-$374	$0
130	87,629	214	$3,811	$3,189	-$622	-$2
131	27,537	1	$2,301	$1,918	-$384	$0
239	47,844	315	$3,918	$3,166	-$752	-$5
243 *	93,282	17	$2,849	$2,164	-$686	$0
277	92,989	318	$3,429	$2,904	-$524	-$2
278	31,594	2	$2,214	$1,845	-$369	$0
296	247,852	36	$3,570	$2,519	-$1,051	$0
297	47,398	2	$2,059	$1,471	-$588	$0
320	190,776	533	$3,488	$3,212	-$276	-$1
321	30,632	5	$2,335	$2,051	-$284	$0
462 *	7,774	22	$4,764	$2,519	-$2,246	-$6
468	61,381	147	$15,078	$11,542	-$3,536	-$8
ALL 19 EXPANSION DRGs	**1,884,620**	**3,954**	**$4,644**	**$3,781**	**-$864**	**-$2**
ALL DRGS	**11,280,161**	**19,116**	**$6,877**	**$5,670**	**-$1,207**	**-$2**

* The final rule for FY2004, published in August 2003, excluded these DRGs from the transfer policy, and added 4 DRGs not considered in this analysis (DRGs 88, 127, 294, and 395).

Table 27. Simulated Change in Medicare Revenue if Swing Beds are Targeted Under Initial Policy, by Type of Hospital (FY2001 Data, Full Year)

Type of Hospital	Total Discharges	Total Paid as Transfers	Average Revenue for Transfer Cases Before Policy	Average Revenue for Transfer Cases After Policy	Average Change in Revenue Per Transfer Case	Average Change in Revenue Per Discharge
ALL 10 ORIGINAL DRGs	**1,013,073**	**5,750**	**$7,703**	**$6,660**	**-$1,043**	**-$6**
Rural Location	192,373	4,165	$7,446	$6,398	-$1,048	-$23
Urban Location	712,501	1,241	$8,554	$7,567	-$987	-$2
New England	47,644	280	$8,319	$7,346	-$973	-$6
Middle Atlantic	137,652	210	$7,859	$6,913	-$946	-$1
South Atlantic	193,807	666	$7,775	$6,867	-$908	-$3
East South Central	79,352	235	$7,897	$6,533	-$1,364	-$4
West South Central	109,492	649	$8,072	$6,226	-$1,846	-$11
East North Central	184,916	972	$7,842	$6,872	-$970	-$5
West North Central	91,176	2,062	$7,148	$6,283	-$865	-$20
Mountain	49,458	245	$7,386	$6,462	-$924	-$5
Pacific	94,201	388	$9,366	$8,292	-$1,074	-$4
1-25 beds	3,654	189	$6,332	$5,503	-$829	-$43
26-50 beds	27,893	1,707	$7,312	$6,246	-$1,066	-$65
51-100 beds	80,907	2,199	$7,390	$6,441	-$949	-$26
101-200 beds	232,423	694	$8,317	$7,161	-$1,156	-$3
201-500 beds	427,330	575	$9,534	$8,283	-$1,251	-$2
500+ beds	156,168	103	$9,084	$8,038	-$1,046	-$1
Sole Community Hospitals	68,669	1,192	$7,599	$6,528	-$1,071	-$19
Medicare Dependent Hosps.	8,080	430	$6,854	$5,607	-$1,247	-$66
Disproportionate Share Hosps.	518,756	786	$8,674	$7,420	-$1,254	-$2
Teaching Hospitals	459,611	771	$8,911	$7,815	-$1,096	-$2
Financial Vulnerability						
RISK=1 (Lowest Risk)	249,952	1,389	$7,959	$7,086	-$873	-$5
RISK=2	336,007	2,366	$7,701	$6,656	-$1,045	-$7
RISK=3	141,678	746	$7,686	$6,559	-$1,128	-$6
RISK=4 (Highest Risk)	82,081	522	$7,386	$6,156	-$1,230	-$8

Table 28. Simulated Change in Medicare Revenue if Swing Beds are Targeted Under Expansion to 19 Additional DRGs, by Type of Hospital (FY2001 Data, Full Year)

Type of Hospital	Total Discharges	Total Paid as Transfers	Average Revenue for Transfer Cases Before Policy	Average Revenue for Transfer Cases After Policy	Average Change in Revenue Per Transfer Case	Average Change in Revenue Per Discharge
ALL 19 EXPANSION DRGs	**1,884,620**	**3,954**	**$4,644**	**$3,781**	**-$864**	**-$2**
Rural Location	453,716	3,077	$4,528	$3,691	-$837	-$6
Urban Location	1,235,729	433	$5,615	$4,533	-$1,082	$0
New England	93,939	170	$5,563	$4,458	-$1,105	-$2
Middle Atlantic	280,471	118	$4,617	$3,828	-$789	$0
South Atlantic	344,430	242	$4,981	$4,102	-$879	-$1
East South Central	173,042	201	$4,671	$3,835	-$836	-$1
West South Central	221,555	743	$4,570	$3,725	-$845	-$3
East North Central	337,701	372	$5,014	$4,042	-$972	-$1
West North Central	151,928	1,703	$4,343	$3,540	-$803	-$9
Mountain	75,162	199	$5,001	$4,077	-$924	-$2
Pacific	159,973	144	$5,750	$4,613	-$1,137	-$1
1-25 beds	14,969	253	$4,663	$3,796	-$867	-$15
26-50 beds	102,087	1,752	$4,394	$3,583	-$811	-$14
51-100 beds	198,020	1,203	$4,731	$3,842	-$889	-$5
101-200 beds	454,236	277	$5,058	$4,180	-$878	-$1
201-500 beds	723,422	82	$6,995	$5,522	-$1,473	$0
500+ beds	240,450	16	$7,751	$6,202	-$1,549	$0
Sole Community Hospitals	152,437	1,085	$4,717	$3,857	-$861	-$6
Medicare Dependent Hosps.	26,665	522	$4,313	$3,521	-$792	-$16
Disproportionate Share Hosps.	950,195	388	$5,189	$4,206	-$982	$0
Teaching Hospitals	764,098	138	$5,883	$4,754	-$1,129	$0
Financial Vulnerability						
RISK=1 (Lowest Risk)	434,092	446	$5,082	$4,129	-$953	-$1
RISK=2	606,494	1,334	$4,686	$3,791	-$895	-$2
RISK=3	276,053	737	$4,529	$3,680	-$849	-$2
RISK=4 (Highest Risk)	191,338	588	$4,485	$3,704	-$781	-$2

Table 29. Simulated Change in Medicare Revenue if Swing Beds are Targeted Under Expansion to All DRGs, by Type of Hospital (FY2001 Data, Full Year)

Type of Hospital	Total Discharges	Total Paid as Transfers	Average Revenue for Transfer Cases Before Policy	Average Revenue for Transfer Cases After Policy	Average Change in Revenue Per Transfer Case	Average Change in Revenue Per Discharge
ALL DRGs	**11,280,161**	**19,116**	**$6,877**	**$5,670**	**-$1,207**	**-$2**
Rural Location	2,241,861	14,369	$6,586	$5,416	-$1,171	-$8
Urban Location	7,826,855	2,908	$8,552	$7,198	-$1,354	-$1
New England	533,012	833	$7,619	$6,331	-$1,288	-$2
Middle Atlantic	1,642,773	618	$7,024	$5,943	-$1,081	$0
South Atlantic	2,188,989	1,519	$7,150	$6,052	-$1,099	-$1
East South Central	997,733	982	$6,791	$5,541	-$1,250	-$1
West South Central	1,267,721	3,333	$6,608	$5,249	-$1,359	-$4
East North Central	1,987,722	2,460	$7,423	$6,170	-$1,253	-$2
West North Central	910,703	7,247	$6,478	$5,373	-$1,105	-$9
Mountain	471,040	899	$6,955	$5,729	-$1,227	-$2
Pacific	985,320	956	$8,661	$7,201	-$1,460	-$1
1-25 beds	57,646	1,016	$5,744	$4,712	-$1,032	-$18
26-50 beds	410,294	6,929	$6,177	$5,069	-$1,108	-$19
51-100 beds	916,174	6,451	$6,821	$5,637	-$1,184	-$8
101-200 beds	2,466,140	1,899	$7,775	$6,440	-$1,335	-$1
201-500 beds	4,667,420	1,132	$10,834	$9,062	-$1,772	$0
500+ beds	1,816,521	201	$11,392	$9,620	-$1,772	$0
Sole Community Hospitals	768,847	4,651	$6,686	$5,502	-$1,184	-$7
Medicare Dependent Hosps.	109,847	2,004	$5,916	$4,816	-$1,100	-$20
Disproportionate Share Hosps.	5,974,641	2,429	$8,127	$6,686	-$1,441	-$1
Teaching Hospitals	5,108,752	1,651	$10,078	$8,421	-$1,657	-$1
Financial Vulnerability						
RISK=1 (Lowest Risk)	2,637,225	3,009	$7,801	$6,605	-$1,197	-$1
RISK=2	3,722,399	6,828	$7,073	$5,830	-$1,243	-$2
RISK=3	1,620,044	3,106	$6,569	$5,385	-$1,185	-$2
RISK=4 (Highest Risk)	1,008,231	2,521	$6,149	$5,035	-$1,114	-$3

Figure 11. Reductions in Medicare Revenue per Transfer under an Expansion to Swing Bed Discharges, Rural vs. Urban Hospitals

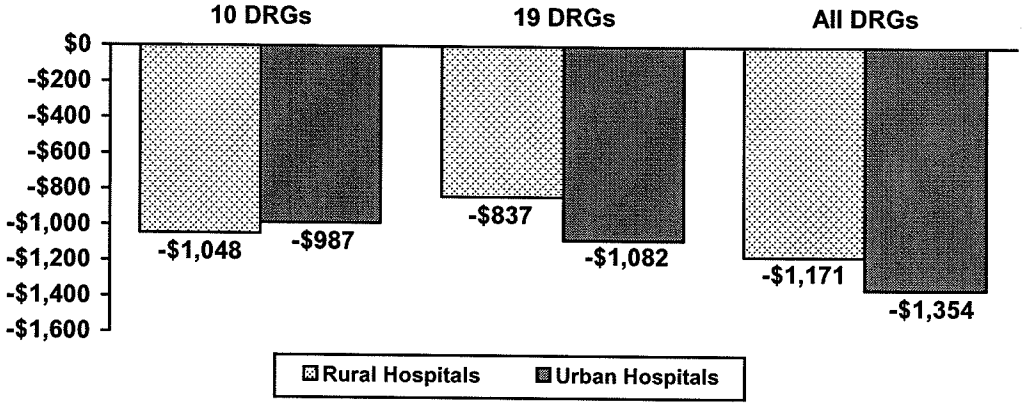
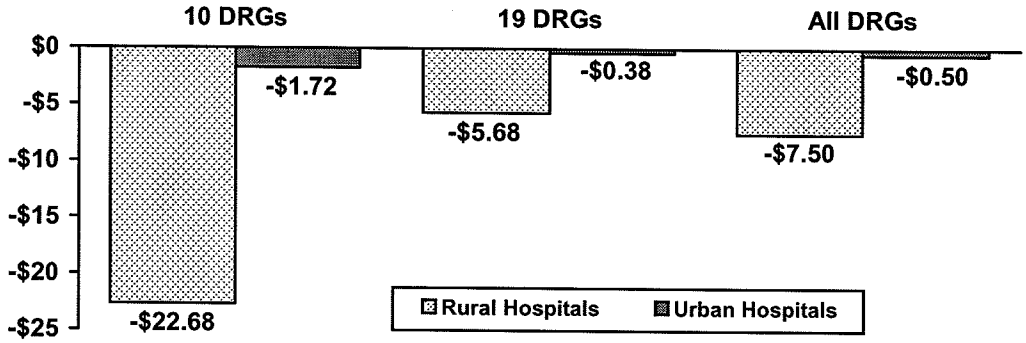


Figure 12. Reductions in Medicare Revenue per Discharge under an Expansion to Swing Bed Discharges, Rural vs. Urban Hospitals



per case are quite small. For example, the $23 decline projected for rural hospitals under an expansion covering swing bed discharges from the 10 original DRGs represents a decline of only three-tenths of one percent in their Medicare revenue per discharge.

6.0 DISCUSSION

The majority of the analyses presented above indicate that hospitals' discharge behavior did not change significantly in response to the implementation of the PAC transfer payment policy for the 10 original DRGs. With the possible exception of discharges to SNFs (which showed a slight decline throughout the study period), the overall rate of discharge to PAC providers from these DRGs was more likely to increase than to decrease after the payment policy went into effect. Furthermore, while the proportion of

PAC discharges made after a short inpatient stay initially declined in the period immediately following the payment change, this decline was very small (especially relative to a similar decline for control DRGs) and reversed direction in subsequent years (in contrast to continued declines for the control DRGs). Thus, hospitals do not appear to have reduced either their overall or their short-stay discharges to PAC settings in an attempt to avoid payment reductions under the new policy. Nor is there evidence that hospitals sought to keep their transfer cases in the acute-care setting longer in an effort to garner additional per diem payments, or that they delayed admission to a PAC provider beyond the legal timeframe causing the discharge to be considered a transfer. The finding that hospitals did not modify their discharge behavior strategically in reaction to the PAC transfer policy is consistent with other research on this topic (e.g., DHHS, 2003b; Gilman et al., 2000).

Our simulation of the financial impact of the initial policy indicates that, absent any behavioral response, hospitals could have expected to see their Medicare revenue fall by approximately $1,900 per transfer and by almost $500 per discharge. The anticipated revenue reductions for rural hospitals were smaller than those expected for urban facilities, both in absolute and relative terms, but still large. We projected that rural hospitals' Medicare revenue would fall by more than $1,200 for each transfer case, and by nearly $300 for each discharge from the 10 original DRGs.

Analysis of actual Medicare revenue trends confirmed these large revenue declines in the period immediately following the payment change, in approximately the magnitude that was projected based on our simulations. In particular, rural hospitals received an average of $1,275 less in Medicare revenue for each PAC transfer case in 1999 than in 1998, and about $200 less for each discharge from the 10 DRGs. The comparable figures for urban hospitals were $1,600 per transfer and about $400 per case. After these initial declines, however, real Medicare revenue per transfer grew at an annual rate of 4 to 5 percent for both rural and urban hospitals.

Our simulation analysis also permits us to make an educated guess regarding the likely impact of the recent expansion of the PAC transfer policy to 21 additional DRGs. Seventeen of these DRGs were included in our set of 19 possible expansion DRGs. Based on FY 2001 patterns of care, we estimated that less than 5 percent of all cases discharged from these DRGs would be sent to a targeted PAC setting after a short inpatient stay, thereby receiving the PAC transfer payment instead of the full DRG payment. The proportion of short-stay transfer cases was slightly lower in rural hospitals than in urban hospitals (4.3 vs. 5.0 percent), reflecting the lower availability and use of PAC providers in rural areas. While we expect the Medicare revenue to fall by approximately $1,400 for each transfer case, because of the relatively small number of transfer cases, the average revenue decline per discharge (including non-transfer cases) is expected to be under $70, or less than 1 percent of the pre-expansion payment level. This relative decline in revenue was very similar for both rural and urban hospitals (1.0 vs. 1.2 percent).

We project relatively small financial impacts if the Secretary ever extends the transfer policy to cover discharges to swing beds. These small impacts arise primarily because the use of swing beds is low for most hospitals—particularly following a short inpatient stay. It is worth recalling that the Medicare swing bed program will provide reimbursement for swing bed care only if that care was preceded by an inpatient stay of at least 3 days. Thus, only DRGs with a GMLOS of more than 4 days should ever have 'short-stay' swing bed discharges that receive the transfer payment instead of the full DRG payment (i.e., inpatients who stay at least 3 days before being discharged to a swing bed, but whose LOS is still more than one day less than the GMLOS). In FY2004, only about one-third of all DRGs had a GMLOS above 4 days.

Across all hospitals and all DRGs, we found that only 0.2 percent of discharges would be paid as swing-bed transfers under an extended policy. Although swing bed use is higher among rural hospitals and hospitals with fewer than 50 beds, even these types of facilities discharge a small proportion of their total patients to swing beds after a short inpatient stay. Under a policy that extends the transfer policy to swing bed discharges from all DRGs, for example, we estimate that less than 1 percent of the cases treated in rural hospitals, and less than 2 percent of the cases in small hospitals, would be paid as swing-bed transfers.

Depending on the DRG, revenue reductions were estimated to range from several hundred to several thousand dollars for each swing-bed transfer. The reductions expected for the average discharge were projected to be extremely small, however, since so few discharges are swing-bed transfers. The relatively higher rate of swing-bed transfers for rural hospitals means that these hospitals would expect larger reductions in Medicare revenue per case than their urban counterparts. Even then, the revenue reductions for rural facilities, considered as a group, still amount to well less than 1 percent of the total revenue that would have been received in the absence of a swing-bed transfer policy (0.1 to 0.3 percent, depending on the DRG group under consideration). Of course, small rural hospitals that make heavy use of their swing-bed capacity after short acute-care stays would expect to see larger reductions in revenue per case.

With the recent decision to expand the transfer policy to an additional 21 DRGs, future debate on this topic appears more likely to center around the wisdom of covering additional DRGs for the existing PAC settings than on an expansion to swing-bed discharges. Both MedPAC and CMS were strong advocates of the recent expansion, but both organizations also stopped short of recommending an expansion to all DRGs at this time. MedPAC called for evaluating the impact of the incremental expansion before moving to additional DRGs (MedPAC, 2003), and CMS stated that further analysis was necessary to assess the appropriateness of expanding the policy to all DRGs (DHHS, 2003b).

A variety of philosophical and practical arguments may be made for and against applying the PAC transfer policy to all DRGs. Probably the most compelling argument in support of the PAC transfer policy, in general, is that it improves the equity of the Medicare inpatient payment system by recognizing legitimate differences in the way hospitals

provide care for a given type of patient, and by paying hospitals more appropriately for the care they provide. Under the PAC transfer policy, the annual recalibration of DRG weights treats transfer cases as partial cases. Since transfer cases have lower inpatient costs, on average, treating them as partial cases usually results in a higher DRG weight—and a higher DRG payment—for non-transfer cases. For example, a recent analysis by CMS showed that the DRG weights for 7 of the 10 DRGs initially targeted have increased since the implementation of the policy (DHHS, 2003b).

Hospitals that have ample access to PAC providers and that discharge patients to these providers earlier in the acute-care stay are now given only partial payment for these cases because they are not providing the full course of treatment assumed to underlie the DRG payment rate. Without the PAC transfer policy, these hospitals would have an unfair competitive advantage because they are able to shift care to other providers easily while continuing to receive the full DRG payment. But hospitals that have less access to traditional PAC providers and that use less PAC care after short stays—such as most rural hospitals—continue to be paid the full (usually enhanced) DRG rate because they are providing the full course of treatment. Thus, the policy adjusts Medicare payments to reflect the PAC circumstances faced by individual hospitals, and targets only hospitals (and DRGs) where substitution of PAC care for inpatient care is more common.

Given the ability of the transfer payment methodology to improve payment equity by targeting payments to hospitals according to their use of post-acute care, one could argue that the policy should be applied to all DRGs. To do otherwise risks perpetuating payment inequities between hospitals based on the mix of DRGs that they happen to provide. For example, a hospital that makes high use of PAC providers but whose mix of patients is heavily weighted toward DRGs not included in the policy would continue to receive full DRG payments for most patients, while a hospital that has similar PAC use but a higher proportion of patients in the targeted DRGs would be more likely to receive per diem payments. Expansion of the policy to all DRGs would eliminate the effect of different DRG mixes across hospitals.

On the other hand, CMS notes that high PAC use in some DRGs may be reflective of the way care has always been provided, rather than representing a shift in care from the acute to the post-acute setting. In these cases, the base inpatient payment rate already accounts for the patterns of PAC use, and no further payment adjustments (i.e., through per diem transfer payments) should be necessary. It was this concern that prompted CMS to revise its criteria for selecting expansion DRGs, adding a focus on DRGs whose inpatient LOS has fallen significantly in recent years (indicating a shift in site of care) rather than simply targeting DRGs with a high rate of PAC use. Under this approach, it is unlikely that the policy would be expanded to all DRGs, although periodic re-assessments and monitoring are called for to detect shifts in patterns of care and make appropriate payment adjustments on a targeted basis.

Cromwell et al. (2002) point to the heterogeneity of some DRGs as yet another argument against blanket expansion of the PAC transfer policy to all DRGs. According to these authors, application of the transfer payment policy to DRGs that include groups of

procedures or conditions with diverse LOS patterns (e.g., a bimodal LOS distribution) will cause patients with the procedures/conditions at the lower end of the LOS distribution to be much more likely to have a stay that is below the DRG's GMLOS and, therefore, much more likely to be paid as a transfer rather than a discharge. This would be true even if the patient had a relatively long inpatient stay when compared to other patients with the same condition/procedure. These authors conclude that additional refinement of the DRG classification system may be needed before the PAC transfer policy is expanded to all DRGs.

In terms of practical considerations, a uniform all-DRG policy may be easier to administer because the same coding and payment rules would apply to all Medicare discharges, and there would be no need to treat a subset of DRGs differently. Furthermore, even though substitution of post-acute care for inpatient care is largely irrelevant for many DRGs, no harm comes from expanding the policy to all DRGs because payments would not be reduced for the vast majority of discharges from these DRGs. And, when PAC substitution did occur in these DRGs, the payment system would provide the appropriate transfer payment; no cases of substitution would be overlooked because they occur in a DRG whose rate of short-stay PAC use was below an arbitrarily-defined threshold for inclusion in the PAC transfer policy.

A convincing case could also be made that administering an all-DRG policy would be more difficult and costly. Determining the appropriate level of payment under the transfer policy depends on accurate coding of discharge destination by the hospital. Hospitals claim that this places an undue burden on them to track patients after discharge, and evidence of inaccurate coding uncovered by several OIG investigations (OIG, 2000, 2001a, 2001b) suggests that fiscal intermediaries should be verifying discharge coding more extensively, increasing system administrative costs. Such costs would have to be weighed against the likely savings to be generated by applying the payment policy to all DRGs. Moreover, these calculations must realize that the expected marginal savings to the Medicare program will decrease as the policy is extended to more and more DRGs where short-stay PAC use is less prevalent.

Finally, it is also worth noting that although the reduced payments arising from the PAC transfer policy mean the hospital is earning less Medicare revenue, the per diem payments are still generally sufficient to cover the hospital's costs (e.g., Gilman et al., 2000; DHHS, 2003b; MedPAC, 2003). Thus, this policy does not result in absolute losses so much as it reduces the profitability of treating these transferred patients. Of course, for hospitals already facing severe financial pressures, any reduction in revenue will add to the pressure, even if the payments are, on average, covering costs for this patient population. Rural hospitals, in particular, may find themselves in a precarious financial situation for a variety of reasons, not all attributable to Medicare payment policy. However, in thinking about the financial implications of the PAC transfer policy, it is important to consider not only the reduced payments for transfer patients, but also the likelihood of enhanced DRG payments for non-transfer patients through the recalibrated weights.

In sum, rural and urban hospitals have largely reacted to the initial PAC transfer policy in similar ways, and both types of facilities have experienced fairly similar relative declines in their Medicare revenue as a result of the payment change. If anything, rural hospitals have seen slightly smaller drops in revenue relative to their urban counterparts. We expect both types of hospitals to be affected similarly by the newly-expanded policy, as well. While a possible expansion to cover discharges to swing beds would have a larger financial impact on small rural hospitals, even those impacts will be quite muted, on average. Only hospitals that make heavy use of swing beds very early in the acute-care episode would expect to see large reductions in Medicare revenue for these transferred cases. Future expansions of the policy are uncertain at this time. In any event, it does not appear that rural hospitals will be disproportionately harmed by any such expansion. One may even expect an expanded policy to benefit rural hospitals by implicitly recognizing their lower use of post-acute care and readjusting DRG payment weights so that they are paid more appropriately when providing the full course of inpatient care.

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