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Cross-Payer Effects on Medicare Resource Use: Lessons for Medicaid Administrators

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Cross-Payer Effects on Medicare Resource Use: Lessons for Medicaid Administrators

Executive Summary

In order to examine the implications for states of more formal programs of coordinated or integrated care for Medicaid recipients who are dually eligible for Medicare (or duals, for short), the Maryland Department of Health and Mental Hygiene has been exploring the cross-payer effects of providing Medicaid long-term services and supports (LTSS) on Medicare acute care resource use under a grant from the Robert Wood Johnson Foundation (Changes in Health Care Financing and Organization Grant #63756). The study, entitled *Medicaid Long-Term Care Programs: Simulating Rate Setting and Cross-Payer Effects*, has explored these issues primarily from the perspective of state Medicaid program administrators for issues related to setting Medicaid payment rates in particular. This is the fourth of four reports planned under the grant.

The first report in this series presented a basic analytical framework for examining Medicare and Medicaid data together. The second report examined Medicaid expenditures within the context of rate setting for managed long-term care (LTC). The third report examined the Medicare resource use of dually eligible Medicaid recipients in considerable detail, with special emphasis on the effects of providing Medicaid LTSS on Medicare resource use. Each of these reports was intended to provide general background information on the interplay of Medicare and Medicaid resources using data from one state—Maryland—as an example for analysts who are beginning to examine similar issues at the state and federal levels. This final report provides a summary of that initial work, with an emphasis on lessons that state Medicaid administrators should consider as they move toward more formal programs of integrated care for duals.

The primary lessons that are reviewed in some detail in this report reflect the following:

- There is considerable value and potential in examining Medicare and Medicaid resource use together to support better managed and/or coordinated care. States should secure comprehensive data-sharing agreements with managed care plans to properly assess service use and costs, including the quality of care, under coordinated/integrated programs for duals.
- The nature and pattern of Medicaid resource use and costs for dually eligible recipients is significantly different from that for primary/acute care under Medicare in that, once an individual begins to use (Medicaid) support services, he or she will tend to continue to do so as part of a broader process of disablement, instead of exhibiting more episodic use of services. This has important implications for how Medicaid capitation rates are implemented for LTSS.



- There is clear evidence that Medicaid LTSS tend to offset Medicare resource use overall in ways that should be examined and accounted for in the consideration of Medicaid program payments, particularly as states move to more fully integrated payment scenarios for acute care and LTC. Cross-payer effects that are highlighted include:
 - Recipients of Medicaid-paid long-term nursing facility care accrued significantly lower Medicare payments—close to \$440 per member per month (or 36 percent) less—than did comparable duals who received Medicaid home and community-based waiver services (HCBS) in the community. This can lead to an institutional bias in Medicare payments to managed care plans.
 - Providing Medicaid HCBS was associated with more individuals receiving more Medicare services, but *overall* Medicare resource use was not significantly higher for those who received Medicaid supports compared to those in the community who did not. On an unadjusted (raw dollar value) basis, community waiver recipients accrued 7 percent lower Medicare costs in 2006 than a matched comparison group drawn from the community.
 - There is also evidence of an overall improvement in the quality of care associated with better de facto coordination of services under HCBS waivers. This was suggested by several key indicators of higher-quality care in Medicare: fewer hospital readmissions, fewer skilled nursing facility (SNF) stays, and fewer cases of repeated emergency room (ER) visits among those who received HCBS services compared to those in the community who did not.

Results from these analyses can be considered from several perspectives. From a Medicaid perspective, total 2006 Medicaid payments for one of the community-based LTSS subsamples and a matching institutionalized control groups were \$2,925 and \$4,936 PMPM, respectively. That is, Medicaid payments were \$2,011 PMPM (41 percent) less for a population in the community than payments for a comparable group primarily receiving institutional care. From a Medicare Advantage health plan perspective, community-dwelling dually eligible Medicaid recipients with significant chronic medical and functional support needs use markedly more Medicare resources (the \$440 PMPM noted just above is 56 percent more) than do comparable institutionalized duals and, thus, are an unattractive financial risk (and vice versa). However, from an integrated payment perspective, where total Medicare and Medicaid payments were \$4,152 PMPM for the community-based group and \$5,722 PMPM for the institutionalized group, total public program payments were \$1,570 PMPM (27 percent) less overall for the group receiving supports in the community. Although they are typically treated independently, a more integrated accounting of these programs is needed, both to help state Medicaid agencies share in evident Medicare savings associated with providing LTSS and to help rationalize the broader distribution of Medicaid community supports to moderate institutional care.



Finally, state Medicaid administrators may be at a financial disadvantage in properly paying for services delivered to duals, given the absence of a clear picture of the integration of service use across provider settings. One critical factor that is missing (or, at best, largely undeveloped) in the context of integrated programs of care for duals is a way for state Medicaid agencies to share in evident Medicare cost savings associated with Medicaid LTSS efforts. With respect to more fully integrated managed care, although a fair accounting of Medicaid institutional supports might negatively impact Medicare Advantage institutional Special Needs Plans, in particular, finding a way for state Medicaid programs to share in associated Medicare savings would help ensure that government (Medicare and Medicaid) resources, as a whole, are used as judiciously as possible. In short, the results from this project support the need for new models of payment across payers for duals, which is envisioned by the new demonstration waiver authority and the new office for dual eligibles that were created under the recently-enacted federal health reform law.



Cross-Payer Effects on Medicare Resource Use: Lessons for Medicaid Administrators

Introduction

Although broad health system reform is taking shape nationally, key aspects of the most recent legislation will be implemented at the state level. The Patient Protection and Affordable Care Act (PPACA) of 2010 includes features such as a new national threshold for eligibility under state Medicaid programs and the development of state-based insurance exchanges to facilitate better access to health care coverage for the individual and small employer markets. PPACA also includes an array of policy changes to help stimulate improvements in the continuum of care for older Americans and the chronically ill, particularly with respect to long-term care (LTC). These changes build on existing efforts across states to develop options for long-term supports and services (LTSS) that establish a better balance between community and institutional LTC and provide for better coordination of care between the federal Medicare and state Medicaid programs.

Much like other states, Maryland's reform efforts include building on the natural relationship between primary/acute and LTC, particularly through programs that coordinate/integrate Medicare and Medicaid services for recipients who are dually eligible for those programs (duals, for short). Better coordination between the programs has the potential to improve the quality and outcomes of services provided under both programs, moderate the use of institutional care through the broader and more effective distribution of LTSS for the aging and disabled population, and reduce the overall cost of Medicaid and Medicare services through more effective use of available resources.

In addition to its efforts to address impending changes related to PPACA, Maryland now has a legislated mandate to review LTSS. Maryland is also part of a multistate effort to facilitate the transformation of LTC for duals with technical support from the Center for Health Care Strategies (CHCS).

Some examples of alternative models to transform care for dually eligible beneficiaries are described in a CHCS technical assistance tool that defines four broad options for more integrated care (CHCS, 2010). One option builds on Medicare Advantage Special Needs Plans (SNPs), which are managed care plans of Medicare services authorized under the Medicare Modernization Act of 2003 (MMA) to serve vulnerable populations.¹ That is, states can contract

¹ See "Medicare Advantage Special Needs Plans for Dual Eligibles: A Primer" (Milligan & Woodcock, 2008), which highlights the potential in SNPs to facilitate better coordination of care for duals, in particular, and describes obstacles that inhibit broad implementation of those programs.



directly with SNPs to provide some or all Medicaid covered services.² A second option builds on a Payment for All-inclusive Care for the Elderly (PACE) model. This model can be used to fully integrate Medicare and Medicaid services, although there is no existing way for states to share in any savings that may result and certain aspects of PACE regulations may limit its wide application. A third option would be for a state to establish a relationship with the Centers for Medicare and Medicaid Services (CMS) under which an alternative fee-for-service–based payment structure is used to facilitate care across Medicare and Medicaid services. In exchange for making additional state-sponsored care coordination services available to support patients and providers, the state would share in demonstrated associated savings. A fourth potential option would be for a state to effectively operate as a SNP itself. This would involve the state assuming risk for related Medicare services, but it would also allow the state to accrue the Medicare savings associated with better coordinated care. Each of these options has unique advantages and disadvantages. They illustrate the type of relationships that states may put in place, particularly in light of other changes envisioned under health reform. They also raise questions about the type and scale of information that states will need as they approach increasingly formal relationships with CMS and provider plans, such as SNPs, to establish better coordinated/integrated programs of care.

In order to examine the implications for states of more formal programs of coordinated or integrated care for duals, the Maryland Department of Health and Mental Hygiene has been exploring the cross-payer effects of providing Medicaid LTSS on Medicare acute care resource use under a grant from the Robert Wood Johnson Foundation (Changes in Health Care Financing and Organization Grant #63756). The study, entitled *Medicaid Long-Term Care Programs: Simulating Rate Setting and Cross-Payer Effects*, has explored these issues primarily from the perspective of state Medicaid program administrators for issues related to setting Medicaid payment rates in particular. This document is the fourth of four reports planned under the grant.

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² MMA regulations did not require that SNPs contract with state Medicaid programs; however, the federal Medicare Improvement for Patients and Providers Act of 2008 now requires that SNPs contract with states when moving into new service areas.

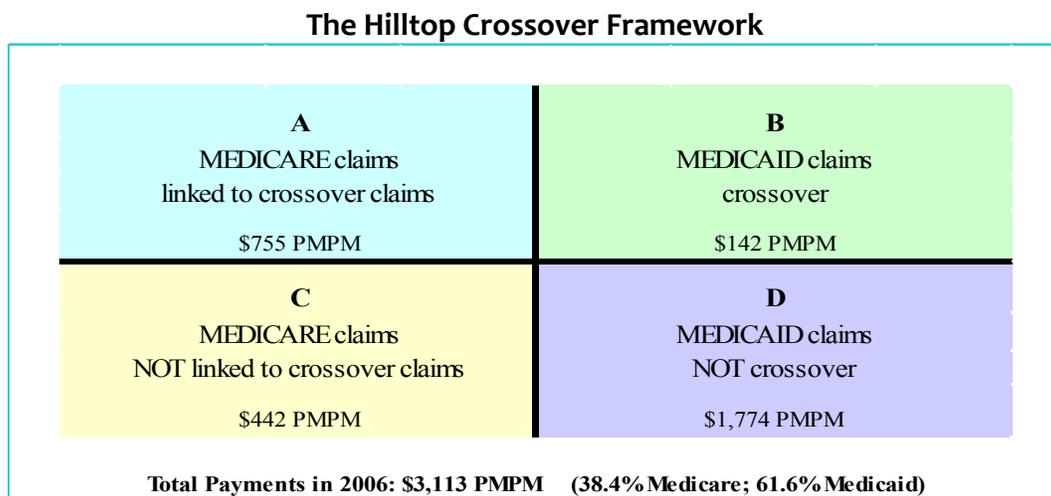


phase of that initial work with an emphasis on lessons that state Medicaid administrators should consider as they move toward more formal programs of integrated care for duals.

A Framework for Analysis

The Hilltop Crossover Framework was introduced in the first report in this series as a means to conceptually represent the relationships between Medicare and Medicaid benefits (Tucker, Johnson, Rubin, & Fogler, 2008). The Crossover Framework reflects a two-by-two format that is used to array summary data from linked Medicare and Medicaid claims by category of service—with specific reference to Medicaid crossover claims—in order to highlight the relationships between government programs and service use. The term “crossover” refers to Medicaid claims for the portion of Medicare patient liability payments that state Medicaid programs cover on behalf of duals. Crossover payments reflect Medicare deductibles and copayments.

As illustrated here, Medicare and Medicaid service use and costs are shown in the left and right sections of the framework, respectively. Average payments per member per month (PMPM) are shown in the figure for continuously enrolled duals with full Medicaid benefits to provide a sense of relative scale of payments across these government programs.



Section A of the Crossover Framework reflects Medicare activity that can be directly linked to Medicaid crossover claims. Section B reflects Medicaid crossover claims and payments, including claims for which no specific Medicare claim can be found. Section C shows Medicare activity that is not reflected in Medicaid claims. It includes service use that does not generate crossover claims, such as home health and hospice that are not subject to coinsurance and claims that are simply not submitted by the provider to Medicaid for payment. Section D shows services and payments that are covered as direct Medicaid benefits and not otherwise associated with



Medicare payments. These are services that are only covered as a Medicaid benefit (such as long-term custodial care), as well as hospital payments incurred once the Medicare benefit is exhausted.

For this part of the study, calendar year 2006 data were used to illustrate distinguishing characteristics of a typical dually eligible population within this framework. There were roughly 104,000 individuals with dual benefit coverage under both Medicare and Medicaid at some time during 2006 in Maryland. Nearly 80 percent (82,104) of that population were continuously enrolled. Continuously enrolled duals are defined to include all those who were eligible under both programs as of January 1, 2006, until the end of the year, or until the recipient's death if it occurred before the end of the year. This includes duals who received partial (or limited) Medicaid benefits, such as some Qualified Medicare Beneficiaries (QMBs) or Specified Low-Income Medicare Beneficiaries (SLMBs) for whom Medicaid covers only Medicare premium and coinsurance costs, but excludes those who became duals after the beginning of the year.

Of those who were continuously enrolled, 65.6 percent were female. Close to 38 percent of duals were younger than 65 years, and, of this group, 98 percent received social security disability insurance. Overall, 8.4 percent of the study population died during the year. Almost 10 percent were enrolled in a Medicare Advantage (MA) group health plan. It is important to note that MA plans are not required to submit Medicare claims data. Because those data were not otherwise available, MA group health plan enrollees are excluded from the more detailed examination of service use and payments in this study.

Seventy-three percent of continuously enrolled duals had full Medicaid benefits during the year. Although detailed examination of service use and payments was limited to full duals in this study in order to more clearly highlight the relationships between Medicare and Medicaid program resource use, summary Crossover Framework results for groups of duals whose service use was excluded can be found in Appendix 1 of the first study report (Tucker et al., 2008).



Medicare and Medicaid service use and payments examined in this study were limited to those that are evident in claims data. Premium costs for Medicare Part A and Part B are not included, although estimates of these expenses were close to \$100 million for all Maryland duals in 2006. Also, the state contributions toward Part D costs (commonly referred to as the “clawback”) are not included. Pharmacy claim costs were not included because Medicare Part D data were not yet available at the time of the first study report.³

Selected findings related to Medicare and Medicaid claim payments for continuously enrolled duals with full Medicaid benefits and no MA plan enrollment that illustrate the type of information that states should keep in mind as they consider more integrated programs for duals include the following:⁴

- Combined Medicare and Medicaid payments on behalf of 53,909 continuously enrolled duals in Maryland with full Medicaid benefits and no MA plan enrollment were \$1.925 billion in 2006 (see Table 1). Medicaid covered 61.6 percent of those payments. Almost 96 percent of this population received some benefit during 2006; average costs were \$37,315 for those who had at least one claim. These total payments were equivalent to \$3,113 PMPM for all 53,909 duals.
- Inpatient hospital claims accounted for 22.4 percent of all Medicare and Medicaid payments included here, most of which were covered by Medicare. Another 33.6 percent of the total was for nursing facility (NF) and intermediate care facility for individuals with mental retardation (ICF/MR) services, most of which was covered by Medicaid. Medicaid also covered nearly all of the 22.3 percent of payments for home health and other community support services. The 20.5 percent of total payments for physician, outpatient, and durable medical equipment (DME) costs were split more evenly, with Medicare covering roughly two thirds and Medicaid covering the other third.⁵ Hospice benefits accounted for the remaining 1.2 percent of payments.

³ To provide some sense of scale for these expenditures, gross pharmacy charges associated with Medicare Part D were roughly \$296 million and direct Medicaid-covered pharmacy expenditures were close to \$8 million (or about \$325 per person per month) for continuously enrolled duals in Maryland in 2006. This does not account for Medicaid-related rebates and other discounts that moderate actual Medicare and Medicaid pharmacy expenses. Medicaid payments were slightly lower as a percentage of this total in subsequent years once the transition of all duals to Part D was complete.

⁴ Detailed Crossover Framework tables from which these findings are drawn are available in Tucker et al., 2008.

⁵ Maryland Medicaid pays the full cost of Medicare deductibles and copayments related to Medicare Part B physician care. Other states limit such payments to the respective state Medicaid fee schedule.



Table 1. Total Medicare & Medicaid Payments for Duals¹ w/Full Medicaid (2006)

Category of Service	Medicare		Medicaid		Total					
	Users	Payments (000s)	Users	Payments (000s)	Users	Users as % of Total (53,909)	Payments (000s)	\$s as % of Total	\$s Per User	\$s PMPM Per Dual
Total	51,021	\$740,219	50,844	\$1,185,252	51,601	95.7%	\$1,925,470	100%	\$37,315	\$3,113
Hospital Inpatient	16,214	\$375,394	13,822	\$56,588	16,399	30.4%	\$431,982	22.4%	\$26,342	\$698
NF & ICF/MR	5,763	\$65,513	12,930	\$580,854	14,238	26.4%	\$646,368	33.6%	\$45,397	\$1,045
<i>Nursing Facility</i>	5,763	\$65,513	12,683	\$536,120	13,991	26.0%	\$601,633	31.2%	\$43,001	\$973
<i>ICF/MR</i>	-	-	247	\$44,735	247	0.5%	\$44,735	2.3%	\$181,113	\$72
HH & Oth Community	3,526	\$12,431	13,004	\$416,080	14,943	27.7%	\$428,511	22.3%	\$28,676	\$693
Hospice	1,540	\$13,789	763	\$9,764	1,554	2.9%	\$23,553	1.2%	\$15,156	\$38
Phys., Outpat., & DME	50,962	\$273,091	49,314	\$121,966	51,176	94.9%	\$395,057	20.5%	\$7,720	\$639
<i>Physician</i>	50,495	\$141,552	48,545	\$79,733	50,655	94.0%	\$221,286	11.5%	\$4,368	\$358
<i>Outpatient</i>	36,745	\$110,914	30,008	\$22,411	36,757	68.2%	\$133,325	6.9%	\$3,627	\$216
<i>DME</i>	16,989	\$20,625	17,156	\$15,943	19,187	35.6%	\$36,568	1.9%	\$1,906	\$59
<i>Special²</i>	-	-	15,323	\$3,878	15,323	28.4%	\$3,878	0.2%	\$253	\$6

¹Includes duals who were continuously enrolled under Medicare and Medicaid during the calendar year (from January 1 until death or year end) and had full Medicaid benefits during that time. Excludes QMBs/SLMBs/QIs with only partial Medicaid benefits and duals with group health plan coverage.

²Special includes users and costs associated with Medicaid crossover claims not matched to Medicare claims, but not separated by Part B service type.



- Recipient payments (contributions) for institutional LTC added another \$106.8 million (\$105.8 million for NF and ICF/MR and \$0.9 million for hospital) beyond that paid by Medicare and Medicaid for continuously enrolled duals. Those payments were primarily made to NFs at an average annual cost of \$8,263 per user.
- Medicare paid \$740 million, or \$1,197 PMPM, on behalf of this population in 2006, which was 38.4 percent of total Medicare and Medicaid payments. Almost 60 percent of Medicare payments were for inpatient hospital and related skilled nursing facility (SNF) care. Physician and other Part B services accounted for 36.9 percent of Medicare payments.
- Medicare claims that were not matched to a Medicaid crossover claim (section C of the Crossover Framework) represented 37.3 percent of all Medicare payments. These claims account for \$442 PMPM of activity that is not represented in Medicaid claim files and 14.2 percent of all Medicare and Medicaid claim payments for this population.
- Although Medicaid paid \$1.185 billion of total Medicare and Medicaid claim costs, 49 percent of those payments was for institutional LTC and 35.1 percent was for noninstitutional supports. Payments for Medicare cost sharing (section B of the Crossover Framework) were 7.4 percent of Medicaid payments for these duals. Maryland Medicaid paid \$1.097 billion, or an average of \$1,774 PMPM, for direct Medicaid benefits (section D of the Crossover Framework) on behalf of this population in 2006. LTC costs for 12,098 recipients in an NF were 45.1 percent of Medicaid payments and 27.8 percent of total Medicare and Medicaid payments. Developmentally Disabled Waiver costs for 5,605 duals were 23.3 percent of Medicaid payments and 14.4 percent of total Medicare and Medicaid payments.

Medicaid Rate Setting

Both Medicare and Medicaid administrators have considerable experience with the development and application of capitation rate setting methods to cover acute care expenditures under managed care programs. Less attention has been paid to methods to establish comparable capitation rates for Medicaid LTSS costs, in part because of the more varied composition of LTSS benefits and programs across states, but also because of the differing nature and pattern of LTSS as compared with acute/primary care.⁶ The second report from this study (Tucker & Johnson, 2009) examined some of the basic considerations that underlie rate setting methods for the Medicaid portion of managed care programs for duals. Those include, but are not limited to:

⁶ Kronick and Llanos (2008) provide a review of rate setting systems for Medicaid managed long-term care that describes current practice across ten states and the thinking that underlies them.



- How well does the system explain (and predict) relevant costs?
- Do appropriate data exist, and is the system administratively feasible?
- Is the system understandable in a practical sense?
- What incentives does the system provide?
- To what extent can participating health plans or enrollees “game the system” unfairly?

The nature and pattern of Medicaid resource use and costs for dually eligible recipients is significantly different from that for primary/acute care service use under Medicare. Acute care costs vary sharply by medical condition and exhibit “regression to the mean,” whereby groups of individuals who use relatively more or fewer services during one period tend to use services at a rate closer to the mean in a subsequent period. In contrast, the relative payments associated with direct Medicaid benefits tend to be the same or slightly higher on a condition-specific basis from one year to the next. This pattern is consistent with the general underlying pattern for such services in that, once an individual begins to use (Medicaid) support services, he or she will tend to continue to do so as part of a broader process of disablement.

These basic patterns have implications for how rate setting systems are typically developed for acute versus LTC services. Medicare-covered services can include a wide variety of different types of resources depending on the disease burden and circumstances of each recipient. Because of the variability in patterns of Medicare costs across conditions and attendant regression to the mean, risk adjustment applied for rate setting to cover acute care, particularly under Medicare managed care, is primarily accomplished using diagnoses and other sociodemographic factors to establish prospective capitation rates (Pope et al., 2004). That is, estimates of what individuals associated with certain risk factors (in one period) will cost in a subsequent period are used to establish payment rates for another target payment period.

In contrast, rate systems for Medicaid managed care more commonly use estimates of costs associated with a limited set of service-use categories (or levels of care) during a base period. These are then more simply adjusted for general trend over time because costs for Medicaid-covered services tend to vary less by diagnosis than by a limited number of types (or packages) of services provided to support functional needs. In other words, Medicaid-covered supports and services come in fewer forms, and the average daily or monthly costs to provide them vary less with respect to disease burden alone than do the complex of acute care costs that can be associated with a given disease. Thus, with respect to prospectively setting capitation payment rates for Medicaid costs in an integrated Medicare and Medicaid environment for example, it is more important to reflect the types of services needed than specific clinical conditions.



Levels of Medicaid Resource Use

In order to illustrate the kind of system that might be used to set rates for the Medicaid portion of payments for duals in a coordinated/integrated environment, a rate setting model for those expenditures was developed based on seven initial groupings that represent distinct levels of service need. In this case, each individual is associated with one resource-level category that is hierarchically assigned, from highest to lowest, on the basis of prior resource use. This model also accounted for whether an individual was first eligible for Medicare benefits because of a disability.

The categories of resource use initially examined in this study included (in hierarchical order) individuals who:

1. Had at least 30 days of Medicaid-paid coverage in a chronic hospital
2. Had at least 30 days of Medicaid-paid custodial care in a nursing facility
3. Were enrolled under the state's home and community-based services (HCBS) Living at Home (LAH) Waiver for individuals who are 18 to 64 years of age
4. Were enrolled under the state's HCBS Older Adult Waiver (OAW) for individuals who are 50 years of age or older
5. Received medical day care (a service based on need at an NF level of care)
6. Received personal care (a state plan service that is not necessarily tied to an NF level of care)
7. Did not fall into any of the other groupings when the assignment was made

Table 2 shows the distribution of the study population as of January 2006. In this case, the population is generally limited to Medicaid recipients with full benefits who are dually eligible for Medicare. However, duals covered under the state's Developmental Disabilities (DD) Waiver and those with end-stage renal disease (ESRD) are excluded. The DD waiver enrollment would likely be exempt from a more broadly defined managed long-term program because of the more narrowly defined supports provided to that group in the state. Individuals with ESRD are excluded because of the special nature (and level of cost) of the services they require and because they are treated as a special population under Medicare.

Almost 24 percent of the population shown in Table 2 was in a Medicaid-paid NF stay of at least 30 days as of January 2006. The chronic hospital (CH) and LAH Waiver groups accounted for less than 1 percent that month. The other groups that represent individuals who had recently received some level of community-based support accounted for slightly higher percentages of the population: 4.6 percent (OAW), 3.8 percent medical day care (MDC), and 2.3 percent personal care (PC). The remaining 65 percent were flagged as "other."



Almost 40 percent of the population as a whole was first eligible for Medicare because of a disability or ever Medicare disabled (EvD). The remaining 60 percent were eligible for Medicare because of age. One marked difference between recipients who were EvD and those who were non-EvD was that less than 14 percent of those identified as EvD fell into the NF group, whereas closer to 30 percent of the non-EvD were associated with that group.

As shown in more detail in Tucker and Johnson (2009), this pattern of results is remarkably stable over time. Between January 2005 and December 2007, there was a slight shift toward a lower percentage of recipients identified as NF overall and a higher percentage of recipients identified as EvD. This pattern over time was associated with a slow but steady decrease in the number and percentage of non-EvD recipients who were assigned to the NF group, as well as growth in the percentage of EvD across resource groups of individuals who were 50 to 64 years of age.

Table 2. Dually Eligible in Maryland by Ever-Disabled Status, Medicaid Service Group, and Age Category: January 2006

	All		EvD		Non-EvD	
	Persons	Percent	Persons	Percent	Persons	Percent
Total	54,303	100	21,573	100	32,730	100
<i>Service Group</i>						
(1) chronic hospital	82	0.2	48	0.2	34	0.1
(2) nursing facility	12,897	23.8	2,959	13.7	9,938	30.4
(3) waiver (LAH)	240	0.4	240	1.1	0	0.0
(4) waiver (OAW)	2,509	4.6	639	3.0	1,870	5.7
(5) medical day care	2,061	3.8	733	3.4	1,328	4.1
(6) personal care	1,231	2.3	346	1.6	885	2.7
(7) other	35,283	65.0	16,608	77.0	18,675	57.1
<i>Age Category</i>						
< 35	2,897	5.3	2,897	13.4	0	0.0
35-49	7,044	13.0	7,044	32.7	0	0.0
50-64	6,928	12.8	6,928	32.1	0	0.0
65-74	13,127	24.2	2,874	13.3	10,253	31.3
75-84	14,528	26.8	1,309	6.1	13,219	40.4
85+	9,779	18.0	521	2.4	9,258	28.3

Notes: EvD (Ever Disabled) denotes original reason for Medicare coverage based on disability; LAH (Living at Home Waiver); OAW (Older Adult Waiver).



Stability in group assignment was also evident at the individual level. Thirty-eight percent of the full study population was eligible under both Medicaid and Medicare for the entire 36 months between January 2005 and December 2007. Close to 72 percent of the full population was assigned to only 1 of the 7 resource use groups over the 36 months. Another 26 percent were assigned to only 2 different groups during the study period. Individuals who were assigned to more than one rate group may have changed between those groups more than once. However, the majority of member months generally were associated with the first rate group identified, with one exception: individuals who were assigned first to the “other” group and then changed to a higher resource-level group had more member months associated with the higher resource use groups. As a general pattern, those recipients who became associated with a higher-resource Medicaid rate group tended to remain associated with that or a higher resource use group, reaffirming the general pattern of stability in prospective Medicaid resource use noted above.

Medicaid Expenditures

For this study, direct Medicaid benefit costs (Crossover Framework section D) were treated separately from Medicare crossover costs (Crossover Framework section B). As was the case for Medicaid enrollment by service groups noted above, patterns of direct Medicaid benefit costs were stable over time at the rate-group level. Average overall payments ranged from approximately \$1,600 to \$1,700 per month between January 2005 and December 2007 (unadjusted for inflation), with costs for individuals who were non-EvD averaging roughly \$500 PMPM more than costs for EvD. Average Medicaid expenditures across service groups and age categories are shown for January 2006 in Table 3 for illustrative purposes. Average costs PMPM decreased by Medicaid resource group—from \$27,850 for individuals identified as CH to \$392 for the “other” group. Those relationships are also consistent over time. Average costs increased with age, as might be expected, with the exception of a noticeable drop between the age categories of 50 to 64 years and 65 to 74 years. This drop can be explained largely by disability status; that is, the 65 to 74 years age category includes a high proportion of newly enrolled, lower-cost non-disabled dually eligible recipients who reduce average costs overall in that category. Average costs for the EvD are noticeably higher across each of the age categories that include both EvD and non-EvD recipients (those 65 years of age and older).

Month-specific (concurrent) costs per member were examined along with 12-month prospective costs PMPM relative to each month. Direct Medicaid benefit costs per member for any given month in this analysis were very close or only slightly higher across the subsequent year on a PMPM basis by resource-use category. Thus, the key point to remember with respect to setting rates for this portion of Medicaid expenditures is that monthly direct Medicaid benefit costs per member are a relatively reliable measure of subsequent prospective PMPM costs across Medicaid resource-use categories.



Table 3. Medicaid Direct Benefit Costs PMPM and 12-Month Prospective PMPM by Ever-Disabled Status, Medicaid Service Group, and Age Category: January 2006

Service Group / Age Category	All	EvD	Non-EvD
PMPM			
Total	\$1,648	\$1,346	\$1,846
<i>Service Group</i>			
(1) chronic hospital	\$27,850	\$26,291	\$30,050
(2) nursing facility	\$4,735	\$4,923	\$4,679
(3) waiver (LAH)	\$3,499	\$3,499	\$0
(4) waiver (OAW)	\$2,680	\$2,640	\$2,693
(5) medical day care	\$1,745	\$1,779	\$1,726
(6) personal care	\$910	\$942	\$898
(7) other	\$392	\$545	\$256
<i>Age Category</i>			
< 35	\$430	\$430	\$0
35-49	\$894	\$894	\$0
50-64	\$1,449	\$1,449	\$0
65-74	\$1,028	\$1,974	\$763
75-84	\$1,917	\$2,998	\$1,809
85+	\$3,125	\$3,586	\$3,099
12-month Prospective PMPM			
Total	\$1,649	\$1,403	\$1,812
<i>Service Group</i>			
(1) chronic hospital	\$26,985	\$26,088	\$28,471
(2) nursing facility	\$4,606	\$4,767	\$4,555
(3) waiver (LAH)	\$3,556	\$3,556	\$0
(4) waiver (OAW)	\$2,762	\$2,684	\$2,789
(5) medical day care	\$1,819	\$1,817	\$1,819
(6) personal care	\$1,030	\$1,009	\$1,038
(7) other	\$476	\$630	\$341
<i>Age Category</i>			
< 35	\$483	\$483	\$0
35-49	\$949	\$949	\$0
50-64	\$1,514	\$1,514	\$0
65-74	\$1,048	\$2,041	\$777
75-84	\$1,902	\$3,045	\$1,791
85+	\$3,122	\$3,646	\$3,092

Notes: PMPM (Per Member Per Month); EvD (Ever Disabled) denotes original reason for Medicare coverage was disability; LAH (Living at Home Waiver); OAW (Older Adult Waiver).



Medicaid crossover expenses to cover Medicare cost sharing exhibit different patterns than do direct Medicaid benefit costs. Where direct Medicaid benefit costs show a clear pattern of decreasing average costs from high to low service groups and generally increasing costs from low to high age categories, average crossover payments are more mixed across Medicaid service groups and age categories. Month-specific costs per member are also less stable across time, largely because there is a seasonal pattern to Medicare cost sharing: Part B deductibles, which are paid once per year, tend to accrue at the beginning of the year. Patterns also differ with respect to prospective costs. Twelve-month prospective crossover payments are generally lower than month-specific amounts, because the 12-month perspective smoothes the seasonal effects evident in the month-specific results.

Average crossover costs PMPM and 12-month prospective PMPM costs are shown in Table 4 for the population of continuously enrolled duals as of January 2006. Although direct Medicaid benefit costs are generally lower overall for recipients identified as EvD (see the Total rows in Table 3), crossover costs are higher on average for that population. Average annual (2006) crossover costs were roughly \$125 PMPM for the population as a whole across the study period. The non-EvD population averaged close to \$111 PMPM, and the EvD population averaged closer to \$144 PMPM. The key implication of these results is that Medicaid-paid expenditures related to Medicare services should be treated separately from direct Medicaid benefits and from a prospective, rather than monthly (concurrent) perspective. It is also important to reflect Medicare disability status where appropriate.



Table 4. Medicaid Crossover Costs PMPM and 12-Month Prospective PMPM by Ever-Disabled Status, Medicaid Service Group, and Age Category: January 2006

Service Group / Age Category	All	EvD	Non-EvD
PMPM			
Total	\$158	\$176	\$145
<i>Service Group</i>			
(1) chronic hospital	\$1,205	\$1,576	\$680
(2) nursing facility	\$150	\$203	\$135
(3) waiver (LAH)	\$226	\$226	\$0
(4) waiver (OAW)	\$194	\$220	\$186
(5) medical day care	\$196	\$165	\$213
(6) personal care	\$223	\$256	\$210
(7) other	\$150	\$164	\$137
<i>Age Category</i>			
< 35	\$113	\$113	\$0
35-49	\$162	\$162	\$0
50-64	\$208	\$208	\$0
65-74	\$163	\$210	\$151
75-84	\$150	\$173	\$148
85+	\$136	\$147	\$135
12-month Prospective PMPM			
Total	\$125	\$144	\$111
<i>Service Group</i>			
(1) chronic hospital	\$423	\$496	\$302
(2) nursing facility	\$117	\$176	\$99
(3) waiver (LAH)	\$212	\$212	\$0
(4) waiver (OAW)	\$155	\$180	\$146
(5) medical day care	\$147	\$141	\$149
(6) personal care	\$179	\$208	\$168
(7) other	\$120	\$134	\$107
<i>Age Category</i>			
< 35	\$101	\$101	\$0
35-49	\$137	\$137	\$0
50-64	\$160	\$160	\$0
65-74	\$130	\$167	\$121
75-84	\$116	\$145	\$114
85+	\$96	\$140	\$94

Notes: PMPM (Per Member Per Month); EvD (Ever Disabled) denotes original reason for Medicare coverage was disability; LAH (Living at Home Waiver); OAW (Older Adult Waiver).



Medicare Resource Use

Medicare claim payments were also examined within the context of Medicaid rate categories in Tucker and Johnson (2009). Medicare resource use was examined in two distinct parts: what the Medicare program identified on claims as the cost-sharing amount (as distinct from what Medicaid actually paid of that amount) and the portion of allowed costs that the Medicare program paid for covered services. These costs reflect the combined sections A and C of the Crossover Framework.

Medicaid programs cover cost-sharing expenses on behalf of dually eligible recipients to varying degrees across states. In Maryland, Medicaid covers nearly all Medicare cost sharing for hospital and physician services, but limits copayments for Medicare SNF days of care to reflect what the state would otherwise pay under its Medicaid fee schedule. In some cases, providers may not actually submit a Medicare cost-sharing claim for payment to Medicaid. Thus, cost-sharing amounts reported on Medicare claims may differ from what is actually paid, both because the state limits certain payments and because providers or provider plans may not submit the claim.

Medicare cost sharing reported on claims rose slightly between January 2005 and December 2007, with an average of roughly \$170 PMPM on a 12-month prospective basis over that time. Although the average cost share is roughly \$10 to \$15 higher for the EvD population than the non-EvD population in most cases, the totals are much closer across those populations based on Medicare claims than is evident in Medicaid-paid crossover amounts (shown in Table 4). This result implies that limits on SNF copayments affect non-EvD payments more than payments for EvD. This study shows that Maryland Medicaid consistently pays a little more than 70 percent of the Medicare cost sharing reported on Medicare claims. Roughly 80 percent of those costs are covered by Medicaid for the EvD population, and less than 67 percent of those costs are typically covered for the non-EvD population.

The amount Medicare paid of allowable charges, as opposed to cost sharing, also rose slightly on a prospective basis (unadjusted for inflation) across the study period to \$1,161 PMPM for the population as a whole. Average costs were a little more than \$110 higher for EvD than non-EvD. The general pattern of results based on Medicare payments is similar to those for other costs related to acute care in this study in that they are mixed across the resource groups and age categories.

Simulating Medicaid Expected and Actual Payments

This study also included a simulation of Medicaid capitation rates within which payment rate estimates—derived using cost data from one year and a collapsed version of the service groupings described above—were compared with actual costs in a subsequent year. Different rating scenarios reflected whether the payment rate was assigned and applied once a year or



allowed to change each month during the payment year. The rates applied for each of those payment approaches (annual versus month-specific) were established using both a concurrent and a prospective calculation perspective. Thus, four rating scenarios were examined.

Expected values were first calculated using cost data for calendar year 2005 for the four rating scenarios. Those expected values were then adjusted for mean overall actual costs in 2006 for a “target” payment population enrolled as of January 1, 2006. The adjustment for mean actual costs in 2006 makes it possible to compare results from the different rating calculation approaches on an even basis—that is, without regard to unknown external factors, such as inflation, that might otherwise affect the results. This approach also makes it possible to examine how well expected costs (payments) compare with actual costs at the rate-cell (service group) level across the different rating options—all else being equal. Summary measures were used to “locate” where differences between expected and actual costs appear across rate cells.

Under a full-year prospective (FYP) approach, for example, expected values were estimated on a prospective basis using 2004 and 2005 data, and rate-group assignments used for “payment” in 2006 were the highest resource-use level for any given individual during the previous year (2005). The rate assignment was made once for the entire payment year (2006)—that is, regardless of whether the individual changed resource-use status during that payment year. This approach is comparable to the timing perspective that is used to establish relative risk for capitation payments under Medicare Advantage.

Table 5 shows partial results based on the FYP estimation/payment scenario. Member months and actual average PMPM payments for the simulation population during 2006 are shown in total and by rate group in the leftmost data column of the table. Expected (FYP) payment values are shown to the right, along with the total dollar difference between expected and actual values. Because of the zero-sum nature of this simulation, total expected costs equal total actual costs for the population as a whole, and differences at the rate-group level are an indication of how a given calculation approach addresses each rate group relative to the other rate groups.

FYP-estimated PMPM values for the CH and NF groups in Table 5 are higher on average than actual costs for the population as a whole (\$20,649 and \$4,719 versus \$19,825 and \$4,620, respectively). Those differences result in relatively higher payments than actual for those groups—relative to the other rate groups. If a given managed care plan enrolled a random sample of the study population across all the rate groups, differences across rate groups would not matter as long as the overall rate was correct. However, an enrollee population that is drawn disproportionately from these rate groupings would be more likely to result in favorable or adverse selection (and attendant profit or loss), depending on the particular draw.



Table 5. Summary of Actual and Expected Direct Medicaid Benefit Costs Using a Prospectively Calculated Payment Rate Adjusted Once for a Full Year

	Rate Group Assigned Once for 2006			Reflecting
	Actual 2006 (\$)		FYP	Expected 2006 (\$)
Rate Group	Months	PMPM	PMPM	Total \$ difference (expected minus actual)
Total	583,995	\$1,765	\$1,765	\$0
CH	1,307	\$19,825	\$20,649	1,076,232
NF	146,188	\$4,620	\$4,719	14,490,945
CNHLOC	54,248	\$2,489	\$2,474	(805,144)
PC	15,093	\$1,170	\$1,072	(1,480,209)
Other	367,159	\$482	\$446	(13,281,824)

Notes: CH (Chronic Hospital); NF (Nursing Facility); CNHLOC (Community Nursing Home Level of Care); PC (Personal Care); Other (No other assigned). Rate approach: FYP(full-year prospective).

The other full-year rate approach—using a concurrent calculation of expected values—resulted in markedly greater differences between actual and expected costs across rate groups than the prospective approach (FYP), particularly for the NF group. That suggests more “error” between expected and actual costs and more of an incentive for managed care plans to attract certain groups. Results based on both month-specific approaches (concurrent and prospective) were roughly comparable in scale overall to the FYP results. A notable exception to this finding was that the direction of the differences is reversed for the NF and “other” rate groups using the month-specific prospective (MSP) approach. Specifically, under the FYP and both annual and month-specific concurrent approaches, managed care plans would have an incentive to draw from the institutionalized populations, and the reverse would be true using the MSP approach.

Results from this simulation suggest, on the one hand, that the choice of a concurrent versus a prospective calculation in setting Medicaid capitation rates on a month-specific basis would be more narrowly related to which incentive is preferred (relatively higher payments for institutional versus “other” recipients). Slightly higher relative payments for the NF group using a concurrent calculation approach could encourage provider plans to focus on enrolling that group, but it would provide less of an incentive to moderate actual costs or work to offset them in the future.

On the other hand, the rate-group level results using a full-year approach suggest that, although the direction of the incentive is the same in both cases (both the concurrent and the prospective approaches show relatively high payments for the NF group, in particular), the choice of a concurrent versus a prospective calculation can make a notable difference in the extent of “error”



at the rate-group level. Aside from the nature of the underlying incentive, the results suggest that the choice of calculation perspectives (concurrent versus prospective) becomes more important the longer the period used for rate-group assignment and payment.

It is also worth noting that the choice between a full-year and a month-specific rate perspective has other important administrative implications. If rates are set once at the beginning of the year, there is less administrative burden involved in monitoring how rate assignments are made. One annual rate also makes it simpler to forecast costs for the system as a whole for the year. If rates are allowed to change each month, a more elaborate system is necessary to track those changes, there is a greater opportunity on the part of health plans to “game the system” by moving and maintaining lower-risk cases into higher-cost categories, and annual costs for the system can be harder to manage as a result.

Setting a Capitation Rate for Crossover Costs

This study also modeled Medicare cost sharing reported on claims and actual crossover payments within the context of setting a separate capitation rate to cover crossover payments for Medicaid recipients who are enrolled in Medicare Advantage (MA) plans. In other words, a state Medicaid program might establish a capitation payment for Medicare cost-sharing expenses for those Medicaid recipients who receive Medicare coverage in an MA plan. Existing Medicaid crossover payments discussed above were examined as a basis for a fixed-rate PMPM for those costs. This study also explored an alternative capitation rate that was adjusted for relative resource risk using Hierarchical Condition Categories (HCCs) as they are applied under Medicare for payment to MA plans. Risk adjustment applied in this case was analyzed using a zero-sum simulation approach much like that used for direct Medicaid benefit costs.

Results from this study show that the relative risk indicated by the CMS-HCC system is markedly *higher* than the relative actual Medicare expenditures associated with Medicaid recipients in long-term nursing facility (LT-NF) stays (see HCC-risk of 1.42 versus 1.20, respectively, in Table 6). If the average relative risk that is evident in actual Medicaid crossover payments is a more accurate measure of the real relative risk of Medicare expenditures for the NF group, in particular, a payment system based on CMS-HCC relative risk would “overpay” for the population as a whole.



Table 6. CMS-HCC versus Actual Relative Risk Based on Medicare-Reported Cost Sharing

Rate Group	(a) HCC-risk		(c) Actual (Reported)		(e) Differences (HCC-Actual)		
	PMPM	Relative Value	PMPM	Relative Value	PMPM	(f) Member Months	
						Total	
Total	\$171	1.00	\$171	1.00	\$0		524,709
(1) CH	\$648	3.80	\$645	3.78	\$3	806	\$2,462
(2) NF	\$242	1.42	\$204	1.20	\$38	100,466	\$3,781,868
(3) CNHLOC	\$207	1.21	\$195	1.14	\$12	50,694	\$605,374
(4) PC	\$203	1.19	\$220	1.29	(\$17)	12,569	(\$218,517)
(5) Other	\$143	0.84	\$155	0.91	(\$12)	360,174	(\$4,171,187)

Notes: HCC (Hierarchical Condition Categories); PMPM (Per Member Per Month); CH (Chronic Hospital); NF (Nursing Facility); CNHLOC (Community Nursing Home Level of Care); PC (Personal Care).

- Column (a): HCC-based PMPM if HCC relative factors were used on the overall Actual PMPM.
- Column (b): Average Prospective HCC-based relative risk for 2006 calibrated to 1.00 for the population.
- Column (c): Actual PMPM reflects Medicare coinsurance reported on Medicare claims for 2006.
- Column (d): Actual PMPM relative to overall Actual PMPM.
- Column (e): PMPM difference between actual and HCC-derived PMPM amounts.
- Column (f): Member months during CY 2006 assuming the same rate group assignment during the year.
- Column (g): Total simulated dollar differences.

HCC relative factors based on 2005 calendar year data and 2007 Medicare HCC-system coefficients. Original HCC risk scores, with an overall average of 1.81, were adjusted to a mean of 1.00.

The results based on Medicare-reported cost sharing are not confounded by other state-specific factors, such as whether claims are submitted to Medicaid or limits on SNF copayments. Nursing facility coverage in Maryland, in particular, is comparable to that in other states; thus the results based on Medicare-reported cost sharing and LT-NF care are broadly relevant to other states.

However, in considering a state-specific approach to estimating a capitation rate for crossover payments in the context of managed care, it is more appropriate to use actual crossover payments rather than those reported on Medicare claims as a measure of what the state would otherwise typically pay. Results from this simulation show that the relative risk based on actual crossover payments for the NF group dropped from 1.20 using Medicare-reported cost sharing (shown in Table 6) to 0.93. When actual crossover payments were used, the primary effect was to increase overall differences between CMS-HCC-based expected values and actual values that are evident using cost sharing reported on Medicare claims. The most significant implication of these results is that CMS-HCC relative risk tends to over-represent Medicare cost sharing of recipients who receive Medicaid support for LT-NF care. If diagnosis-based risk adjustment is used to adjust capitation rates for Medicaid crossover payments, some accounting should be made of patterns of institutional care and state limits on crossover payments.



Modeling Medicare Payments

The simulation approach used to examine Medicare-reported cost sharing and actual Medicaid crossover payments was also applied to Medicare payments. Again, relative overpayment for the NF group suggested overpayment for the system as a whole on the basis of CMS-HCC risk. Table 7 shows, effectively, that if all continuously enrolled duals were enrolled in an MA group health plan, the rate group associated with LT-NF stays would generate costs at a rate of 1.16 times average costs but the health plan would be paid 1.42 times average costs for that same group. Thus, CMS-HCC relative risk tends to over-represent the relative Medicare cost of recipients who receive longer-term institutional supports under Medicaid. This study also suggests, more broadly, that there is an underlying institutional bias in Medicare payments to MA plans.

Table 7. CMS-HCC versus Actual Relative Risk Based on Medicare-Paid Claim Payments

Rate Group	(a) (b)		(c) (d)		(e) (f) (g)		
	HCC-risk		Actual (Reported)		Differences (HCC-Actual)		
	PMPM	Relative Value	PMPM	Relative Value	PMPM	Member Months	Total
Total	\$1,110	1.00	\$1,110	1.00	\$0	524,709	\$0
(1) CH	\$4,222	3.80	\$3,226	2.91	\$996	806	\$802,702
(2) NF	\$1,575	1.42	\$1,287	1.16	\$287	100,466	\$28,864,752
(3) CNHLOC	\$1,349	1.21	\$1,442	1.30	(\$93)	50,694	(\$4,696,269)
(4) PC	\$1,322	1.19	\$1,571	1.41	(\$249)	12,569	(\$3,127,451)
(5) Other	\$933	0.84	\$994	0.89	(\$61)	360,174	(\$21,843,733)

Notes: HCC (Hierarchical Condition Categories); PMPM (Per Member Per Month); CH (Chronic Hospital); NF (Nursing Facility); CNHLOC (Community Nursing Home Level of Care); PC (Personal Care).

Column (a): HCC-based PMPM if HCC relative factors were used on the overall Actual PMPM.

Column (b): Average Prospective HCC-based relative risk for 2006 calibrated to 1.00 for the population.

Column (c): Actual PMPM reflects Medicare payments reported on Medicare claims for 2006.

Column (d): Actual PMPM relative to overall Actual PMPM.

Column (e): PMPM difference between actual and HCC-derived PMPM amounts.

Column (f): Member months during CY 2006 assuming the same rate group assignment during the year.

Column (g): Total simulated dollar differences.

HCC relative factors based on 2005 calendar year data and 2007 Medicare HCC-system coefficients.

Original HCC risk scores, with an overall average of 1.81, were adjusted to a mean of 1.00.



The Effects of Medicaid Expenditures on Medicare Resource Use

Having established a framework for analysis and then examined Medicaid costs in the context of rate setting for managed LTC, the third study report (Tucker, Johnson, Huang, & Brewer, 2010) addressed three broad objectives: (1) to provide a more detailed overview of Medicare services and expenditures for dually eligible Medicaid recipients in Maryland; (2) to serve as a primer on analytic methods needed to assess differences related to a given “treatment” effect; and (3) to specifically examine the effects of Medicaid LTSS on Medicare resource use.

Medicare Resource Use

In Tucker et al. (2010), data on continuously enrolled duals in Maryland during 2006 were arrayed—as a whole and by selected grouping criteria—with respect to age, sex, and 20 chronic condition indicators. The chronic conditions examined include those identified by CMS for targeted analysis related to Medicare beneficiaries in the federal Chronic Condition Data Warehouse. The study population was arrayed by:

- The study population as a whole
- Status at the end of the study year (12-month enrollees versus those who died)
- Original reason for Medicare entitlement (EvD versus old age only)
- A frailty marker based on diagnoses that were found by Adjusted Clinical Group software developers to be associated with significant functional support needs
- HCBS Waiver enrollment, specifically Maryland’s LAH Waiver, OAW, and combined Community Pathways and New Directions (DD) Waivers for those with a developmental disability.

Total and component Medicare service use and payments during the study year were reported by those characteristics and groupings.

Analytic Methods

In keeping with the other study reports, Tucker et al. (2010) also provide an initial overview of the technical aspects of more detailed statistical analyses regarding the integration of Medicare and Medicaid services and costs as a primer for analysts who are new to these issues. Key considerations that underlie inference testing on, in this case, Medicare resource use are presented, including the following:

- A rationale for—and detail needed to undertake—propensity score matching to establish comparison groups



- Descriptions of appropriate statistical methods to test the significance of differences between those groups on various resource measures and the technical interpretation of subsequent results
- Potential refinements for future analyses that might be considered to improve the preliminary analyses from this study

The general analytic approach for this part of the study involved identifying various subgroups of Medicaid recipients who are known to use LTSS and then identifying control groups of comparable recipients who did not use those services. Control groups were identified using propensity score-matching techniques. Such techniques make it possible to account for an array of covariate factors, such as the demographic characteristics and medical conditions noted above. Cross-payer effects were examined for a broad array of measures related to Medicare service use and costs using statistical tests of differences between those who receive Medicaid support services (designated as the “treatment” group) and the matched-sample control groups. These analyses were limited to duals who were continuously enrolled for 12 months in 2006. Those who died were excluded to limit the confounding effect of resource use in the last months of life.

For the subgroup analyses:

- A treatment group drawn from the OAW, which provides HCBS supports to participants who are 50 years of age and older, was compared with matched controls drawn from the community who had not otherwise used Medicaid-paid community-based supports.
- A treatment group drawn from the LAH Waiver, which provides HCBS supports to participants who are 18 to 64 years of age, was compared with matched controls drawn from the community who had not otherwise used Medicaid-paid community-based supports. These duals were first eligible for Medicare benefits because of a disability.
- A treatment group drawn from among those who received MDC but no other waiver or long-term institutional care was compared with matched controls drawn from the community who had not otherwise used Medicaid-paid community-based supports.
- A treatment group drawn from the OAW was compared with matched controls drawn from among duals who were in a Medicaid paid LT-NF stay.

Key Subgroup Analyses

Although a summary of each of the subgroup analyses described above can be found in Tucker et al. (2010), two general aspects of the effects of Medicaid LTSS on Medicare resource are evident from those results as a whole:



1. Medicaid LTSS provided in the community were associated with an increase in the number of Medicare services used with no, or limited, additional Medicare costs overall and evidence of better quality of care.
2. Medicaid institutional supports offset Medicare resource use overall.

The first aspect of effects related to Medicaid supports in the community is embodied in the results for the analysis that compared the OAW treatment group with a control group drawn from the community. Providing OAW community support services was associated with more individuals receiving more Medicare services, but *overall* Medicare resource use, particularly on a per-user cost basis, was not significantly higher for those who received Medicaid supports. On an unadjusted (raw dollar value) basis, the OAW treatment group accrued 7 percent lower Medicare payments than the matched comparison group. When those payments were transformed mathematically to meet assumptions regarding the underlying distribution of the data for more sophisticated regression analysis, the OAW treatment group appeared to have higher (adjusted) costs. However, those higher costs were a consequence of removing the effect of more high-cost outlier payments from the control group. The more practical significance of these results is that the OAW treatment group generated fewer Medicare payments overall.

There was also evidence from this study of an overall improvement in the quality of care associated with better de facto coordination of services under the OAW. This was suggested by fewer hospital readmissions, fewer SNF stays, and fewer cases of repeated emergency room visits for the treatment group. At the same time, higher use rates for home health and DME for the treatment group, which may or may not be due to excessive use of those services, suggest that OAW enrollees were better “plugged-in” to the Medicare service network than other comparable Medicaid recipients and that those other comparable recipients had greater unmet need to some extent.

Thus, the most notable “treatment” effects of providing Medicaid LTSS in the community are as follows:

- An increase in services that indicate better access to care, particularly home health and DME
- A decrease in services that suggest less coordinated care, particularly repeated inpatient hospital and SNF stays and longer hospice episodes

These results are all the more noteworthy because they were found in the absence of a more formal managed care environment, such as an MA plan.

The second aspect of the overall effects of Medicaid LTSS on Medicare resources found in this study—that Medicaid institutional supports offset Medicare resource use—is a reaffirmation of results from Tucker and Johnson (2009) discussed above regarding Medicaid-paid LT-NF care.



A control group of recipients of Medicaid LT-NF care, that had a similar array of medical conditions and exhibited the same level of CMS-HCC relative risk as the OAW treatment group, accrued significantly lower Medicare payments (close to \$440 PMPM, or 36 percent less) than did comparable OAW recipients in the community. Although details about this analysis are included in Tucker et al. (2010), summary tables of both Medicare and Medicaid payments for these subgroup analyses are included in an Appendix to this report.

Lessons from these subgroup analyses can be drawn from several perspectives. From a Medicaid perspective, total 2006 Medicaid payments for the OAW treatment and matching LT-NF control groups were \$2,925 and \$4,936 PMPM, respectively (shown in the appendix). That is, Medicaid payments were \$2,011 PMPM (41 percent) less for a population in the community than payments for a comparable group primarily receiving institutional care. From a Medicare Advantage plan perspective, community-dwelling dually eligible Medicaid recipients with significant chronic medical and functional support needs use markedly more Medicare resources (the \$440 PMPM noted just above is 56 percent more) than do comparable institutionalized duals and, thus, are an unattractive financial risk (and vice versa). However, from an integrated payment perspective, where total Medicare and Medicaid payments were \$4,152 PMPM for the OAW treatment group and \$5,722 PMPM for the LT-NF group, total public program payments were \$1,570 PMPM (27 percent) less overall for the group receiving supports in the community. Although they are typically treated independently, a more integrated accounting of these programs is needed, both to help state Medicaid agencies share in evident Medicare savings associated with providing LTSS and to help rationalize the broader distribution of Medicaid community supports to moderate institutional care.

Along with the primary results, Tucker et al. (2010) identified a few of the kinds of issues that arise in examining Medicaid and Medicare program activity together that deserve further, more detailed analysis. For example, more investigation is needed to understand the relationship between home health and hospice among those who receive Medicaid supports in the community. Similarly, more analysis is needed to understand the implications of differing patterns in the receipt of physical and outpatient therapies for those with a nursing home level of care need in the community versus those in an NF.

Summary

The Crossover Framework introduced in the first part of this study provides a way to conceptualize the administrative relationships between the Medicare and Medicaid programs. Linked datasets that reflect this perspective, and that underlie this study, can provide a wealth of practical information about the relationship between the two programs, particularly as state administrators explore the implications of integrated care. Section C of the Framework, for example, may have special significance for analysts using Medicaid data alone to assess the relative health risk and patterns of care for Medicare beneficiaries. Data reflected in section C



indicate the extent to which Medicaid crossover claims may be an incomplete reflection of Medicare health service use and costs.⁷ Determining diagnosis-based relative health risk from crossover claims alone to support rate setting and other program assessments may provide distorted results because of diagnoses that are only reflected in that section of the framework. Similarly, analysis of patterns of hospitalization based on Medicaid claims alone may be compromised because of missing information related to readmissions that are not associated with coinsurance payments, as well as by inpatient activity that is not otherwise billed to Medicaid.

The second part of this study focused on rate setting for Medicaid managed LTC. Lessons evident in this context suggest that capitation rate-setting methods for acute care are not necessarily appropriate to set rates to support managed LTC. Acute care costs vary sharply by medical condition and exhibit regression to the mean over time. In contrast, the relative payments associated with direct Medicaid benefits tend to be the same or slightly higher on a condition-specific basis from one year to the next. This pattern is consistent with the general underlying pattern for such services in that once an individual begins to use support services, he or she will tend to continue to do so as part of a broader process of disablement.

With respect to prospectively setting capitation rates for Medicaid payments in an integrated Medicare and Medicaid environment, it may be more important to reflect the types of services needed than specific conditions. At the same time, it is important to consider how often service needs are assessed for payment and the responsibility for that assessment. If rates are set once at the beginning of the year, there is less administrative burden involved in monitoring how rate assignments are made. One annual rate also makes it simpler to forecast costs for the system as a whole for the year. If rates are allowed to change each month, a more elaborate system is necessary to track those changes, there is a greater opportunity on the part of health plans to “game the system” by moving lower-risk cases into higher-cost categories, and annual costs for the system can be harder to manage as a result.

Medicare capitation rate-setting methods might be considered as an initial basis for Medicaid reimbursement to MA SNPs for costs associated with deductibles and copayments that Medicaid covers on behalf of duals, but they are inadequate without further adjustment. Because SNPs do not submit claims or encounter data to CMS, states need to determine some other way to make such reimbursements fairly. SNP administrators might reasonably assume that those payments should be made on the same diagnosis-driven basis as MA capitation payments. However, results from this study show that duals in LT-NF stays use markedly fewer Medicare resources than cost assumptions underlying Medicare capitation payments would suggest. Medicaid payments for

⁷ CMS has instituted new procedures since the first study report that make full Medicare claims available to state Medicaid agencies on an ongoing basis under limited circumstances (see the October 3, 2008 State Medicaid Director letter at <http://www.cms.gov/SMDL/SMD/list.asp>).



Medicare cost sharing to managed-care plans should at least reflect the extent of Medicaid-covered institutional care that duals receive.

Results from the third part of this study reaffirm this analysis in a more precise way using matched comparison groups and a more detailed examination of Medicare resource-use patterns. The critical implication of these results in the context of managed care approaches to integrated care for duals is that Medicaid institutional care, which involves roughly 25 percent of duals and more than 66 percent of LTSS expenditures in Maryland, offsets Medicare resource use to the advantage of Medicare managed care plans, such as SNPs, that enroll Medicaid recipients.

Cross-payer effects are more complicated, but equally important to understand, for noninstitutional LTSS. Comparisons of Medicaid HCBS Waiver recipients to matched populations with similar health risks show that those who receive Medicaid community LTSS generally use more Medicare resources than those who get fewer Medicaid supports. This is consistent with suggestions by some analysts that conflicting incentives across Medicare and Medicaid programs may encourage service use (Grabowski, 2007). However, Medicaid waiver recipients generated fewer Medicare expenses overall, as well as evidence of better quality of care, such as fewer readmissions and more limited SNF stays.

In summary, the primary lessons from this study reflect the following:

- There is considerable value and potential in examining Medicare and Medicaid resource use together to support better managed and/or coordinated care. States should secure comprehensive data-sharing agreements with managed care plans to properly assess service use and costs, including the quality care, under coordinated/integrated programs for duals.
- The nature and pattern of Medicaid resource use and costs for dually eligible recipients is significantly different from that for primary/acute care under Medicare in that, once an individual begins to use (Medicaid) support services, he or she will tend to continue to do so as part of a broader process of disablement, instead of exhibiting more episodic use of services. This has important implications for how Medicaid capitation rates are implemented for LTSS.
- There is clear evidence that Medicaid LTSS supports tend to offset Medicare resource use overall in ways that should be examined and accounted for by Medicaid program administrators in the consideration of program payments, particularly as states move to more fully integrated payment scenarios for acute care and LTC.

Finally, given the perspective that underlies this study, state Medicaid administrators may be at a financial disadvantage in properly paying for services delivered to duals, given the absence of a clear picture of the integration of service use across provider settings. One critical factor that is



missing (or, at best, largely undeveloped) in the context of integrated programs of care for duals is a way for state Medicaid agencies to share in evident cost savings associated with state LTSS efforts. A better accounting of the effects of Medicaid supports might affect budget considerations for state waiver programs for LTC, for example. With respect to more directly integrated managed care, although a fair accounting of Medicaid institutional supports might negatively impact MA institutional SNPs, in particular, finding a way for state Medicaid programs to share in associated Medicare savings would help ensure that government (Medicare and Medicaid) resources, as a whole, are used as judiciously as possible. In short, the results from this project support the need for new models of payment across payers for duals, which is envisioned by the new demonstration waiver authority and the new office for dual eligibles that were created under the recently-enacted federal health reform law (PPACA).

As a final note related to these results, it is very difficult to assess the nature and extent of the value in relatively higher Medicare payments associated with long-term institutional care for populations enrolled in Medicare managed care in the absence of claim data reporting from MA plans. Although this is a problem for states when assessing integrated/coordinated programs for dually eligible recipients, it can be at least partially addressed by Medicaid agencies if those agencies require MA plans to report claim or encounter data as a condition for participation in those programs. At the same time, data reporting is a problem for assessing the MA program as a whole. A federal requirement for MA plans to report claim or encounter data would provide more accurate and complete information across states.



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Appendix

Comparisons of Medicare and Medicaid Costs by Service Category for Selected Subgroup Analyses



**Table A1. Selected Measures of Medicare Resource Use for Two Subgroup Analyses—
Older Adult Waiver (OAW) Treatment versus Community and LT-NF Controls**

Resource Use Measure	OAW (Treatment)	Community (Control)	OAW (Treatment)	LT-NF (Control)
Beneficiaries	1,440	1,440	1,731	1,731
Member Months	17,280	17,280	20,772	20,772
Total Medicare				
Total Medicare Payments	\$21,067,556	\$22,492,149	\$25,490,880	\$16,320,755
PMPM	\$1,219	\$1,302	\$1,227	\$786
Users	1,435	1,390	1,726	1,729
Hospital Inpatient				
Total Hospital Payments	\$9,464,409	\$10,122,075	\$11,311,121	\$6,490,191
PMPM	\$548	\$586	\$545	\$312
Users	552	511	698	428
Hospital Stays	1,107	1,166	1,357	741
Stays Per User	2.0	2.3	1.9	1.7
Medicare-Paid Days	5,527	5,663	6,723	4,020
Skilled Nursing Facility (SNF)				
Total SNF Payments	\$1,032,723	\$1,548,313	\$1,413,530	\$1,580,614
PMPM	\$60	\$90	\$68	\$76
Users	112	139	153	217
SNF Stays	146	205	200	288
Stays Per User	1.3	1.5	1.3	1.3
Medicare-Paid SNF Days	2,892	4,987	3,896	5,462
Home Health (HH)				
Total HH Payments	\$1,373,733	\$752,115	\$1,845,583	\$2,697
PMPM	\$79	\$44	\$89	\$0
Users	309	211	400	- ds -
HH Episodes	380	268	502	- ds -
Episodes Per User	1.2	1.3	1.3	- ds -
HH Visits	6,938	4,467	9,847	- ds -
Hospice				
Total Hospice Payments	\$550,648	\$1,613,476	\$923,719	\$32,817
PMPM	\$32	\$93	\$44	\$2
Users	22	39	37	- ds -
Hospice Episodes	25	41	41	- ds -
Episodes Per User	1.1	1.1	1.1	- ds -
Medicare-Paid Days	4,065	11,861	6,882	- ds -
Part B				
Total Part B Payments	\$8,646,041	\$8,456,169	\$9,996,928	\$8,214,437
PMPM	\$500	\$489	\$481	\$395
Users	1,433	1,390	1,724	1,729
Physician Payments	\$4,535,655	\$4,482,690	\$5,274,295	\$3,969,423
PMPM	\$262	\$259	\$254	\$191
Users	1,429	1,381	1,718	1,725
Outpatient Payments	\$2,809,130	\$3,314,847	\$3,098,114	\$3,384,874
PMPM	\$163	\$192	\$149	\$163
Users	975	1,027	1,179	1,555
DME Payments	\$1,301,255	\$658,632	\$1,624,518	\$860,140
PMPM	\$75	\$38	\$78	\$41
Users	985	620	1,197	411

Notes: Calendar Year 2006 data. "ds" indicates data have been suppressed because of small cell size.



**Table A2. Selected Measures of Direct Medicaid Resource Use for Two Subgroup Analyses—
Older Adult Waiver (OAW) Treatment versus Community and LT-NF Controls**

Resource Use Measure	OAW (Treatment)	Community (Control)	OAW (Treatment)	LT-NF (Control)
Beneficiaries	1,440	1,440	1,731	1,731
Member Months	17,280	17,280	20,772	20,772
Total Medicaid (Direct)				
Total Direct Benefit Payments	\$48,111,294	\$6,224,212	\$57,741,639	\$100,332,899
PMPM	\$2,784	\$360	\$2,780	\$4,830
Users	1,438	403	1,729	1,731
Hospital Inpatient				
Total Hospital Payments	\$0	\$318,284	\$0	\$0
PMPM	\$0	\$18	\$0	\$0
Users	0	- ds -	0	0
Hospital Stays	0	24	0	0
Medicaid-Paid Days	0	473	0	0
Nursing Facility (NF)				
Total NF Payments	\$4,224	\$2,616,089	\$13,958	\$100,364,363
PMPM	\$0	\$151	\$1	\$4,832
Users	- ds -	36	- ds -	1,731
Medicare-Paid SNF Days	20	4,841	73	625,056
Community Supports/Waiver				
Total Payments	\$45,384,624	\$183,228	\$54,433,555	\$8,244
PMPM	\$2,626	\$11	\$2,621	\$0
Users	1,437	75	1,728	- ds -
Hospice				
Total Hospice Payments	\$0	\$1,581,483	\$0	\$36,124
PMPM	\$0	\$92	\$0	\$2
Users	0	30	0	- ds -
Hospice Episodes	0	30	0	- ds -
Medicaid-Paid Days	0	9,949	0	202
Physician/Other				
Total Payments	\$2,724,605	\$1,525,128	\$3,296,285	\$19,052
PMPM	\$158	\$88	\$159	\$1
Users	1,158	307	1,402	57
Physician Payments	\$2,564,947	\$249,100	\$3,127,384	\$15,057
PMPM	\$148	\$14	\$151	\$1
Users	1,119	149	1,362	15
Outpatient Payments	\$553	\$29,001	\$553	\$370
PMPM	\$0	\$2	\$0	\$0
Users	11	12	11	- ds -
DME Payments	\$159,105	\$1,247,027	\$168,348	\$3,626
PMPM	\$9	\$72	\$8	\$0
Users	131	157	148	38

Notes: Calendar Year 2006 data. "ds" indicates data have been suppressed because of small cell size.



**Table A3. Selected Measures of Medicaid Crossover Payments for Two Subgroup Analyses—
Older Adult Waiver (OAW) Treatment versus Community and LT-NF Controls**

Resource Use Measure	OAW (Treatment)	Community (Control)	OAW (Treatment)	LT-NF (Control)
Beneficiaries	1,440	1,440	1,731	1,731
Member Months	17,280	17,280	20,772	20,772
Total Medicaid (Crossover)				
Total Crossover Payments	\$2,595,163	\$2,828,170	\$3,007,487	\$2,194,523
PMPM	\$150	\$164	\$145	\$106
Users	1,403	1,361	1,677	1,637
Hospital Inpatient				
Total Crossover Payments	\$565,782	\$687,247	\$691,372	\$381,286
PMPM	\$33	\$40	\$33	\$18
Users	463	475	569	317
Hospital Stays	682	753	824	431
Skilled Nursing Facility (SNF)				
Total SNF Payments	\$2,642	\$5,629	\$2,514	\$10,528
PMPM	\$0	\$0	\$0	\$1
Users	25	48	33	74
SNF (Crossover) Days	433	1,287	596	2,248
Part B				
Total Part B Crossover Payments	\$2,024,581	\$2,135,295	\$2,311,442	\$1,707,825
PMPM	\$117	\$124	\$111	\$82
Users	1,403	1,361	1,677	1,636
Physician Payments	\$305,002	\$158,805	\$379,840	\$171,319
PMPM	\$18	\$9	\$18	\$8
Users	871	582	1,037	304
Outpatient Payments	\$603,266	\$823,011	\$648,270	\$562,134
PMPM	\$35	\$48	\$31	\$27
Users	767	891	910	1,090
DME Payments	\$1,116,194	\$1,153,452	\$1,283,212	\$974,281
PMPM	\$65	\$67	\$62	\$47
Users	1,388	1,347	1,657	1,624

Notes: Calendar Year 2006 data.





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