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New Medicare-Medicaid Enrollees in Maryland: Prior Medicare and Medicaid Resource Use

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Introduction

This report describes and analyzes chronic disease patterns and health care expenditures of persons in Maryland who in 2008 began to receive coverage from both Medicare and Medicaid (Medicare-Medicaid enrollees, or enrollees for short). The analysis focuses on disease and expenditure patterns in the year before these individuals, most of whom had been enrolled in Medicare alone or Medicaid alone, became enrollees in both programs. Examining health status and expenditures of individuals before their eligibility for both programs can provide a better understanding of the characteristics associated with simultaneous enrollment in Medicare and Medicaid.

This study was prepared by The Hilltop Institute at the University of Maryland, Baltimore County (UMBC), and builds directly from findings in Hilltop's previous report entitled "New Medicare-Medicaid Enrollees in Maryland: Demographic and Programmatic Characteristics." (Johnson, Folkemer & Stockwell, 2012) In that report, Hilltop identified all persons in Maryland who, in 2008, began to receive coverage from both Medicare and Medicaid. That report identified 6,584 people who had been enrolled only in Medicaid previously, 8,683 persons who had been enrolled only in Medicare previously, and 387 who enrolled in both programs simultaneously. That report described the demographic characteristics of new enrollees, discussed continuity of coverage and other enrollment issues, and provided analysis about the heterogeneous nature of the group. An especially important finding is that persons who are first enrolled in Medicaid and then add Medicare enrollment are quite different from persons who first enroll in Medicare and then add Medicaid enrollment. Persons in the Medicaid-to-Medicare group are much more likely to be poor, nonwhite, and male. Persons in the Medicare-to-Medicaid group are more likely to have incomes above the poverty level and to be white and female.

Background

Medicare-Medicaid enrollees (enrollees)[1] are individuals who receive benefits from both Medicare and Medicaid. Almost 8.9 million people nationwide are enrollees, and they are typically older adults and/or individuals with disabilities who have low incomes. Enrollees, of whom there were almost 8.9 million in 2007, are a vulnerable population: approximately 41 percent are younger than 65 years and have a disability, 14 percent are 85 years of age or older, and 48 percent have incomes below the federal poverty level (MedPAC, 2008; Rousseau et al.,

[1] Previously referred to as dually eligibles, or duals.

2010). Further, enrollees have higher rates of chronic conditions, institutionalization, and activity limitations and poorer health status than non-enrollees (MedPAC, 2008).

Enrollees generate a disproportionate share of costs for both the Medicare and Medicaid programs. Although only 18 percent of Medicare beneficiaries in 2007 were enrollees, they accounted for 31 percent of Medicare fee-for-service (FFS) spending during the year (MedPAC, 2008). Similarly, although approximately 15 percent of Medicaid enrollees in fiscal year (FY) 2007 were enrollees, they accounted for 39 percent of Medicaid spending during the year (Rousseau et al., 2010).

Nationally, as in Maryland, enrollees attain enrollment in both Medicare and Medicaid through a variety of pathways. Generally, individuals qualify for either Medicare or Medicaid initially and then qualify for the other later. For example, individuals younger than 65 years with disabilities may have incomes low enough to qualify for Medicaid. If they receive Social Security Disability Insurance benefits, they become eligible for Medicare after a two-year waiting period. If not, they become eligible at 65 years of age. Adults without disabilities typically first qualify for Medicare when they turn 65 years of age. Among this group, those with sufficiently low incomes may automatically qualify for full Medicaid benefits or have substantial medical expenditures that qualify them for full Medicaid eligibility. Other Medicare beneficiaries with higher incomes may qualify for programs through which Medicaid helps pay Medicare premiums, copayments, or deductibles, but which do not offer full Medicaid coverage.

Methodology

This report explores health care utilization patterns for new enrollees in the 12 months before Medicare-Medicaid eligibility. For new Medicaid-to-Medicare enrollees, the report analyzes both Medicaid FFS claims and managed care encounters data; for new Medicare-to-Medicaid enrollees, it analyzes Medicare FFS claims data. Persons with simultaneous Medicare/Medicaid eligibility are not included in this study because no pre-enrollment data are available for them.

The definition of an enrollee used in the research includes (1) persons who receive Medicare and full Medicaid benefits and (2) persons who receive Medicare and "partial" Medicaid benefits in the form of support for premiums, copayments, and deductibles. In Hilltop's previous report, from all enrollees identified in Maryland, a "new" enrollee was defined as a Medicare beneficiary who received either partial or full Medicaid benefits in calendar year (CY) 2008 but did not have evidence of simultaneous Medicare-Medicaid enrollment in 2006 or 2007.

In order to simplify the interpretation of this analysis, the population has been limited based on an individual's pathway to becoming eligible for both programs. Only those Medicare-to-Medicaid beneficiaries whose initial Medicaid eligibility occurred in 2008 were included, and only Medicaid-to-Medicare recipients whose initial Medicare eligibility occurred in 2008 were kept. This resulted in an approximately 20 percent decrease in the study population when

compared with that of the previous report, with 4,176 individuals in the Medicaid-to-Medicare group and 6,094 in the Medicare-to-Medicaid group.

Population Breakout

In Maryland, Medicaid-to-Medicare recipients were in 2 distinct categories in the 12-month period before enrollment in both programs. Most individuals (2,994) were enrolled in HealthChoice, Maryland's Medicaid managed care organization (MCO) program, whereas others (1,182) were receiving Medicaid benefits through FFS. Enrollment in HealthChoice is mandatory for most persons enrolled in Medicaid in Maryland. Groups ineligible for MCO enrollment include[2] Medicare beneficiaries, individuals aged 65 years and older, individuals in a "spend-down" eligibility group who are only eligible for Medicaid for a short period of time, individuals who are continuously enrolled in a long-term care facility or an institution for mental illness for more than 30 days, individuals residing in an "intermediate care facility for the mentally retarded" (ICF-MR), and those enrolled in the Employed Individuals with Disabilities program. For this analysis, Medicaid-to-Medicare recipients were divided into two groups: individuals who had a capitated payment made on their behalf in the 12 months before becoming dually eligible and those whose payments were through FFS.

This analysis uses claims data to identify institutionalized individuals to ensure that individuals who had either a Medicare skilled nursing facility (SNF) stay or Medicaid nursing facility (NF) stay in the 12 months before becoming dually eligible were identified as "institutionalized."

Data Sources

In the prior report, three sources of data were used to identify new enrollees, including the Medicare Modernization Act (MMA) State File, Maryland's Medicaid Eligibility and Recipient Files, and Medicare Beneficiary Summary Files. This analysis uses two additional data sources: Medicare claims data from the Chronic Condition Data Warehouse (CCW) and Medicaid claims and encounters from Maryland's Medicaid Management Information System (MMIS). These sources were used in this analysis to identify chronic conditions, expenditures, and utilization rates. Each of these data sources is described more fully below.

MMA State File

The MMA State File (also known as the MMA Medicare/Medicaid Dual Eligible Monthly File) is produced on a monthly basis by each state in order to meet the data collection needs of Centers for Medicare & Medicaid Services (CMS) under the MMA. Each month, the state submits to CMS a listing of its enrollees, both full and partial. CMS returns the file to the state after

[2] COMAR §10.09.63.01.

appending extensive Medicare program enrollment information, including enrollment dates for Medicare Parts A, B, C, and D; dates of coverage for end-stage renal disease; low-income subsidy status; and assignment to Medicare Part D plans. The MMA State File was initiated in August of 2005.

Maryland's Medicaid Eligibility and Recipient Files

The Medicaid Eligibility File contains dates of Medicaid eligibility and coverage group information for all Maryland Medicaid enrollees. Each Medicaid enrollee's coverage group reflects the specific eligibility criteria under which he or she qualified for Maryland Medicaid benefits. This file is structured to contain one record per person per coverage group. The Medicaid Recipient File contains basic demographic, contact, and identifier information for Maryland Medicaid enrollees. This file was also used to obtain date of death information for enrollees.

Medicare Beneficiary Summary Files

These files contain demographic and Medicare enrollment data for Maryland enrollees in a given calendar year. Although these files include many of the same data elements that are appended by CMS in the MMA State File, the data may differ slightly because the Beneficiary Summary Files are "frozen" three months after the given calendar year. These files were used primarily to augment date of death information from the Medicaid Recipient File.

Medicare Claims

The CCW was established as a result of the Medicare Modernization Act of 2003 as a way to store Medicare claims. Data for this study were pulled from the CCW as a "research-identifiable file," meaning that it contained claims-level data and unique individual identifiers. Data were grouped into using standard Medicare service types, including inpatient, outpatient, carrier, SNF, home health agency, hospice, and durable medical equipment. One addition that was made to the data was chronic condition flags derived using the date an individual became dually eligible, as opposed to the date used in the Medicare beneficiary summary files. Medicare Advantage encounter information and Medicare Part D pharmacy claims data were not available for this analysis.

Medicaid Claims and Encounters

Maryland's MMIS houses claims, encounters, and eligibility spans for all Medicaid recipients in the state. Most recipients under the age of 65 years are enrolled in HealthChoice, Maryland's Medicaid managed care program, and services provided through this program are stored as encounters in MMIS. Capitated payments to managed care providers for HealthChoice enrollees, as well as services for all other recipients, are paid and stored as fee-for-service claims.

Two algorithms enhanced the Medicaid data for this analysis. The first was the addition of chronic condition identifiers to Medicaid-to-Medicare individuals using their respective pre-enrollee data. The logic used is identical to that used in Medicare's CCW,[3] which scans each individual's past claims data for key diagnoses and procedure codes to convert to chronic condition flags, but was modified to work with Medicaid claims and encounter files. The second was the grouping of Medicaid claims to conform to the standard Medicare categories listed above (see Appendix A for a more detailed explanation of the grouping logic). Both of these additions allow for a suitable comparison between the two pathways examined in this analysis.

Chronic Conditions

There are algorithms built into the CCW to identify 21 conditions often found in the older adult population based on diagnosis, reference time frame, and number and types of claims. Although the list of conditions contains many that may cause an individual to become eligible for disability benefits or a NF level of care, there are others that are not yet available through the CCW. Newly proposed chronic conditions which will focus on conditions present in individuals under 65 years of age are currently under review, and their definitions and algorithms are available for public comment.[4]

Findings

Overall, the distributions of chronic conditions across the study population reflect the differences in the age between the two pathways, as shown below in Table 1. The five most common conditions, in order of frequency across both groups, were diabetes, ischemic heart disease, depression, Alzheimer's disease or dementia, and heart failure. A minority of individuals in each category had no chronic conditions, ranging from less than one fifth of the Medicare-to-Medicaid population to more than one third of the Medicaid MCO-to-Medicare group. Note that because individuals may (and most do) have multiple chronic conditions, the same person may be counted multiple times in the following charts.

Medicare-to-Medicaid beneficiaries were generally older and thus had a correspondingly higher prevalence of conditions such as Alzheimer's disease, dementia, atrial fibrillation, osteoporosis, and prostate cancer. Each of these conditions was at least twice as likely to be found in the Medicare-to-Medicaid cohort, with Alzheimer's disease more than five times as common. On the

[3] See Appendix A of the "Chronic Condition Data Warehouse: User Guide" for detailed definitions of each chronic condition. http://www.ccwdata.org/cs/groups/public/documents/document/ccw_userguide.pdf

[4] The conditions under consideration include alcohol use disorders and complications, anxiety disorders, attention deficit hyperactivity disorder, bipolar disorder, developmental disorders, human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), personality disorders, post-traumatic stress disorders, schizophrenia, schizophrenia and other psychotic disorders, substance related disorders, tobacco use, and type I major depressive and type II depressive disorders. For more information visit http://www.ccwdata.org/chronic-conditions/index.htm.

other hand, there were conditions that had remarkably similar prevalence rates across the population, such as depression and diabetes, which both affect between 25 and 35 percent of the study population.

Table 1. Chronic Conditions of New enrollees by Pathway, Maryland, 2008

CCW Flags	Medicare FFS -> Medicaid (n=6,094)		Medicaid FFS -> Medicare (n=1,182)		Medicaid MCO -> Medicare (n=2,994)	
	Percent	Number	Percent	Number	Percent	Number
Acute myocardial infarction	2.1%	125	1.6%	19	0.5%	15
Alzheimer's disease	16.0%	973	3.2%	38	0.3%	10
Alzheimer's disease, related disorders, or senile dementia	34.6%	2,110	10.3%	122	2.0%	61
Atrial fibrillation	13.4%	819	4.2%	50	1.8%	55
Cancer, colorectal	2.0%	121	1.1%	13	0.5%	16
Cancer, endometrial	0.2%	15	0.3%	3	0.1%	2
Cancer, female breast	2.1%	129	1.8%	21	1.1%	34
Cancer, lung	1.5%	94	2.0%	24	0.7%	21
Cancer, Prostate	2.5%	154	0.9%	11	0.5%	16

Continues on the next page.

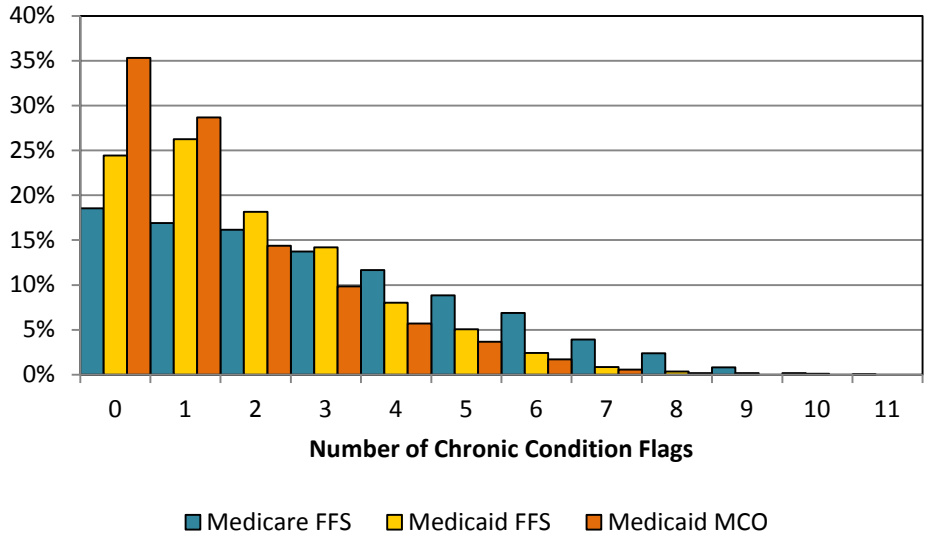
Table 1 continued. Chronic Conditions of New enrollees by Pathway, Maryland, 2008

CCW Flags	Medicare FFS -> Medicaid (n=6,094)		Medicaid FFS -> Medicare (n=1,182)		Medicaid MCO -> Medicare (n=2,994)	
	Percent	Number	Percent	Number	Percent	Number
Cataract	11.7%	710	7.5%	89	4.0%	121
Chronic kidney disease	23.8%	1,449	23.1%	273	13.1%	392
Chronic obstructive pulmonary disease	18.8%	1,147	11.2%	132	10.1%	301
Depression	27.3%	1,664	22.9%	271	29.6%	886
Diabetes	34.2%	2,083	31.7%	375	25.1%	750
Glaucoma	7.0%	427	4.2%	50	3.3%	98
Heart failure	25.0%	1,524	19.5%	230	12.5%	375
Hip/pelvic fracture	2.6%	159	0.3%	4	0.1%	4
Ischemic heart disease	33.9%	2,068	23.6%	279	19.2%	575
Osteoporosis	13.2%	805	5.4%	64	3.5%	105
Rheumatoid arthritis/ osteoarthritis	18.2%	1,112	10.3%	122	10.4%	311
Stroke/transient ischemic attack	18.3%	1,116	10.1%	119	4.8%	144
No chronic conditions	**18.2%**	**1,112**	**24.0%**	**284**	**34.7%**	**1,039**

In addition to the discrete chronic conditions found in the population, Hilltop looked at the number of co-occurring chronic conditions associated with each individual. Figure 1 compares the distribution of the number of conditions for each individual found in each of the pathways. The Medicare-to-Medicaid cohort had the broadest distribution, the highest percentage of individuals with five or more conditions (23 percent), and also the highest average, with three

co-occurring conditions per person. This was followed by the Medicaid FFS-to-Medicare population, with an average of two conditions per person, and the Medicaid MCO-to-Medicare population, with one condition per person. Across the study population, individuals were much more likely to have two or more co-occurring conditions than only one condition.

Figure 1. Number of Chronic Conditions by Pathway, Maryland, 2008



The distribution of co-occurring chronic conditions was also broken out for individuals who had either a Medicare SNF stay or Medicaid nursing facility NF stay in the 12 months before becoming dually eligible. As expected, individuals with a prior NF claim tended to have a higher prevalence of co-occurring conditions. Figure 2 compares the two cohorts for Medicare-to-Medicaid individuals and clearly illustrates the difference in the distribution of co-occurring conditions. In this population, individuals with no SNF experience have an average of two co-occurring conditions, whereas those with SNF experience have an average of four. Figure 3 examines Medicaid-to-Medicare individuals, and although co-occurring conditions are not as evenly distributed as in the preceding figure, the story is similar. Individuals with no NF experience have an average of one condition, whereas those with NF experience have an average of three. It is important to note that although most comparisons examine Medicaid FFS and Medicaid MCO separately, this one does not because of the fact that individuals receiving extended Medicaid NF services are not eligible to participate in HealthChoice.

Figure 2. Number of Chronic Conditions for Medicare-to-Medicaid Individuals by Skilled Nursing Facility Experience, Maryland, 2008

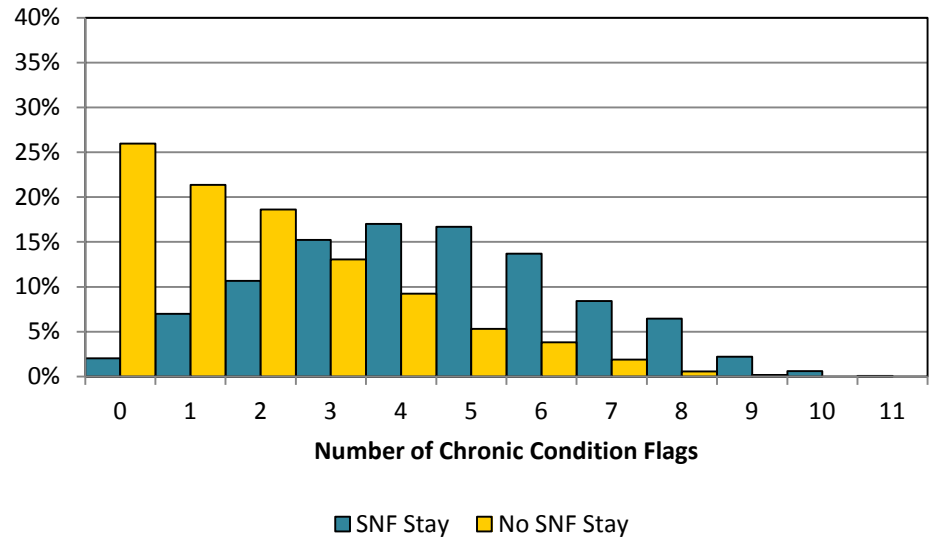
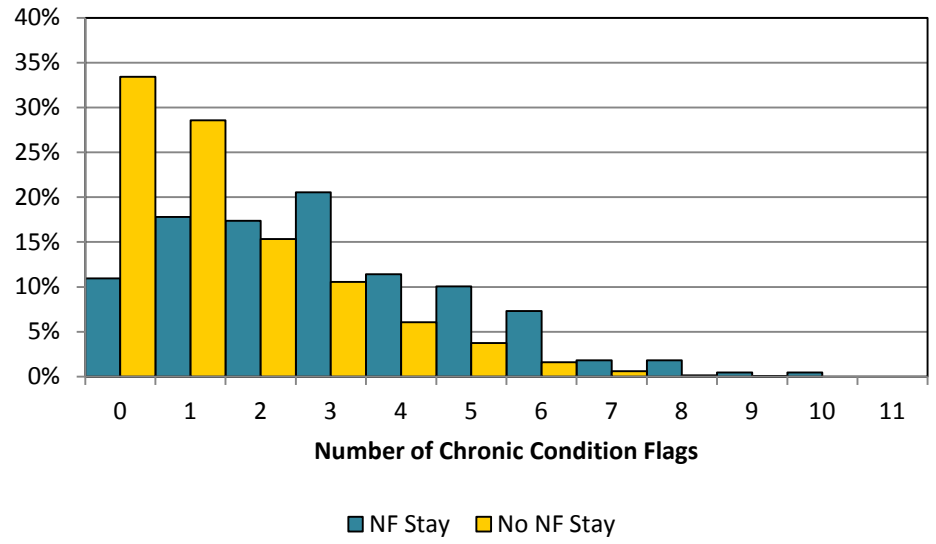


Figure 3. Number of Chronic Conditions for Medicaid-to-Medicare Individuals by Nursing Facility Experience, Maryland, 2008



In addition to the distribution of co-occurring chronic conditions, the prevalence of specific conditions were also broken out for individuals who had either a Medicare SNF stay or Medicaid NF stay in the 12 months before becoming dually eligible. Regardless of the pathway to

eligibility, conditions such as acute myocardial infarction, Alzheimer's disease or dementia, atrial fibrillation, and stroke were over three times more likely in the institutionalized population. The largest difference was for hip/pelvic fracture, which was over 10 times more likely. There were also very few individuals with a prior NF claim who had no chronic conditions.

Table 2. Chronic Conditions of the Medicare-to-Medicaid Population by Skilled Nursing Facility Experience, Maryland, 2008

CCW Flags	Medicare -> Medicaid with a SNF Stay (n=1,907)		Medicare -> Medicaid without a SNF Stay (n=4,187)	
	Percent	Number	Percent	Number
Acute myocardial infarction	4.1%	76	1.2%	49
Alzheimer's disease	29.2%	544	10.4%	429
Alzheimer's disease, related disorders, or senile dementia	65.6%	1,223	21.5%	887
Atrial fibrillation	27.0%	504	7.6%	315
Cancer, colorectal	2.5%	46	1.8%	75
Cancer, endometrial	0.3%	5	0.2%	10
Cancer, female breast	2.6%	49	1.9%	80
Cancer, lung	1.4%	26	1.6%	68
Cancer, prostate	3.9%	73	2.0%	81
Cataract	14.4%	269	10.7%	441
Chronic kidney disease	42.9%	799	15.7%	650
Chronic obstructive pulmonary disease	30.2%	562	14.1%	585

Continues on the next page.

Table 2 continued. Chronic Conditions of the Medicare-to-Medicaid Population by Skilled Nursing Facility Experience, Maryland, 2008

CCW Flags	Medicare -> Medicaid with a SNF Stay (n=1,907)		Medicare -> Medicaid without a SNF Stay (n=4,187)	
	Percent	Number	Percent	Number
Depression	42.7%	796	21.0%	868
Diabetes	46.4%	864	29.5%	1,219
Glaucoma	6.9%	128	7.2%	299
Heart failure	45.8%	853	16.2%	671
Hip/pelvic fracture	7.2%	135	0.6%	24
Ischemic heart disease	53.9%	1,005	25.7%	1,063
Osteoporosis	18.9%	353	10.9%	452
Rheumatoid arthritis/ osteoarthritis	30.0%	560	13.3%	552
Stroke/transient ischemic attack	34.1%	635	11.6%	481
No chronic conditions	**2.0%**	**38**	**26.0%**	**1,074**

Table 3. Chronic Conditions of the Medicaid-to-Medicare Population by Nursing Facility Experience, Maryland, 2008

CCW Flags	Medicaid -> Medicare with a NF Stay (n=223)		Medicaid -> Medicare without a NF Stay (n=3,953)	
	Percent	Number	Percent	Number
Acute myocardial infarction	3.2%	7	0.7%	27
Alzheimer's disease	7.8%	17	0.8%	31
Alzheimer's disease, related disorders, or senile dementia	39.3%	86	2.5%	97
Atrial fibrillation	8.2%	18	2.2%	87
Cancer, colorectal	0.5%	1	0.7%	28
Cancer, endometrial	0.5%	1	0.1%	4
Cancer, female breast	1.4%	3	1.3%	52
Cancer, lung	1.8%	4	1.1%	41
Cancer, prostate	0.5%	1	0.7%	26
Cataract	9.6%	21	4.9%	189
Chronic kidney disease	36.5%	80	15.1%	585
Chronic obstructive pulmonary disease	21.5%	47	9.9%	386
Depression	37.0%	81	27.7%	1,076
Diabetes	51.1%	112	26.1%	1,013
Glaucoma	1.4%	3	3.7%	145

Continues on the next page.

Table 3 continued. Chronic Conditions of the Medicaid-to-Medicare Population by Nursing Facility Experience, Maryland, 2008

CCW Flags	Medicaid -> Medicare with a NF Stay (n=223)		Medicaid -> Medicare without a NF Stay (n=3,953)	
	Percent	Number	Percent	Number
Heart failure	29.2%	64	13.9%	541
Hip/pelvic fracture	1.8%	4	0.1%	4
Ischemic heart disease	28.3%	62	20.4%	792
Osteoporosis	5.5%	12	4.0%	157
Rheumatoid arthritis/ osteoarthritis	9.6%	21	10.6%	412
Stroke/transient ischemic attack	34.7%	76	4.8%	187
No chronic conditions	**11.0%**	**24**	**33.4%**	**1,299**

Tables 4, 5, and 6 display the top 10 comorbidity[5] groups for each pathway, with Medicaid-to-Medicare individuals broken out between FFS and MCO. As was the case with individual chronic conditions, the age difference between the two pathways was a reliable indicator of the comorbidities present in each cohort. Medicare-to-Medicaid beneficiaries were more likely to have Alzheimer's disease or dementia combined with some other condition(s). Medicaid FFS-to-Medicare recipients were more likely to have a cardiovascular condition in conjunction with another condition(s), and the combinations for Medicaid MCO-to-Medicare recipients varied. Across the study population, there were no chronic conditions that clearly indicated a higher likelihood of comorbidity, although individuals with depression were slightly less likely to have other conditions.

[5] In this report, *comorbidities* are defined as unique combinations of the CMS chronic condition flags.

Table 4. Top 10 Comorbidities in the Medicare-to-Medicaid Population, Maryland, 2008

Medicare -> Medicaid	
Co-occurring Conditions	**Number**
Alzheimer's disease; Alzheimer's disease, related disorders, or senile dementia	68
Ischemic heart disease; diabetes	48
Diabetes; chronic kidney disease	36
Depression; diabetes	33
Depression; Alzheimer's disease, related disorders, or senile dementia	29
Glaucoma; diabetes	26
Ischemic heart disease; heart failure	26
Depression; Alzheimer's disease; Alzheimer's disease, related disorders, or senile dementia	24
Chronic obstructive pulmonary disease; diabetes	23
Depression; ischemic heart disease	23

Table 5. Top 10 Comorbidities in the Medicaid FFS-to-Medicare Population, Maryland, 2008

Medicaid FFS -> Medicare	
Co-occurring Conditions	**Number**
Diabetes; chronic kidney disease	19
Heart failure; chronic kidney disease	14
Heart failure; diabetes; chronic kidney disease	13
Ischemic heart disease; heart failure	13
Ischemic heart disease; diabetes	11
Ischemic heart disease; heart failure; diabetes; chronic kidney disease	10
Depression; rheumatoid arthritis/ osteoarthritis	9
Ischemic heart disease; chronic kidney disease	9
Rheumatoid arthritis/osteoarthritis; diabetes	9
Ischemic heart disease; diabetes; chronic kidney disease	8

Table 6. Top 10 Comorbidities in the Medicaid MCO-to-Medicare Population, Maryland, 2008

Medicaid MCO -> Medicare	
Co-occurring Conditions	**Number**
Depression; diabetes	50
Ischemic heart disease; diabetes	32
Depression; rheumatoid arthritis/osteoarthritis	31
Diabetes; chronic kidney disease	25
Depression; ischemic heart disease	23
Ischemic heart disease; heart failure	19
Ischemic heart disease; heart failure; diabetes; chronic kidney disease	19
Depression; chronic kidney disease	17
Depression; diabetes; chronic kidney disease	16
Ischemic heart disease; heart failure; chronic kidney disease	16

Expenditures and Utilization

Hilltop examined expenditures for new enrollees for up to 12 months before gaining eligibility for both Medicare and Medicaid for each of the 3 groups. Enrollees who gained eligibility to Medicare before Medicaid total 6,094 persons and have expenditures of $157,149,296 for 12 months of Medicare coverage prior to the individuals gaining enrollee status. The total group of Medicaid-to-Medicare enrollees accounts for 4,176 people with total Medicaid spending of $96,993,104 during the 12 months before gaining enrollee status. Per-member-per-month (PMPM) costs for the two pathways are fairly similar, with the Medicare-to-Medicaid group having a $2,228 PMPM and the Medicaid-to-Medicare group having a $2,820 PMPM, although these costs were for different service packages.

Great variation exists between the Medicaid FFS-to-Medicare group and the Medicaid MCO-to-Medicare group. The FFS group accounts for 28 percent of the Medicaid-to-Medicare group and 42 percent of Medicaid expenditures, totaling $40,687,266. Those covered by an MCO number

2,994, with $56,305,838 of Medicaid expenditures. The Medicaid FFS group also has a much larger PMPM at $5,170 compared with $1,893 for the MCO group. It is important to note that most instances of service use for the Medicaid MCO population are captured in the "MCO Capitation" category[6], although there are some dollars in the group outside of that capitated payment. This is because not everyone in this group stayed in HealthChoice during the entire 12-month span before they became dually eligible, and since the designation was made at the person level, the FFS costs accrued while not in HealthChoice were included.

Findings

Table 7 highlights the distribution of expenditures by service categories for each pathway. As previously mentioned, Medicaid claims data were grouped in such a way to mimic the standard Medicare categories. An explanation of the methodology can be found in Appendix A. The percent utilization column indicates the portion of the pathway group that had at least one claim in a given service category. Carrier claims, which represent payments to physicians, are the most common claims in both the Medicare and Medicaid FFS pathways. Inpatient and outpatient claims of the Medicaid FFS group surpass the Medicare group by 95% and 229% respectively, which appears to be one of the drivers of the difference in expenditures between the Medicaid FFS and Medicare groups. Another category of interest is the home health services Medicaid category. In Maryland, this would include programs such as personal attendant services and home- and community-based waivers. The Medicaid-to-Medicare service list includes expenditures that are not provided through Medicare. As an example, all the categories shaded blue are not Medicare covered services. However, these additional categories are not the only reason for the higher PMPMs. Although pharmacy is covered by Medicare through Part D, those data were not available for this report. Additionally, the benefit for NF stays is fundamentally different between the two programs, with Medicare coverage limited to short stays and Medicaid coverage extending to longer stays.

[6] Comparing costs between a fee for service population and a capitated population is challenging. The costs reported for the FFS population are actual payments for services, while a capitation payment is a fixed payment to a health plan covering a set of services. Our research did not examine the type, quantity or cost of the actual services individuals received through their health plan, since Maryland's encounter data does not include payment amounts.

Table 7. Pathway PMPMs by Service Categories, Maryland, 2008

Category	Medicare FFS -> Medicaid (n=6,094)		Medicaid FFS -> Medicare (n=1,182)		Medicaid MCO -> Medicare (n=2,994)	
	PMPM	Percent Utilization	PMPM	Percent Utilization	PMPM	Percent Utilization
Carrier	$299	91%	$601	86%	$172	46%
DME	$30	34%	$18	9%	$2	1%
Home health agency	$58	17%	$11	5%	$1	1%
Hospice	$21	2%	$19	1%	$0	0%
Inpatient	$1,200	48%	$2,336	39%	$222	9%
Outpatient	$190	69%	$625	52%	$77	19%
Nursing facility	$431	31%	$928	17%	$13	1%
Dental			$0	1%	$0	0%
Home health services			$146	7%	$253	10%
Pharmacy			$444	83%	$136	62%
Special services			$42	28%	$4	4%
MCO capitation					$1,013	100%
Total	**$2,228**	**100%**	**$5,170**	**100%**	**$1,893**	**100%**

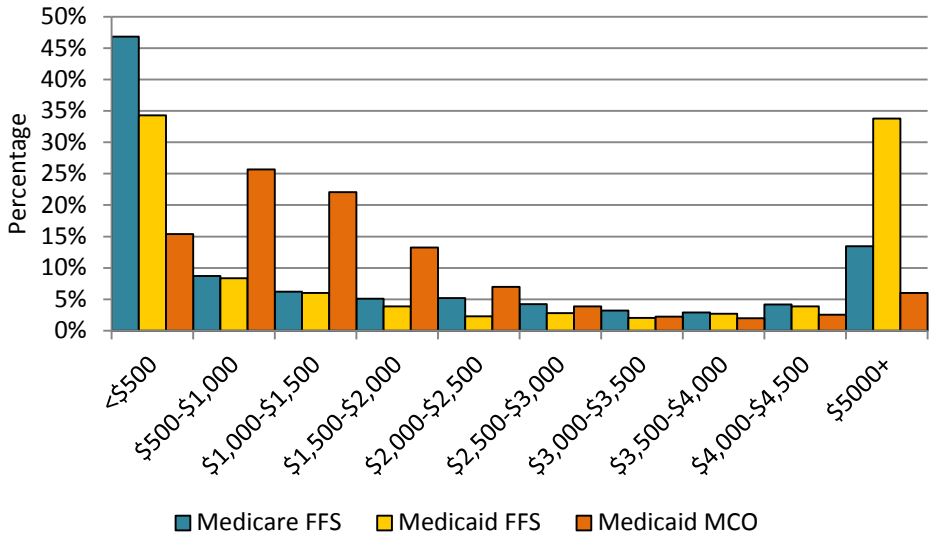
As shown in Table 8, those recipients with PMPMs of less than $500 a month account for the largest share of the distribution of PMPM costs. However, the mean PMPM for the Medicaid FFS group is more than double that of the Medicare FFS group. There are a few aspects that contribute to that difference. Part D pharmacy costs are not included in the Medicare claims in this analysis, and Medicaid offers a more robust service package, which was highlighted in Table 7.

Table 8. PMPM Expenditures of New enrollees by Pathway, Maryland, 2008

PMPM range	Medicare FFS -> Medicaid		Medicaid FFS -> Medicare		Medicaid MCO -> Medicare	
	Percent	Number	Percent	Number	Percent	Number
<$500	47%	2,852	34%	405	15%	461
$500-$1,000	9%	531	8%	99	26%	769
$1,000-$1,500	6%	380	6%	71	22%	660
$1,500-$2,000	5%	310	4%	46	13%	396
$2,000-$2,500	5%	317	2%	27	7%	209
$2,500-$3,000	4%	259	3%	33	4%	116
$3,000-$3,500	3%	195	2%	24	2%	67
$3,500-$4,000	3%	177	3%	32	2%	60
$4,000-$4,500	4%	254	4%	46	3%	76
$5000+	13%	819	34%	399	6%	180
Total	100%	6,094	100%	1,182	100%	2,994
Mean	**$2,228**		**$5,170**		**$1,893**	

Figure 4 displays the distribution of PMPMs for the three groups. The FFS groups reveal a bimodal distribution at both ends of the range, albeit with the Medicaid FFS having a greater balance at both ends of the distribution. Of note, 47 percent of Medicare enrollees have PMPMs of less than $500. This finding is notable considering the average Medicare beneficiary has three chronic condition flags. The Medicaid MCO group has 48 percent of its population between $500 and $1,500 for PMPM, whereas the Medicaid FFS group equally splits the group, with 34 percent either less than $500 or more than $5,000.

Figure 4. Distribution of PMPMs by Pathway, Maryland, 2008



The two main groups can also be analyzed based on the presence of either a SNF claim for the Medicare-to-Medicaid group or NF claim for the Medicaid-to-Medicare group. The subsequent PMPM distributions are displayed in Tables 9 and 10. For the Medicare-to-Medicaid group, only 35 percent are in the more than $5,000 group, as compared with 85 percent in the Medicaid-to-Medicare group. A portion of this can be explained by the difference in purpose and length of NF stays that are covered by Medicare as compared with Medicaid. Also, there is a more normal distribution in the Medicaid-to-Medicare group for those individuals without a NF claim as compared with the Medicare-to-Medicaid group with a much lower average, including 79 percent of the group with PMPMs of $1,000 or less.

Table 9. Distribution of Medicare-to-Medicaid PMPMs by Skilled Nursing Facility Claims, Maryland, 2008

PMPM range	Medicare -> Medicaid with a SNF Stay		Medicare -> Medicaid without a SNF Stay	
	Percent	Number	Percent	Number
<$500	1%	15	68%	2,837
$500-$1,000	4%	81	11%	450
$1,000-$1,500	7%	140	6%	240
$1,500-$2,000	9%	176	3%	134
$2,000-$2,500	11%	209	3%	108
$2,500-$3,000	9%	170	2%	89
$3,000-$3,500	7%	134	1%	61
$3,500-$4,000	7%	131	1%	46
$4,000-$4,500	10%	186	2%	68
$5000+	35%	665	4%	154
Total	100%	1,907	100%	4,187
Mean	**$5,024**		**$955**	

Table 10. Distribution of Medicaid-to-Medicare PMPMs by Nursing Facility Claims, Maryland, 2008

PMPM range	Medicaid -> Medicare with a NF Stay		Medicaid -> Medicare without a NF Stay	
	Percent	Number	Percent	Number
<$500	0%	0	22%	866
$500-$1,000	1%	2	22%	866
$1,000-$1,500	1%	2	18%	729
$1,500-$2,000	0%	1	11%	441
$2,000-$2,500	1%	3	6%	233
$2,500-$3,000	1%	3	4%	146
$3,000-$3,500	1%	3	2%	88
$3,500-$4,000	4%	8	2%	84
$4,000-$4,500	5%	12	3%	110
$5000+	85%	189	10%	390
Total	100%	223	100%	3,953
Mean	**$9,001**		**$2,472**	

Table 11 illustrates the average PMPM expenditures for each chronic condition flag by each pathway. As with the chronic condition distribution presented earlier, the same person would be counted multiple times if they had multiple conditions, and it is not possible to determine the contribution of any particular condition to the overall cost. The top three most expensive categories for the Medicare-to-Medicaid group were individuals with acute myocardial infarction, chronic kidney disease, and atrial fibrillation. For the Medicaid-to-Medicare group, the three most expensive categories were individuals with colorectal cancer, acute myocardial infarction, and hip/pelvic fracture. Medicaid-to-Medicare individuals have higher PMPMs for all but four conditions (female breast cancer, depression, osteoporosis, and rheumatoid arthritis/osteoarthritis) and generally greater variation in the PMPMs. However, this could potentially be explained by the fewer number of cases for many of the conditions in the Medicaid-to-Medicare group.

Table 11. Pathway PMPMs by Chronic Condition Flags, Maryland, 2008

Conditions	Medicare -> Medicaid (n=6,094)		Medicaid -> Medicare (n=4,176)	
	PMPM	Number	PMPM	Number
Acute myocardial infarction	$5,476	125	$9,887	34
Alzheimer's disease	$2,541	973	$3,589	48
Alzheimer's disease, related disorders, or senile dementia	$2,909	2,110	$7,047	183
Atrial fibrillation	$4,437	819	$6,763	105
Cancer, colorectal	$3,703	121	$11,053	29
Cancer, endometrial	$3,712	15	$6,660	5
Cancer, female breast	$3,590	129	$3,381	55
Cancer, lung	$3,559	94	$8,000	45
Cancer, prostate	$2,923	154	$2,991	27
Cataract	$2,538	710	$3,183	210
Chronic kidney disease	$4,690	1,449	$5,760	665
Chronic obstructive pulmonary disease	$3,970	1,147	$4,148	433
Depression	$3,316	1,664	$3,023	1,157
Diabetes	$3,378	2,083	$3,858	1,125

Continues on the next page.

Table 11, continued. Pathway PMPMs by Chronic Condition Flags, Maryland, 2008

Conditions	Medicare -> Medicaid (n=6,094)		Medicaid -> Medicare (n=4,176)	
	PMPM	Number	PMPM	Number
Glaucoma	$1,906	427	$2,055	148
Heart failure	$4,359	1,524	$5,215	605
Hip/pelvic fracture	$4,293	159	$8,366	8
Ischemic heart disease	$3,759	2,068	$3,944	854
Osteoporosis	$2,388	805	$2,077	169
Rheumatoid arthritis/ osteoarthritis	$3,044	1,112	$2,071	433
Stroke/transient ischemic attack	$4,007	1,116	$5,709	263

Summary of Major Findings

For the new enrollees in Maryland in CY 2008, the five most common chronic conditions, in order of frequency, were diabetes, ischemic heart disease, depression, Alzheimer's disease or dementia, and heart failure. Individuals were much more likely to have two or more co-occurring conditions than only one condition, and there were no chronic conditions that clearly indicated a higher likelihood of comorbidity. An examination of the claims data for these 10,270 individuals revealed a total expenditure of $254,142,400 for the 12 months before they became dually eligible. PMPM costs for the two pathways are fairly similar, with Medicare-to-Medicaid group having a $2,228 PMPM and the Medicaid-to-Medicare group having a $2,820 PMPM, although there were substantial differences in covered services and the distribution of spending between the two groups.

Overall, there were striking differences in chronic conditions, expenditures, and utilization rates between the Medicare-to-Medicaid and Medicaid-to-Medicare pathways. Medicare-to-Medicaid beneficiaries had a higher prevalence of conditions related to advanced age and were more likely to have at least one chronic condition. These individuals also had the highest percentage of individuals with five or more conditions (23 percent) and also the highest average, with three co-occurring conditions per person. Forty-seven percent of Medicare enrollees have PMPMs of less

than $500, which is notable considering that the average Medicare beneficiary has three chronic condition flags.

For the Medicaid-to-Medicare population, there were distinct differences between those enrolled in managed care and those receiving care through FFS due to the differences in age and acuity level between the two groups. The Medicaid FFS-to-Medicare population had a higher prevalence of every chronic condition except for depression and an average of two conditions per person, as compared with the MCO group, which had one condition per person. The FFS group accounts for 28 percent of the Medicaid-to-Medicare group and 42 percent of Medicaid expenditures, totaling $40,687,266. Those covered by an MCO number 2,994 with $56,305,838 of Medicaid expenditures. The Medicaid FFS group also has a much larger PMPM at $5,170 compared with $1,893 for the MCO group. The significant cost differences between Medicaid MCO and Medicaid FFS suggest the two groups may include individuals with dissimilar characteristics. Hilltop's research design did not include a detailed examination of differences between the two groups.

As expected, individuals with a prior nursing home claim tended to have a higher prevalence of co-occurring conditions and a higher average PMPM. In this population, individuals with no nursing home experience have an average of two co-occurring conditions, whereas those with nursing home experience have an average of four. Regardless of the pathway to eligibility, conditions such as acute myocardial infarction, Alzheimer's disease or dementia, atrial fibrillation, and stroke were more than three times more likely in the institutionalized population. The largest difference was for hip/pelvic fracture, which was more than 10 times more likely. Costs were also drastically different, and enrollees with a prior nursing home claim had an average PMPM of almost five times that of enrollees without nursing home experience.

Policy Implications

When examining both health status and costs, the findings in this study reinforce the theme of heterogeneity among persons who receive both Medicare and Medicaid. In the year before receiving benefits from both Medicare and Medicaid, individuals on either Medicaid or Medicare have a wide range of chronic conditions, a broad distribution in the number of chronic conditions (with most people having more than one), and diverse comorbidities. Highly individualized approaches to chronic disease management tailored to the distinct health needs and preference of each individual will be necessary to maintain optimal functional status among individuals.

Many individuals who are newly eligible for both Medicare and Medicaid had significant needs before their eligibility for both programs. To forestall functional decline, initiation of individualized chronic disease management programs should occur within both Medicaid and Medicare before a person's enrollment in both programs. Needs exist before qualifying for both programs, and waiting until a person has that status before providing appropriate supports may be problematic.

Individuals with an institutional stay during the year before enrollment in both programs are more costly and functionally impaired than other individuals. Given the relative uniformity of high costs and high impairment among this group, they require special attention as early as possible in their nursing home stay. These individuals can be identified relatively easily through claims data as well as the Minimum Data Set, and Medicare and Medicaid could target individualized interventions to them early in their institutional stays to improve their functional status. Earlier intervention for persons receiving NF care through Medicare could aim at reducing a person's length of stay and their likelihood of needing Medicaid coverage to pay for a longer stay.

Additional research is needed to better delineate the interplay among various comorbidities and to connect comorbidities with expenditures for persons who are moving toward eligibility for both Medicare and Medicaid. Hilltop's research provides a starting point for further analysis and policy development related to chronic disease patterns and expenditures within Medicare and Medicaid and across both programs.

Appendix A. Medicaid Claims Grouping Logic

Using the Research Data Assistance Center's (RESDAC) Medicare identifiable data file descriptions,[7] we examined The Hilltop Institute's Medicaid claims files to attempt to include those claims that most closely replicate the grouping used in Medicare categories.

Inpatient—UB92 institutional claims with a claim type of "Inpatient Hospital"

Skilled Nursing Facility—UB92 institutional claims with a provider type of "Nursing Home"

Outpatient—UB92 institutional claims with a claim type of "Outpatient Hospital"

Home Health Agency—HCFA1500 medical claims with a category of service of "Home Health Agency"

Carrier—HCFA1500 medical claims with the following provider types:

- Lithotripsy Facility
- Laboratories, Medical
- Psychologist
- Physician
- Nurse Anesthetists (Indiv. or Group)
- Nurse Midwife (Indiv. or Group)
- Nurse Practitioner (Indiv. or Group)
- Nurse Psychotherapist (Indiv. or Group)
- Mental Health Group Provider
- Mental Hygiene Administration Services
- Clinic, Abortion
- Clinic, Children and Youth
- Clinic, Drug Abuse (Methadone)
- Clinic, Family Planning

[7] RESDAC's Medicare identifiable data file descriptions are available from http://www.resdac.org/medicare/file_descriptions.asp#inpatient.

- Clinic, Federally Qualified Health Centers
- Clinic, Local Health Department
- Clinic, Maryland Qualified Health Centers
- Clinic, Rural Health
- Clinic, General
- Ambulatory Surgical Centers
- ADAA Certified Addictions Outpatient Program
- EPSDT Therapeutic Intervention
- EPSDT Therapeutic Nursery
- Dialysis Facilities
- Children's Medical Services Provider
- Diabetes Education
- Dietician/Nutritionist
- Social Worker
- Ambulance Services

Additional claims were included with a category of service indicating clinical labs.

Hospice—HCFA1500 medical claims with a category of service of "Hospice Services"

Durable Medical Equipment—HCFA1500 medical claims with a category of service of "Durable Medical Equipment"

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