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analysis to advance the health of vulnerable populations

A Framework for State-Level Analysis of Duals: Interleaving Medicare and Medicaid Data

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Table of Contents

Executive Summary i

Introduction 1

Background on Medicare and Medicaid Benefits 3
- Medicare 3
- Medicaid 7

Data Sources 10

Crossover Claims and the Hilltop Crossover Framework 12
- The Hilltop Crossover Framework 13

A Population of Duals 15

Medicare and Medicaid Service Use and Costs 19
- Hospital Inpatient 19
  - Illustrating Hospital Stays 20
  - Linking Medicare and Medicaid (Crossover) Claims 22
- Nursing Facility and ICF/MR 25
- Home Health and Other Community Supports 28
- Hospice 32
- Physician, Outpatient, and Durable Medical Equipment 34
- Summary of Medicare and Medicaid Payments 39

Next Steps 44

Appendices:
(1) Additional Crossover Framework Summary Tables
(2) Measures of Nursing Facility Days and Stays from LTC MDS Data
(3) Crossover Claims and Diagnosis-Based Patient Health Risk

List of Tables and Figures

Tables:

1. Medicare Savings Program Eligibility Criteria and Medicaid Benefits, 2007 8
2a. Continuously Enrolled Duals in Maryland: Medicare & Medicaid Coverage/Status..............16
2b. Continuously Enrolled Duals in Maryland: Selected Grouping Criteria.................................18
3. Example Medicare and Medicaid Claims for a Selected Beneficiary 22
4. Crossover Framework – Medicare & Medicaid Payments for Duals w/ Full Medicaid (2006)
Hospital Inpatient...23
5. Crossover Framework – Medicare & Medicaid Payments for Duals w/ Full Medicaid (2006)
Nursing facility and ICF/MR...27
6. Crossover Framework – Medicare & Medicaid Payments for Duals w/ Full Medicaid (2006)
Home Health and Other Community Supports...31
7. Crossover Framework – Medicare & Medicaid Payments for Duals w/ Full Medicaid (2006)
Hospice 33
8. Crossover Framework – Medicare & Medicaid Payments for Duals w/ Full Medicaid (2006)
Physician, Outpatient, and DME 37
9. Crossover Framework – Part B Deductibles & Copays, Duals w/ Full Medicaid (2006).........38
10a. Total Medicare & Medicaid Payments for Duals w/ Full Medicaid (2006) 41
10b. Crossover Framework – Medicare Payments for Duals w/ Full Medicaid (2006)................42
10c. Crossover Framework – Medicaid Payments for Duals w/ Full Medicaid (2006) 43

Figures:

1. Traditional (Fee-For-Service) Medicare Cost Sharing 5
2. The *Hilltop Crossover Framework* 13
3. Standard Medicare Inpatient Hospital Benefit Period 21

A Framework for State-Level Analysis of Duals: Interleaving Medicare and Medicaid Data

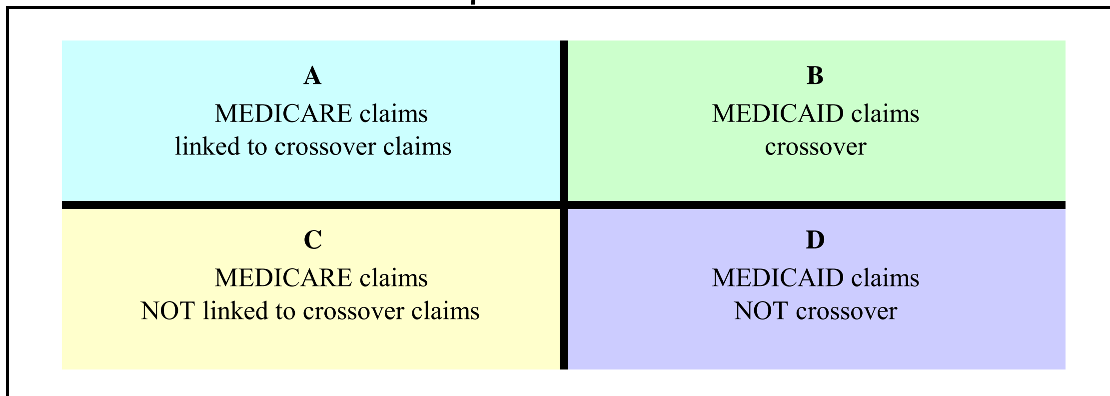
Executive Summary

The Maryland Department of Health and Mental Hygiene is supporting the development of analytical resources designed to address a variety of research questions related to the coordination of care for Medicaid recipients who are dually eligible for Medicare benefits (dual eligibles or duals, for short). As part of that larger effort, the state is beginning to examine the cross-payer effects of providing Medicaid long-term care supports and services 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*, is focusing on issues related to setting Medicaid payment rates. Although based on Maryland data alone, results from this study will be broadly relevant to other states as well.

As the first of several reports under the grant, this document is written to present an initial framework, or context, for analyses that integrate data on Medicare and Medicaid resource use and costs. More generally, it is intended to serve as a preliminary guide for analysts working with state Medicaid agencies on these issues. *The Hilltop Crossover Framework*, introduced as an orienting reference device in this guide, is based on a two-by-two format 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.

The Hilltop Crossover Framework



Section A reflects Medicare activity that can be directly linked to Medicaid crossover claims. Section B reflects Medicaid crossover claims and costs, including claims for which no specific Medicare claim can be found. Section C shows Medicare activity that is not reflected in Medicaid claims; including 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 costs 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 costs incurred once the Medicare benefit is exhausted.

Note that Section C of the framework may have special significance for analysts using Medicaid data alone to assess service use and costs for Medicare beneficiaries, including the impact of coordinated care programs for duals. Data reflected in this section indicate the extent to which Medicaid crossover claims may be an incomplete reflection of Medicare health service use and costs. Determining diagnosis-based relative health risk from crossover claims alone to support rate setting and other program assessments, for example, may provide distorted results because of diagnoses that are only reflected in this section of the framework. Similarly, analysis of patterns of hospitalization based on Medicaid claims alone may be compromised by 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.

There were roughly 104,000 individuals with dual benefit coverage under both Medicare and Medicaid in Maryland at some time during calendar year 2006 in Maryland. Nearly 80 percent (82,104) of that population were continuously enrolled. Continuously enrolled duals in this report 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 for whom Medicaid covers only Medicare premium and coinsurance costs, but excludes those who became duals after the beginning of the year. The study population for this report is limited first to those who are continuously enrolled, and then (when examining service use) to duals with full Medicaid benefits, in order to more clearly highlight the relationships between Medicare and Medicaid program services and costs.

Of those who were continuously enrolled, 65.6 percent were female. Close to 38 percent of duals were younger than 65, and, of this group, 98 percent received social security disability insurance (SSDI). 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. However, this last group was excluded from the main service use and cost results for this report because MA plans are not required to submit Medicare claims data and those data were not otherwise available.

Seventy-three percent of continuously enrolled duals had full Medicaid benefits during the year. Again, the remaining 27 percent, who received only limited Medicaid support, along with duals enrolled in MA plans, were excluded from the main crossover framework tables in this report. However, summary crossover framework results for these excluded groups are included in Appendix 1 of this guide.

Medicare and Medicaid service use and costs reflected in this guide are limited to those that are evident in claims data. Pharmacy costs are not included because Medicare Part D data are not yet available. The state contributions toward Part D costs (commonly referred to as the "clawback") are not included. Premium costs for Medicare Part A and Part B are also not included, although estimates of these expenses are shown to be close to $100 million for all duals.

Selected findings related to Medicare and Medicaid claim costs for continuously enrolled duals with full Medicaid benefits and no MA plan enrollment include:

- Combined Medicare and Medicaid payments on behalf of 53,909 continuously enrolled duals with full Medicaid benefits and no MA plan enrollment were $1.925 billion in CY 2006 (excluding pharmacy, clawback, and other Medicare premium costs). 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 are equivalent to $3,113 per member per month (PMPM) for all 53,909 duals.

- Inpatient hospital claims accounted for 22.4 percent of all Medicare and Medicaid costs 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 costs that covered home health and other community support services. The 20.5 percent of total costs 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. Hospice benefits accounted for the remaining 1.2 percent of payments.

- Recipient payments (contributions) for institutional long-term care (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 nursing facilities 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 costs.

- Medicare claims that were not matched to Medicaid crossover claims represented 37.3 percent of all Medicare payments. These claims account for $446 PMPM of activity that is not represented in Medicaid claim files, and 14.3 percent of all Medicare and Medicaid claim costs for this population. Prior analysis that will be updated as part of this grant suggests that the influence of these "missing" data may be pronounced for analyses that rely on diagnoses. For example, the average relative risk for duals with full Medicaid benefits in 2003 was 1.379 using diagnoses drawn from Medicare claims and 0.852 using

diagnoses from Medicaid crossover claims alone. Thus, using diagnoses from Medicaid claims alone suggests a healthier population than would otherwise be the case using more complete data.

- While Medicaid paid $1.185 billion of total Medicare and Medicaid claim costs, 49 percent of those payments were for institutional LTC and 35.1 percent were for community supports. Payments for Medicare cost sharing 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 on behalf of this population in CY 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 (DD) waiver costs for 5,605 duals were 23.3 percent of Medicaid payments and 14.4 percent of total Medicare and Medicaid payments.

With respect to next steps, a second study phase will examine—in increasingly greater detail using the crossover framework as a starting point—patterns of service use for specific sub-groups. General issues that will initially shape these analyses include: the impact of home- and community-based service waiver participation on Medicare and Medicaid institutional service use; avoidable hospitalizations; patterns of post acute care; Medicare home health and Medicaid community supports; and other related issues. A third phase will establish a rate setting context for duals with full Medicaid benefits. The equivalent of capitation rates for Medicaid program costs will be developed along the lines of comparable rate setting efforts to support managed care programs for dual eligibles in other states that seek to coordinate Medicaid payments with health plans that also operate as MA Special Needs Plans. Capitation-like rates for Medicare program costs will be established using the Centers for Medicare and Medicaid Services Hierarchical Coexisting Conditions payment system. A final phase of the overall grant study plan underlying this effort will explore how the lessons learned about patterns of service use and costs in the second phase of the study can be applied in the context of rate setting established in the third phase.

A Framework for State-Level Analysis of Duals: Interleaving Medicare and Medicaid Data

Introduction

There is increasing interest among state Medicaid administrators—and researchers more generally—in the development and assessment of Medicaid program alternatives to better coordinate the provision of state benefits for those who are dually eligible for both Medicare and Medicaid (duals), particularly regarding long-term supports and services. Better coordination of services 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 long-term supports and services for the aging and disabled population; and reduce the cost of Medicaid and Medicare services through more effective use of available resources. This broad set of goals is embodied explicitly in Section 231 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA), under which Medicare Advantage Special Needs Plans (SNPs) were created to serve vulnerable populations. The Centers for Medicare and Medicaid Services (CMS) has already begun to provide extensive guidance and related support to states to encourage the development of programs designed to integrate Medicare and Medicaid program alternatives.[1] The promise of better coordination, particularly of long-term supports and services, also underlies now long-standing objectives set by CMS to support the development of alternative delivery approaches, from home- and community-based services (HCBS) waivers to Money Follows the Person demonstrations. These programs are intended to provide a broader spectrum of program choices to improve the quality of life for Medicaid recipients in general and to moderate dependence on institutional care in particular.

It is useful to note that, while the term "coordination of benefits" for duals under Medicaid has historically been concerned with issues involving payment for "crossover" Medicare claims,[2] the coordination of care now involves a broader array of concerns—from how states can best integrate benefits with SNPs to understanding whether and how the provision of long-term care (LTC) supports and services under Medicaid may affect total (Medicare and Medicaid) resource use. This new level of consideration may, for example, help determine whether and how added costs for community support services under Medicaid can improve the quality of care, as well as offset other resource costs under both programs and, thus, help justify those added costs through the redistribution of existing resources. More broadly, combining analysis of Medicare acute care and Medicaid long-term supports and services is an important source of emerging research on the full continuum of care that will help shape health system reform efforts designed to focus beyond acute care alone, at both the state and federal levels.

[1] A CMS website created to assist states can be found at: http://www.cms.hhs.gov/integratedcareint/ .

[2] The term "crossover" is commonly used to refer to claims in Medicaid claim files that reflect the portion of Medicare payments that state Medicaid programs are responsible for on behalf of Medicaid beneficiaries. Medicare claims are first processed and then, if the patient is flagged as Medicaid, a copy of the claim "crosses over" to the appropriate state Medicaid agency. Crossover payments generally include deductibles and copayments for Medicare-covered services.

As part of its ongoing consideration of these issues, the Maryland Department of Health and Mental Hygiene (DHMH) is supporting the development of analytical resources designed to address a variety of research questions related to the coordination of care for duals. This document is written to present an initial framework for analyses that integrate data on Medicare and Medicaid resource use and costs. It is the first of four study components under a grant from the Robert Wood Johnson Foundation (Changes in Health Care Financing and Organization).[3] It is also intended as a preliminary guide for analysts working with state Medicaid agencies. As such, the first sections below include brief descriptions of core benefits, covered populations, and primary data sources under each program. Emphasis in those sections is placed on establishing key terms and definitions needed as a baseline for analysis of duals more generally. Analysts with a good prior understanding of such issues may want to skip ahead more directly to the discussion of crossover claims and *The Hilltop Crossover Framework*, which is the central orienting device used here to array service use and costs for duals. After the introduction of the framework, a specific population of duals in Maryland with continuous coverage under both programs during calendar year 2006 is outlined in some detail. Finally, summary results of Medicare and Medicaid claims and costs associated with broad categories of service use for that population are presented and discussed within the context of crossover claim activity.

While the initial background sections on basic Medicare and Medicaid benefits and population are intended to be general in nature, Medicaid benefits vary considerably from state to state. Data on resource use and costs in this document are limited to those for duals in Maryland. The pattern of detail in the relationship between Medicare and Medicaid will be somewhat different in other states. Yet, in spite of that variation, this document is a useful model for how other states might establish a framework to approach similar comparisons to those that will readily flow from this work in Maryland. Thus, it is the perspective inherent in this approach, rather than the specific detail included below, that is offered as an example for other states.

[3] HCFO Grant #63756, Medicaid Long-Term Care Programs: Simulating Rate Setting and Cross-Payer Effects. Other study components will look at rate setting expectations, articulate resource use across programs in detail for important sub-groups, and then synthesize the information on rate expectations and resource use to explore interactive effects relevant to coordinated/integrated care for duals.

Background on Medicare and Medicaid Benefits

Analysts who are interested in the integration/coordination of service use under Medicare and Medicaid often tend to have more intimate knowledge of one program or the other. This section is written for those with more limited knowledge of one or both programs in order to establish some basic terms that are needed to understand their underlying relationship.

While a full review of the development of government-sponsored health insurance is beyond the scope of this guide, it is useful to note that, prior to the mid-1960s, most health insurance was sponsored through employers (as is the case today). Employer-sponsored access to the insurance market grew during and after the 1940s, in particular, because of changes in the federal tax code that allowed employers to treat their contribution for health insurance as an employee benefit that could be deducted as a business expense. By the 1960s, broader efforts to establish a more comprehensive national insurance program were influenced by that current market. Opponents of a single national approach to health insurance did not see the need for a larger federal role in light of existing employer-sponsored insurance. At the same time, those who supported a more comprehensive national approach saw the promise of new programs for those who did not have access to employer-sponsored coverage as an acceptable alternative to the continuing absence of coverage for key vulnerable populations.

The Medicare and Medicaid programs were both established under the Social Security Act of 1965 (SSA) to cover populations that did not have routine access to health insurance. However, they were intended to address distinctly different circumstances. The Medicare program was established to ensure access to basic medical care—limited to primary and acute care costs—for working adults who retire and their dependents. Amendments to the SSA (in 1972) broadened access to Medicare benefits to include workers who are no longer able to work because of a disability. The Medicaid program was intended to ensure a full spectrum of acute and long-term care for low-income families with children who could not otherwise afford medical care. Childless adults with low incomes were excluded from Medicaid because they were assumed to have access to coverage through their employment (and it was assumed that they should be employed). One consequence of the fact that Medicare does not cover long-term custodial care is that Medicaid has evolved—in the absence of a well-developed private insurance market for LTC—into the primary source for LTC supports and services for low-income individuals, as well as those who have become impoverished as a result of LTC needs.

Medicare

Medicare is a federally administered health insurance program established under Title 18 of the SSA. It covers primary and acute health care needs for eligible individuals who are at least 65 years of age, as well as younger persons with permanent disabilities. Medicare is an integral part of the federal Social Security System that is supported financially through a combination of payroll taxes, beneficiary premiums, and other federal and patient funding. Individuals receive old-age benefits under Medicare at age 65 if they or their spouse have made payroll tax

contributions for 10 or more years and/or 40 calendar quarters[4] and are otherwise eligible for Social Security payments. Adults between the ages of 18 and 65 may become eligible for Medicare benefits if they receive Social Security Disability Income (SSDI) payments for at least 24 months. SSDI is essentially a disability insurance program for those who have paid Social Security employment taxes to some extent, although not necessarily for the 40 quarters required for general old-age benefits. Children less than 18 years of age may become eligible for Medicare if they have end-stage renal disease or amyotrophic lateral sclerosis (ALS), often referred to as "Lou Gehrig's Disease." Individuals do not need to meet an income or assets test to qualify for Medicare. Nationally, 84 percent of Medicare beneficiaries are over 65 years of age, while 16 percent are under 65 and disabled. Less than .01 percent of Medicare beneficiaries are children under 19 years of age and the majority of those children have end-stage renal disease.[5]

The Medicare program consists of four general components, or “parts,” that cover primary and acute care services, a limited set of short-term post-acute services, and drugs. The program does not cover long-term custodial care. Medicare Parts A and B are original components of the program as established under the SSA. Medicare Part A (hospital insurance) covers acute inpatient care in hospitals, skilled nursing facility (SNF)[6] care related to a hospital stay, hospice care, and some home health services. Patients are responsible for a deductible for each hospital stay benefit period and coinsurance starting on day 61 of a long benefit period. There is typically a 90-day limit (and 60 additional non-renewable lifetime reserve days) for any given hospital stay benefit, although a new hospital stay benefit period can start after 60 days following a hospital or SNF discharge. SNF care is generally limited to 100 days per benefit period associated with an acute care hospital stay of at least three days. Days 21 to 100 of an SNF stay are subject to coinsurance. In all but relatively few instances, there is no premium associated with Part A coverage. A Part A premium may apply if the beneficiary has not contributed FICA taxes for the requisite number of calendar quarters. United States residents who are at least 65 years of age with no (or very limited) work history can also apply for Medicare and pay a full Part A premium to establish coverage.

Medicare Part B (medical insurance) is optional under the program and covers physician services, outpatient care, and other non-institutional clinical support services, such as physical and occupational therapy and durable medical equipment. There is a monthly premium for Part B coverage, as well as an annual deductible and coinsurance for most services once that deductible is met. Figure 1, below, illustrates some of the key elements of Medicare cost-sharing across categories of service. Arrows in the figure reflect potential relationships of cost-sharing components between categories of service.

[4] Federal Insurance Contributions Act (FICA) payroll taxes are typically split into employee withholding and employer portions, or included with other tax payments for those who are self-employed.
[5] Source: CMS, Office of Information Services: Data from the 100 percent Denominator File; data development by the Office of Research, Development, and Information.
[6] CMS commonly uses the acronym SNF to refer to Medicare covered stays in a nursing facility, primarily because Medicare coverage requires a need for skilled care. The acronym NF is commonly associated with nursing facility stays that are not covered by Medicare, even though that care may require skilled services.

While Medicare is primarily operated on a traditional fee-for-service (FFS) basis, whereby payment is made for each service, Medicare Part C offers beneficiaries the option to enroll in private managed care health insurance plans, such as health maintenance organizations (HMOs) or preferred provider organizations (PPOs). These plans receive prospective per-capita payments on a monthly basis to provide a full array of Medicare-covered benefits. Under Medicare Part C, now known as the Medicare Advantage (MA) program, beneficiaries agree to limit their choice of providers to a given MA plan, typically in return for additional (non-Medicare-covered) benefits and/or more limited cost sharing than is required of patients under FFS. Risk-based funding of Medicare MA plans was initially intended to take advantage of efficiencies in managed care that would help reduce the cost and improve the quality of care through better coordination of available resources. As of 2008, more than 600 MA plans (contracts) enrolled over 9.5 million beneficiaries.[7] MA enrollment is expected to grow with the introduction of SNPs. Coverage under Medicare Part C is not addressed in detail in this document largely because MA plans are not required to submit claims data for services they provide and there is no other publicly available source for such data. However, it is important to note that, as states enter into formal arrangements with MA plans to provide Medicaid-covered benefits to recipient, they may need to consider how they can ensure sufficient information flow from providers in order to effectively monitor those activities. In the absence of federal requirements to report such data, states may need to develop new data sharing agreements specifically designed for more fully integrated health service delivery programs.[8]

Finally, the MMA also established the fourth component of the Medicare program, Medicare Part D, which offers prescription drug coverage through private insurance plans. Part D coverage requires a mix of premium payments, deductibles, and coinsurance that can vary from one pharmacy benefit plan to another. Although optional to most, all duals are automatically enrolled in Part D as a federally mandated Medicaid benefit. The final rule for regulations regarding access to Part D data was published in May of 2008[9]; thus, Part D data were not available for this study and are not addressed in detail in this guide.

Medicare premiums, deductibles, and copayments are generally the responsibility of the beneficiary, although many beneficiaries maintain supplemental insurance—referred to as wraparound or Medigap policies—to cover out-of-pocket expenses associated with Parts A, B, and D. Medicaid covers these beneficiary expenses to varying degrees for duals.[10]

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[7] Source: CMS Medicare Advantage/Part D enrollment data (http://www.cms.hhs.gov/MCRAdvPartDEnrolData/). May 2008.

[8] Milligan, C. J., & Woodcock, C.H. (2008, February). Coordinating care for dual eligibles: Options for linking state Medicaid programs with Medicare Advantage Special Needs Plans. *The Commonwealth Fund, 32*.

[9] See the CMS website at: http://www.cms.hhs.gov/PrescriptionDrugCovGenIn/08_PartDData.asp

[10] More detailed information on Medicare eligibility and benefit limits, including deductibles and copayments can be found on the CMS Medicare website (http://www.Medicare.gov). See the Kaiser Family Foundation website (http://www.kff.org/medicare) for other useful guides and related summaries.

Figure 1: Traditional (Fee-For-Service) Medicare Cost Sharing

***Benefit period*:**
Start: 1st day of inpatient/SNF care
End: 60 consecutive days with no inpatient/SNF care

Part A

Inpatient
- Deductible
- Annual blood deductible* + applicable coinsurance
- Coinsurance: **61-90** days (1/4 deduct); **91-150**** days (1/2 deduct); **>150** days (100%)

*Combined for Part A & Part B
**Lifetime reserve

SNF
- Coinsurance: **1-20** days (no deduct); **21-100** days (1/8 deduct); **>100** days (100%)

Home health
- Coinsurance: 20% for supplies, DME, prosthetics/ orthotics

Hospice
- Coinsurance: 5% for drugs* & biologicals; 5% of inpatient respite care days charge

*Prior to Part D

Part B

Outpatient
- Part B annual deductible
- Annual blood deductible* + applicable coinsurance
- Coinsurance: Typically 20%

*Combined for Part A & Part B

Physician
- Part B annual deductible
- Coinsurance: Typically 20%

DME
- Part B annual deductible
- Coinsurance: Typically 20%

Type of benefit

Note: Arrows reflect potential relationships of cost-sharing components between categories of service.

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Medicaid

Medicaid is a state/federal partnership program that is administered by each state under federal guidelines to provide medical assistance to low-income families with children who cannot afford medical care. It was established under Title 19 of the SSA. Title 19 establishes mandatory eligibility categories and mandatory services but gives states extensive flexibility to include optional eligibility and service categories. Eligibility criteria and benefits are articulated in a plan established by each state. Thus, there is considerable variation in the categories of beneficiaries and the types of services covered across states.[11] States also receive matching federal funds, defined as the Federal Medical Assistance Percentage (FMAP), of at least 50 percent and up to 80 percent for each Medicaid dollar spent, depending on the state income level. Certain programs and services, such as the State Children's Health Insurance Program (SCHIP) and Medicaid-financed family planning, are eligible for a higher (or enhanced) match.

Eligibility for Medicaid can be broadly defined within two groups: categorically needy and medically needy. Individuals defined as *categorically needy* are automatically eligible based on broadly defined circumstances of need. Those who are federally mandated as categorically needy include: low-income families with children, where "low-income" is defined by the state's income requirements for cash assistance; pregnant woman and young children with family incomes at or below 133 percent of the federal poverty level (FPL); and certain individuals in medical institutions with monthly incomes up to 300 percent of the requirements for the federal Supplemental Security Income (SSI) program. SSI is a cash assistance program that was established under the 1972 amendments to the SSA. SSI eligibility is available to persons who are aged, blind, or disabled, have limited assets, and incomes at or below 74 percent of the FPL. Many states, including Maryland, use SSI income requirements as the threshold for cash assistance in the state. Other states that retain income and disability standards for cash assistance that pre-date the 1972 amendments may have more stringent requirements. SSI recipients may or may not be eligible for Medicare, although most duals receive SSI. Among duals who receive SSI, those who are 65 and older generally receive Medicare as an old age benefit; those who are under age 65 are typically eligible for Medicare under SSDI. Furthermore, states have the option of including other categorical groups. Examples of optional categorically needy coverage groups include: Medicare beneficiaries who meet certain income and asset requirements; persons who qualify as working with a disability; women who have breast cancer or cervical cancer; and people with tuberculosis who are not otherwise insured.

Medicaid recipients who are defined as *medically needy* have high medical expenses and may be subject to a higher income threshold than the categorically needy. There is also both mandatory and optional coverage for this group. Among those who meet the criteria for the medically needy, pregnant women, children under 18 years of age, certain newborns, and protected blind persons are federally mandated for coverage. Children under age 21 and their caregivers; persons

[11] Good guides to Medicaid eligibility and benefits include: the Kaiser Foundation Medicaid Resource Book (http://www.kff.org/medicaid/2236-index.cfm); Medicaid-At-a-Glance, which is available from CMS at (http://www.cms.hhs.gov/MedicaidDataSourcesGenInfo/Downloads/maag2005.pdf); and the main CMS website (http://www.cms.hhs.gov/medicaideligibility/).

who meet requirements for categories defined as aged, blind, and disabled; and persons who would be eligible if not enrolled in a group health plan are all optional coverage categories.

In some cases, Medicaid benefits are limited to certain types of expenditures. For example, under the Medicare Savings Program (MSP), Medicare beneficiaries with incomes less than 100 percent of the FPL are designated Qualified Medicare Beneficiaries (QMBs). While the Medicaid program covers all patient costs for QMBs who are otherwise eligible for full Medicaid benefits in a given state, Medicaid is only required to cover Medicare Part B premiums and cost sharing (deductibles and copayments) on behalf of QMBs with incomes that fall between the state's cash assistance requirements and 100 percent of the FPL. Medicare beneficiaries with slightly higher levels of income are only eligible for Part B premium support under Medicaid once they are designated as Specified Low-Income Medicare Beneficiaries (SLMBs) or Qualified Individuals (QIs). Medicaid also covers Part A and Part B premiums for SSDI recipients who return to work and are designated Qualified Disabled Working Individuals (QDWIs). Depending on the relevant state plan, these groups may or may not receive full Medicaid benefits, such as LTC supports and services. Maryland does not now provide full Medicaid benefits to QMBs, SLMBs, or QIs who do not otherwise meet the state's requirements for cash assistance (tied to SSI). Table 1 lists mandated Medicaid benefit coverage, along with asset and income limits, for these classes of Medicare beneficiaries under the MSP.

Table 1: Medicare Savings Program Eligibility Criteria and Medicaid Benefits, 2007

Classification	Medicaid Benefits	Required	Optional
Qualified Medicare Beneficiary (QMB)	Medicare premiums and cost sharing	Income: up to 100 percent of FPL Asset limit: $4,000 (individual); $6,000 (couple)	None
Specified Low-income Medicare Beneficiary (SLMB)	Medicare Part B premium	Income: 100-120 percent of FPL Asset limit: $4,000 (individual); $6,000 (couple)	None
Qualified Individual (QI)	Medicare Part B premium	Income: 120-135 percent of FPL Asset limit: $4,000 (individual); $6,000 (couple)	None
Qualified Disabled Working Individual (QDWI)	Medicare Part A premium (beneficiaries who previously qualified for Medicare because of a disability but then returned to work may purchase Medicare Parts A and B)	Income: 200 percent of FPL Asset limit: None	None

Source: Kaiser Family Foundation, Medicare: A Primer, 2007; Med Pac, Report to Congress: New Approaches in Medicare, Chapter 3: Dual-Eligible Beneficiaries: An Overview, 2004.

For everyone with another source of insurance, Medicaid serves as the payer of last resort. For duals (who have Medicare), the state covers Medicare premiums and coinsurance costs, the cost of care when Medicare benefits are exhausted; and, when individuals use up existing assets to pay for extended care, the state covers LTC services that Medicare does not cover. Medicaid recipients who receive institutional LTC under Medicaid are also required to contribute some portion of their ongoing income to pay for those services. After accounting for other family members (spouses and other dependents), the state establishes what portion of an institutionalized recipient's income, such as regular social security and/or SSI payments, should be contributed toward that care. Nursing facility (NF) providers then receive that recipient payment and the Medicaid program pays the balance of the provider charge up to the Medicaid-defined NF rate. LTC services under HCBS waivers are not subject to the same level of recipient payments under the assumption that those funds are needed to cover living expenses in the community.

Access to LTC under Medicaid is generally determined based on level-of-care (LOC) criteria established by each state. Historically, that determination has been referred to as a nursing home level of care (NHLOC) because Medicaid LTC was generally limited to institutional settings such as nursing homes[12]. More recently, Medicaid LTC programs have come to emphasize home- and community-based services as an alternative to institutional care, although states still tend to refer to an NHLOC standard to establish access rights to those services. Income requirements are generally higher for those who receive an NHLOC than the community standard (based on no more than 100 percent of the FPL). In Maryland, for example, individuals who meet an NHLOC can have income up to 300 percent of SSI (that is, the equivalent of 220 percent of the FPL). Thus, NHLOC status—whether associated with institutional or home- or community-based care—is a common first point of entry for Medicaid coverage, particularly for individuals who are in the process of "spenddown"[13] associated with institutional LTC. Because access to HCBS waiver services is limited to a certain number of "slots" in most states (including Maryland), nursing home care remains the most common avenue to Medicaid benefits for those who require LTC supports. These general requirements for access to Medicaid LTC services comprise one aspect of what is broadly referred to as the institutional bias underlying Medicaid LTC coverage.

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[12] The reference to nursing homes, here, is more specifically related to people with a physical (as opposed to developmental) disability. An intermediate care facility for the mentally retarded (ICF/MR) is the more appropriate institutional reference for persons with a developmental disability.

[13] The term "spenddown" is used for the process whereby individuals formally begin to exhaust assets and income, most often in an institutional setting, in order to maintain Medicaid eligibility under categories designated medically needy. Individuals on spenddown are generally eligible for full Medicaid benefits but contribute a higher percentage of total Medicaid payments through their recipient contributions for institutional LTC services than do recipients who are not on spenddown.

Data Sources

As noted above, this guide is intended as a primer for analysts who want to integrate analysis of Medicare and Medicaid resource use, particularly as a means to examine the full spectrum of care in a way that is not generally possible using the independent sources alone. State Medicaid administrators are in a unique position to facilitate such efforts, in part because of their potential for ready access to more comprehensive and timely Medicaid data than is generally otherwise available, but also because states have an ongoing potential need for linked data to address a variety of analytical purposes. That is, states have both a practical interest in ways to improve the delivery of services on behalf of people who receive Medicaid and a fiduciary interest in the distribution of limited public funds for care. Those objectives can be more easily addressed on an ongoing basis through the effective development of linked Medicare and Medicaid data.

Beneficiary identifiable files sufficient to link Medicare and Medicaid data are available from CMS through the Research Data Assistance Center (RESDAC). Through its website,[14] RESDAC provides a wealth of information about what data are available and what procedures to use to request them. RESDAC also provides technical assistance on all aspects of the use of those data. To acquire CMS data, researchers need to submit a data application packet containing a written request, a study protocol, evidence of funding, and a Data Use Agreement. As a general rule, researchers will need to pay a fee to cover the marginal cost of processing the data.

Medicare claims data for a given calendar year become available roughly nine months after the end of that period (in order to account for some lag in reporting). Separate files reflect inpatient acute, SNF, outpatient, Part B carrier, home health, hospice, and durable medical equipment (DME) claims. Medicaid claim-level data are available as Medicaid Analytic Extract (MAX) files that are drawn—with a longer (but improving) lag time of less than 3 years—from Medicaid Statistical Information System (MSIS) claim-level files that all states report to CMS using a standard format.[15] Analysts working with state Medicaid programs should already have access to more recent and robust Medicaid data from local state files. Medicaid enrollment and claims data reflected in this guide are drawn from Maryland state files rather than MAX data. Since the state and MAX data are drawn from the same underlying source, the pattern and scale of the results of the linkage described below should be much the same using MAX data, although the extent of any differences due to the longer lag time and completeness of federal reporting have not been tested. Other key data sources that are relevant to analysis of duals include the Medicare Enrollment Data Base (EDB), which provides detail on all aspects of enrollment under that program,[16] and the LTC Minimum Data Set (MDS), which includes detailed clinical assessments of all residents in Medicare and/or Medicaid certified nursing facilities. Medicaid administrators also have access to the MMA state file, which is an EDB-like data file that is passed between

[14] The RESDAC web address is: http://www.resdac.umn.edu/.
[15] MAX files are available for calendar years 1999 and later. Data for years prior to 1999 would be drawn from State Medicaid Research File (SMRF) data, although those data tended to be reported less reliably and consistently than current MSIS data. (see http://www.cms.hhs.gov/MedicaidDataSourcesGenInfo/07_MAXGeneralInformation.asp)
[16] An extract of the EDB is included in MAX data files.

CMS and each state on a monthly basis to facilitate Part D coverage for duals. The MMA State File was initiated in 2005 just prior to the implementation of Part D. Some limited Medicare enrollment status information for periods prior to late 2005 can also be drawn from state "buy-in" files that are used to facilitate Medicare premium and coinsurance coverage in each state.

It is worth noting that, prior to the implementation of the Health Insurance Portability and Accountability Act of 1996 (HIPAA), some states had already begun to establish state-specific linked Medicare and Medicaid claims datasets for research purposes. Those datasets included all Medicare beneficiaries in a given state. While new provisions for administrative simplification under HIPAA established national standards for recording and reporting MSIS data to CMS, companion provisions related to data privacy limited ready access to claims more strictly than before. As noted on the RESDAC website, data with beneficiary or physician identifiers are now strictly subject to the Privacy Act, Freedom of Information Act, HIPAA, and other federal rules and regulations. As such, the information is to be used only for reasons compatible with the purpose(s) for which the data are collected. Routine efforts to build statewide linked datasets that include all Medicare beneficiaries are no longer common, in large part because of the more specific justification for access that is now required. At the same time, CMS has implemented some efforts to help facilitate Medicaid program access to Medicare data on duals. In particular, states can request and acquire up to three years of Medicare claims data on their duals on a one-time (no-cost) basis through a direct request to CMS (as opposed to a formal data request protocol through RESDAC).[17] States may still need to process a data re-use agreement through RESDAC in order to use those data to examine broader issues of coordinated/integrated care for duals, and to acquire subsequent years of Medicare data (at cost); however, this process is not onerous once an appropriate study protocol is established.

[17] State Medicaid Directors Letter, June 4, 2002 (http://www.cms.hhs.gov/smdl/downloads/smd060402.pdf)

Crossover Claims and the Hilltop Crossover Framework

Medicare and Medicaid program IDs provide the first-order link for data on duals. However, crossover claims are used more specifically as the central focus in this guide in order to highlight the relationship between benefits across those programs more directly. This section presents a few brief notes on how crossover claims are generated and outlines in more detail how they are used as a framework to examine the integration of government program benefits for duals.

CMS is working toward a system whereby Medicare FFS claims are processed by Medicare Administrative Contractors (MACs) that include what traditionally have been: fiscal intermediaries (FIs) that address Part A claims; carriers that handle most Part B claims; and durable medical equipment regional carriers (DMERCs) that process Part B DME claims. MACs will determine the appropriateness of an FFS claim by applying Medicare program coverage rules. Claims for services provided under Medicare Parts C and D are processed and paid by the plans themselves.

A crossover claim generally represents a Medicaid liability to a provider for the non-Medicare-covered portion of a Medicare claim (primarily patient deductibles and copayments). Providers who submit a Medicare FFS claim on behalf of a Medicaid recipient are instructed to mark a box to indicate potential Medicaid liability. Once the claim is processed and approved, the MAC notifies the provider and transfers a crossover claim to the appropriate state Medicaid agency if there is an outstanding liability.[18] The Medicare provider then submits a claim to the appropriate Medicaid agency in order to recover the patient liability amounts. The state Medicaid agency checks the provider claim against Medicaid eligibility files to ensure that it is appropriate for payment.

In some states, there may be no Medicaid liability payment even if a crossover claim is appropriate. Many states limit Medicaid liability to what the state *would have paid* for the same service using the state's Medicaid payment rate schedule. In these instances, the provider will only receive payment up to the greater of: (1) the payment Medicare has already paid (the Medicare allowed amount minus any deductibles and/or copayment) or (2) the Medicaid fee schedule. That is, states are not obligated under the law to pay the difference between full Medicare-allowed charges and its Medicaid fee schedule. In Maryland, for example, SNF copays were paid in full until the beginning of state fiscal year 2006 (July 1, 2005). Beginning in July 2005, SNF copayments were limited based on average Medicaid NF provider rates. Part B copayments are still paid in full in Maryland, although other states limit that liability as well.

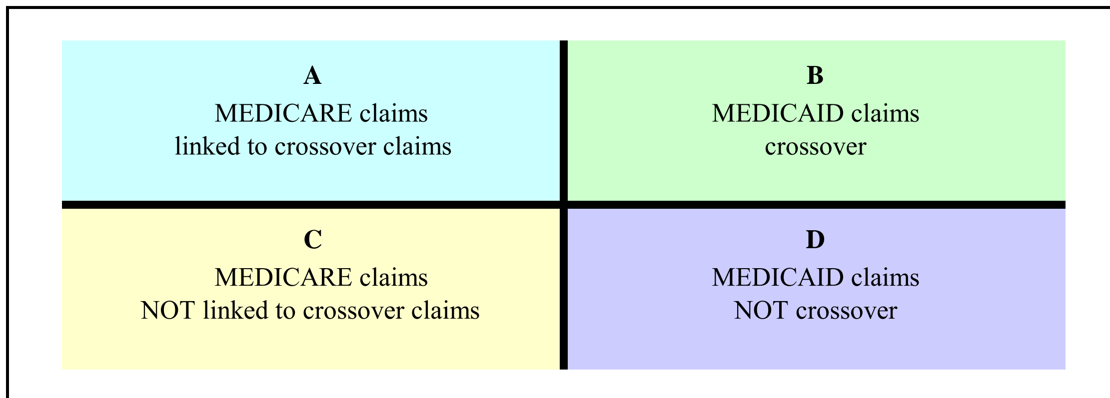
[18] Currently some states need to rely on partnership agreements to ensure this transfer. As a result of the administrative service provisions in the MMA, CMS is developing procedures to streamline this process. Maryland is a pilot state for a program to automatically transfer all crossover claims to the Medicaid agency regardless of where the Medicare provider is located and, thus, bypass special arrangements with specific FIs and carriers. States can request that contractors administering Medicare claims forward all data for specific duals whether or not they include patient liability amounts. This may serve as an alternative to purchasing full Medicare data annually, although the administrative implications of this approach as a replacement for "clean" annual Medicare files are not yet clear (http://www.cms.hhs.gov/COBAgreement/Downloads/COBAattach.pdf).

Claims (or portions of claims) that are denied by Medicare—either because the service is not covered or the associated benefit limit has been reached—may be submitted along with evidence of that denial to the state as a Medicaid FFS claim, which is distinct from a crossover claim. If the service is otherwise covered by Medicaid, the provider will receive payment up to the Medicaid limit for that service.

The Hilltop Crossover Framework

In this guide, summary details of claims by category of service will be shown in a relatively simple two-by-two format, or framework, that is intended to highlight the relationship between government program benefits. In Figure 2, Medicare and Medicaid resource use and costs are shown to the left and right, respectively.

Figure 2: ***The Hilltop Crossover Framework***



Resource use and costs that can be linked across Medicare and Medicaid sources (because Medicaid claims that indicate a crossover relationship can be found) are shown in the top sections of the framework. Section A shows the Medicare activity and costs from claims that can be directly linked to crossover claims found in Medicaid files. Section B of the framework shows activity reflected in Medicaid crossover claims where the costs are limited to those that Medicaid covers on behalf of duals for Medicare deductibles and copayments. Crossover claims for which no specific Medicare claim can be identified are also shown in Section B.

Resource use and costs for which no formal link can be reasonably made between Medicare claims and specific Medicaid crossover claims are shown in the bottom sections of the framework. Section C shows Medicare activity for which no Medicaid crossover claim can be found. This section includes claims that do not generate crossover claims, such as home health and hospice claims that are not subject to a deductible or copayment, as well as claims that are simply not submitted by the provider to Medicaid for payment (for whatever reason). Section D shows services and costs that are covered as direct Medicaid benefits and that are not otherwise associated with Medicare-covered benefits. That is, Section D reflects services that are only covered as Medicaid benefits, such as long-term custodial care in a nursing facility, as well as

services that are not otherwise covered by Medicare, such as acute care hospital costs incurred once the Medicare hospital stay benefit is exhausted.

As a final note, Section C of the framework has special significance for analysts using Medicaid data alone to assess the impact of coordinated care programs for duals in that it is one measure of the extent to which Medicaid crossover claims are an incomplete reflection of Medicare health service use and costs. Determining diagnosis-based relative health risk from crossover claims alone to support rate setting and other program assessments, for example, may provide distorted results because of data included only on Medicare claims that are not reflected in Medicaid files. This issue will be discussed later in this guide.

A Population of Duals

Detailed data on service use and costs that are arrayed in the following sections will reflect Medicare and Medicaid claim activity for "continuously enrolled" duals in Maryland. Continuously enrolled duals in this report include all those who were eligible under both programs as of January 1, 2006, until the end of that calendar year or until the recipient's death, whichever occurred first. This includes duals who received partial (or limited) Medicaid benefits, such as some QMBs and SLMBs/QIs, but excludes those who became duals after the beginning of the year. The population is limited to those who were continuously enrolled, and later limited to duals with full Medicaid benefits, in order to more clearly highlight the relationships between Medicare and Medicaid program services and costs.

Tables 2a and 2b show this study population as a whole, organized by selected grouping criteria. Age is calculated as of January 1, 2006. However, program category assignments such as Medicaid coverage codes and dual status are made as of the end of 2006 (since a beneficiary's/recipient's status may change in the course of a year). Information for all continuously enrolled duals is included in the rightmost column of the tables.[19] Separate columns reflect full and partial Medicaid coverage as indicated by Medicaid coverage categories.

Medicaid coverage status typically reflects diverse circumstances of eligibility across states because of the variety of mandatory and optional service categories and differing levels of coverage. For the population as a whole there are broad categories, such as Families and Children and Aged, Blind, and Disabled (ABD). Within those groupings, there may be any number of sub-categories to reflect key coverage circumstances, such as pregnant women, foster care, or long-term care. More detailed Medicaid coverage groupings have been collapsed into a select set of categories in Table 2a. Of 82,104 continuously enrolled duals in Maryland during calendar year 2006, roughly 73 percent receive full Medicaid benefits. Those include: 48.1 percent broadly defined as ABD; 20 percent designated as covered for long-term care, primarily in a nursing home; another 4.2 percent flagged as receiving home-and community-based services; 0.2 percent in family and children-related categories; and another 0.3 percent of recipients who were on spenddown. The other 27 percent of continuously enrolled duals in the state are QMBs who are not otherwise eligible for SSI, SLMBs, or QIs. This latter set of groups is eligible for limited Medicaid benefits. As noted in the general discussion of Medicaid, benefits for QMBs who are not fully Medicaid-eligible on the basis of SSI are limited to Medicare Part B premiums, deductibles, and copayments. Benefits for SLMBs/QIs are limited to Medicare Part B premiums.

[19] Another 21,835 individuals had dual status for less than 12 months but did not die during 2006. They had an average of just over 6.2 months of Medicaid eligibility. These recipients include first-time Medicare and/or Medicaid enrollees and those who lost Medicaid benefits during the year. They were somewhat more likely to be QMBs or SLMBs/QIs than continuously enrolled duals as a whole.

Table 2a: Continuously Enrolled Duals in Maryland: Medicaid & Medicare Coverage/Status

	Full Medicaid		Partial Medicaid		All 2006	
	Persons	%	Persons	%	Persons	%
Total	59,761	100%	22,343	100%	82,104	100%
Medicaid Coverage Categories						
1: Family & Children, Foster, Pregnant	135	0.2%	0	0.0%	135	0.2%
2: Aged, Blind, Disabled	39,467	66.0%	0	0.0%	39,467	48.1%
3: Long Term Care	16,416	27.5%	0	0.0%	16,416	20.0%
4: Home & Community Based Services	3,479	5.8%	0	0.0%	3,479	4.2%
5: QMB	0	0.0%	14,402	64.5%	14,402	17.5%
6: SLMB/QI	0	0.0%	7,941	35.5%	7,941	9.7%
7: Spenddown	264	0.4%	0	0.0%	264	0.3%
Medicare Identity Categories						
A: Primary Claimant	33,757	56.5%	17,910	80.2%	51,667	62.9%
B: Spouse	1,507	2.5%	481	2.2%	1,988	2.4%
C: Child	7,887	13.2%	385	1.7%	8,272	10.1%
D: Widow(er) / Divorced	5,811	9.7%	3,429	15.3%	9,240	11.3%
M: No Deemed HIB	9,710	16.2%	20	0.1%	9,730	11.9%
O: Other	1,089	1.8%	118	0.5%	1,207	1.5%
Dual Status Code						
01: QMB only	88	0.1%	14,389	64.4%	14,477	17.6%
02: QMB & Full Medicaid	51,187	85.7%	11	0.0%	51,198	62.4%
03: SLMB only	40	0.1%	5,632	25.2%	5,672	6.9%
06: QI	18	0.0%	2,309	10.3%	2,327	2.8%
08: Other Full Dual	8,428	14.1%	2	0.0%	8,430	10.3%

Note: Calendar year data. Dual status codes 01, 03, 06 for those with full Medicaid and 02, 08 for partial Medicaid indicate disagreement in full- and partial- Medicaid status across Medicaid and State MMA File sources. Dual status codes 04 (SMLB & full Medicaid) and 05 (QDWI) were not used for this population.

One way to classify Medicare eligibility is to use the beneficiary identification code (BIC) that, together with a primary beneficiary's social security number, makes up a standard Medicare program ID. The Medicare BIC is a one- or two-character code that generally begins with a letter that indicates broad categories of eligibility. In Maryland, 62.9 percent of continuously enrolled duals are primary claimants (see Table 2a). That is, most duals receive Medicare benefits based on their personal eligibility for those benefits. A small percentage of duals (2.4 percent) receive Medicare benefits as the living spouse of another beneficiary and 11.3 percent receive benefits as a widow, widower, or divorced spouse of a primary claimant. A little more than 10 percent of duals receive Medicare benefits as the child of a primary claimant. Almost 12 (11.9) percent of duals—those with a BIC of "M"—receive Medicare benefits even though they are not eligible for free "deemed" health insurance benefits (HIB). These duals are old enough for Medicare coverage on the basis of age (now 65 years old) but they do not have the requisite 40 quarters of

work history and attendant FICA contributions. The Medicaid program pays a monthly Part A premium on behalf of these duals, who receive full Medicaid benefits as well.[20]

The third grouping criterion in Table 2a is a dual status code that is drawn from the monthly MMA state file. The 62.4 percent of duals with a status code of 02 in Table 2a include those who are eligible for full Medicaid coverage with incomes and assets at or below the FPL. Status code 08 reflects those who have higher levels of income and assets but still receive full Medicaid benefits. This 10.3 percent of duals (14.1 percent of duals with full Medicaid benefits) tend to be those who are eligible for LTC in nursing facilities or HCBS waivers. The remaining status codes reflect those who receive only limited supports under Medicaid and are analogous to the Medicaid coverage categories for the respective group.

Table 2b shows the Maryland dual population by additional grouping criteria. With respect to age, for example, 38.1 percent of duals are less than 65 years old. The criterion "Ever Disabled" indicates whether an individual was ever eligible for federal disability benefits. The 30,644 individuals who are under 65 years of age and ever disabled make up 37.3 percent of continuously enrolled duals. Thus, nearly all duals under 65 receive Medicare benefits because they are disabled. More than 7,500 duals (slightly more than 9 percent of all continuously enrolled duals and almost 15 percent of those over 65) are at least 65 years of age and were originally entitled to Medicare benefits because of a disability (that is, prior to age 65). Three percent of duals were flagged with end-stage renal disease. One-and-a-half percent of duals received federal hospice benefits (according to dates for those benefits on the MMA state file); of these, 74 percent died during the year. Overall, 8.4 percent of continuously enrolled duals died during the year with an average of just over 6 months of enrollment during that period.

Women made up two-thirds of this study population. Close to 48 percent of duals were listed as Caucasian, 38.8 percent were Black, 5.9 percent were Asian, and less than 3 percent were other minorities. Data on race was undetermined for 4.5 percent of the population and the distribution by race was slightly different depending on full and partial Medicaid status.

Finally, 9.9 percent of continuously enrolled duals in Maryland were enrolled in a Medicare Advantage plan at some time during the year. The vast majority of these duals were enrolled in one of two plans. One plan specializes in populations that require long-term care supports; the other is a seniors-focused company that enrolls duals. Group health plan enrollment has been relatively limited in Maryland until recent years, but it is growing as additional plans enter the market, as is the case in other states. As noted in the description of Part C coverage under Medicare, MA plans are not required to report claims-level data to CMS. While those duals are included in the initial population described as continuously enrolled duals in this report, any subsequent more detailed analysis will need to account for the possibility that service use and cost data may be missing for this group. For example, data presented in the following sections using the crossover framework described above exclude those who were enrolled in MA plans because their related Medicare claims are not available.

[20] Maryland also had another 4,254 Medicaid recipients over 65 who would have been continuously enrolled duals if they had successfully applied for Medicare coverage.

Table 2b: Continuously Enrolled Duals in Maryland: Selected Grouping Criteria

	Full Medicaid		Partial Medicaid		All 2006	
	Persons	% of column	Persons	% of column	Persons	% of column
Total	59,761	100%	22,343	100%	82,104	100%
Age Categories						
Less than 21	162	0.3%	2	0.0%	164	0.2%
21 to 34	4,293	7.2%	567	2.5%	4,860	5.9%
35 to 49	9,440	15.8%	3,383	15.1%	12,823	15.6%
50 to 64	8,606	14.4%	4,896	21.9%	13,502	16.4%
65 to 74	13,118	22.0%	7,095	31.8%	20,213	24.6%
75 to 84	14,526	24.3%	4,892	21.9%	19,418	23.7%
84 & over	9,616	16.1%	1,508	6.7%	11,124	13.5%
Sex						
Female	38,869	65.0%	14,966	67.0%	53,835	65.6%
Male	20,892	35.0%	7,377	33.0%	28,269	34.4%
Race						
Asian	4,300	7.2%	540	2.4%	4,840	5.9%
Black	22,561	37.8%	9,297	41.6%	31,858	38.8%
Caucasian	28,033	46.9%	11,543	51.7%	39,576	48.2%
Hispanic	1,581	2.6%	389	1.7%	1,970	2.4%
Native American/Pacific Isle/Alaskan	117	0.2%	51	0.2%	168	0.2%
Undetermined	3,169	5.3%	523	2.3%	3,692	4.5%
Ever Disabled						
Yes	26,886	45.0%	11,276	50.5%	38,162	46.5%
under 65	*21,896*	*36.6%*	*8,748*	*39.2%*	*30,644*	*37.3%*
65 & over	*4,990*	*8.3%*	*2,528*	*11.3%*	*7,518*	*9.2%*
No	32,875	55.0%	11,067	49.5%	43,942	53.5%
under 65	*605*	*1.0%*	*100*	*0.4%*	*705*	*0.9%*
65 & over	*32,270*	*54.0%*	*10,967*	*49.1%*	*43,237*	*52.7%*
End Stage Renal Disease						
Yes	1,725	2.9%	724	3.2%	2,449	3.0%
No	58,036	97.1%	21,619	96.8%	79,655	97.0%
Hospice Care						
Yes	1,084	1.8%	178	0.8%	1,262	1.5%
Deceased during CY	*785*	*1.3%*	*153*	*0.7%*	*938*	*1.1%*
Not Deceased	*299*	*0.5%*	*25*	*0.1%*	*324*	*0.4%*
No	58,677	98.2%	22,165	99.2%	80,842	98.5%
Deceased During CY						
Yes	5,933	9.9%	971	4.3%	6,904	8.4%
No	53,828	90.1%	21,372	95.7%	75,200	91.6%
Medicare Group Health Plan Coverage						
Yes	5,852	9.8%	2,285	10.2%	8,137	9.9%
No	53,909	90.2%	20,058	89.8%	73,967	90.1%

Note: Calendar year data.

Medicare and Medicaid Service Use and Costs

This section provides an overview of Medicare and Medicaid service use and costs as revealed in claim activity for the population of continuously enrolled duals in Maryland. The tables reflect duals with full Medicaid coverage (except those enrolled in MA group health plans) in order to provide the most consistent picture of the relationship across Medicare and Medicaid programs that is evident in claims. A few additional tables that reflect all continuously enrolled duals combined and other sub-groups can be found in Appendix 1. Claim activity is reported across five relatively distinct categories of service that include: hospital inpatient stays; other institutional stays in a nursing facility or intermediate care facility for the mentally retarded (ICF/MR); home health and other community supports; hospice care; and physician and other outpatient visits, along with DME that make up most Medicare Part B-covered care. Together, these data reflect the sum of Medicare and Medicaid supports for health care services on behalf of duals that are reported in claims with the exception of pharmacy and premium costs. As noted above, Medicare Part D data are not yet available to researchers on a regular basis. The Medicaid program does pay for a relatively small amount of pharmacy costs that are not otherwise covered by Medicare, but those costs are not included in this guide because of the general lack of consistent pharmacy data.

For this study, all Medicaid crossover claims were linked to Medicare claims for the same services and then all claims were summarized for each distinct category of service in tables that reflect the crossover framework described in an earlier section. Services and costs included in the tables below are limited to claims with service dates that end in calendar year 2006. Hospital and other institutional service claims were summarized into "stays." Stays are defined as continuous periods of admission with one provider from the first claim ending in the period until discharge or the last claim ending in the period. For non-institutional settings, service use is reported as the number of claims.

Hospital Inpatient

Acute hospital care is covered as a Medicare benefit subject to a deductible[21] and coinsurance, and limited to coverage within specific benefit periods. For duals who receive full Medicaid benefits, Medicaid (rather than the patient) is the payer of last resort. In the absence of any third-party coverage,[22] Medicaid is responsible for any deductible and/or coinsurance amounts, as well as any additional acute institutional care that is needed once a beneficiary's Medicare benefits have been exhausted. In Maryland, a limited number of Medicaid recipients who are designated as receiving institutional LTC may have an acute hospital stay episode or a chronic hospital stay during the time they receive LTC. In those cases, any recipient payment liability associated with a Medicaid institutional benefit (described in the general section on Medicaid above) will be used to offset Medicaid program liability. It should be noted that this recipient payment liability is more commonly associated with long-term institutional care, as is evident in the next section

[21] The deductible for a hospital care was $952 in 2006.
[22] Third-party liability, which accounts for a very limited amount of total expenditures for duals, is not included in this analysis.

on nursing facilities, but may show up in hospital claims because of their close association with LTC services in some instances.

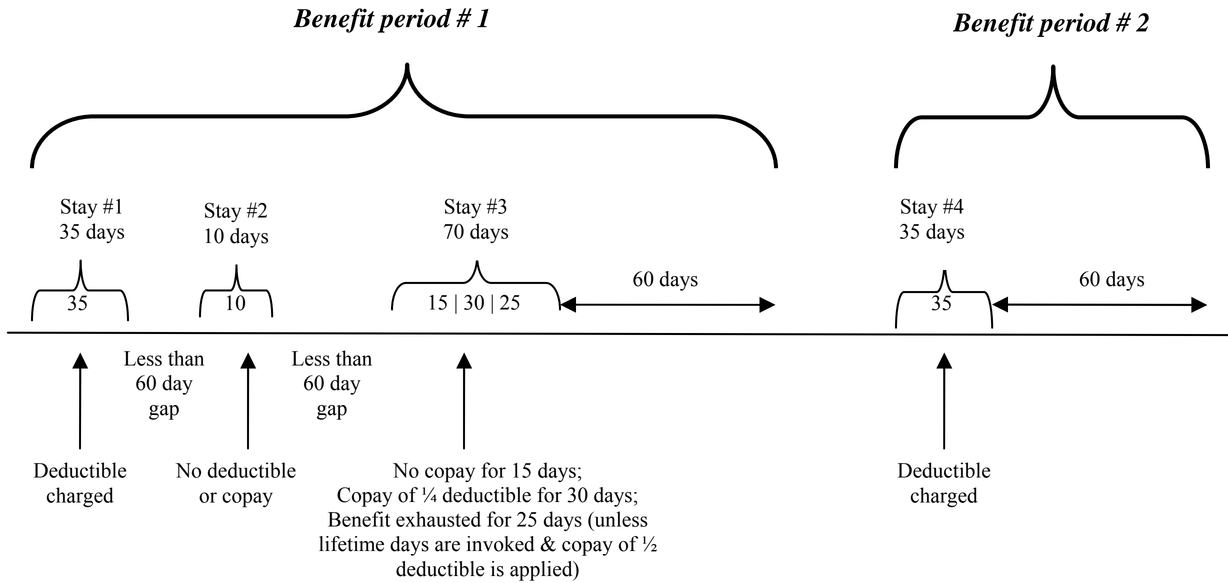
Medicare pays for acute care hospital stays that occur within a benefit period. As noted above, a stay is defined here as a continuous period of time with one provider from admission (or first claim ending in the calendar year) to discharge (or last claim ending in the year). A Medicare benefit period, which is generally limited to no more than 150 inpatient hospital days, begins when a beneficiary is admitted to a hospital and ends when the beneficiary has been discharged from a hospital or SNF for at least 60 consecutive days. Except for a deductible, which is charged for the first day of care at the beginning of a benefit period, Medicare will pay the entire cost for hospital days 1-60. A copayment of one-fourth of the deductible amount per day is applied for days 61-90 of a long benefit period. Typically, the maximum number of hospital days paid for by Medicare during a benefit period is 90. However, each beneficiary is allowed up to 60 non-renewable "lifetime reserve days" that can be used after a 90-day benefit has been exhausted. A copayment of half of the deductible amount per day is applied for lifetime reserve days (days 91-150 during a benefit period). Once a beneficiary's Medicare-covered days are exhausted for a benefit period, the beneficiary becomes the primary payer for hospital services. Again, Medicaid covers patient liability costs for duals with full Medicaid benefits.

Illustrating Hospital Stays

Figure 3 illustrates a hypothetical sequence of stays for a beneficiary that includes reference to related deductibles and copayments. This example shows four Medicare stays within two distinct benefit periods. Stay 1 involves a deductible but no other payment liability. No beneficiary payment liability is applied in Stay 2 because it is within the same benefit period as the first stay. Stay 3 includes 15 days with no copayment, 30 days with a copayment of one-fourth of the deductible, and 25 days that are not generally covered under the basic 90-day benefit limit. A beneficiary's lifetime reserve days could be applied to cover the last 25 days of Stay 3 if they have not been used otherwise, in which case a copayment of half of the deductible would be charged. Stay 4 includes a deductible because it is the beginning of a second benefit period that started at least 60 days after the previous discharge.

As an aside, with implications for the crossover framework tables presented below, Stays 1, 3, and 4 in Figure 3 would generate crossover claims if the claims were submitted to Medicaid by the provider. If the last 25 days of Stay 3 were covered as lifetime reserve days, the crossover claim would reflect the related copayments. If lifetime reserve days were not invoked for Stay 3, the provider would submit a non-crossover claim to Medicaid to cover those last 25 days as a direct Medicaid benefit on behalf of the beneficiary. Stay 2 would not typically generate a crossover claim because there would be no beneficiary liability.

Figure 3: Standard Medicare Inpatient Hospital Benefit Period



To further illustrate the relationship between Medicare and Medicaid claim activity, Table 3 shows selected fields from 2003 data for an actual dual eligible. This beneficiary's first hospital stay was 29 days long (from May 4, 2003 – June 2, 2003). The stay ended with a discharge to a chronic hospital (as indicated by a discharge status of "03"). Medicare file records show that a deductible amount of $840 was charged for this first stay, of which Medicaid paid $823, as seen in the first Medicaid crossover claim.[23]

The beneficiary began a new stay (defined by the new provider ID) within the same benefit period and Medicare remained the primary payer for the first 61 days of the stay (from June 2, 2003 – August 1, 2003), as shown in the second Medicare file record. Day 32 of this second stay was the 61st day of the hospital benefit period and a copay of $210 per day for hospital days 61-90 (July 3, 2003 – August 1, 2003) was charged, for a total of $6,300. By the beginning of July, the beneficiary was deemed eligible for Medicaid long-term care benefits, most likely related to the transfer to the chronic care hospital, and a recipient payment contribution of $1,284 per month was assessed. As seen in the second Medicaid crossover claim, once the recipient payment was deducted, Medicaid paid the remaining $5,016 of the Medicare copay.

Because this beneficiary's Medicare hospital benefit was exhausted as of August 1, 2003, Medicaid became the primary payer for the remainder of the stay. Although this stay extended into calendar year 2004, non-crossover claims for the rest of 2003 that reflect the periodic recipient contribution (with a discharge status of "30" for a continuing patient), as well as the balance paid by Medicaid each month, are shown at the bottom of Table 3.

[23] Payment rates for hospital and outpatient services, including Medicare, are established in Maryland by a state commission under a waiver from CMS, rather than through the federal DRG system. Maryland Medicaid pays providers up to 98 percent of charges for those services.

Table 3: Example Medicare and Medicaid Claims for a Selected Beneficiary

Medicare file records

Patient ID	Provider ID	Admit date	Claim begin date	Claim end date	Dischg status	Claim type	Medicare paid amount	Deductible amount	Copay amount	Copay days	Medicare chargeable days
A12345	P1	5/4/03	5/4/03	6/2/03	03	60	$53,306	$840	$0	0	29
A12345	P2	6/2/03	6/2/03	8/1/03	30	60	$12,081	$0	$6,300	30	61

Medicaid crossover records

Patient ID	Provider ID	Admit date	Claim begin date	Claim end date	Dischg status	Provider type	Recipient payment amount	Medicaid payment amount	Amount paid by Medicare	Medicare copay amount	Medicare deductible amount
A12345	P1	5/4/03	5/4/03	6/2/03	03	01	0	$823	$53,306	$0	$840
A12345	P2	6/2/03	6/2/03	8/1/03	30	05	$1,284	$5,016	$12,081	$6,300	$0

Medicaid non-crossover records

Patient ID	Provider ID	Admit date	Claim begin date	Claim end date	Dischg status	Provider type	Recipient payment amount	Medicaid payment amount	Amount paid by Medicare	Medicare copay amount	Medicare deductible amount
A12345	P2	6/2/03	8/1/03	8/30/03	30	05	$1,284	$12,756	$0	$0	$0
A12345	P2	6/2/03	9/1/03	9/30/03	30	05	$1,284	$12,756	$0	$0	$0
A12345	P2	6/2/03	10/1/03	10/31/03	30	05	$1,284	$13,224	$0	$0	$0
A12345	P2	6/2/03	11/1/03	11/30/03	30	05	$1,284	$8,856	$0	$0	$0
A12345	P2	6/2/03	12/1/03	12/31/03	30	05	$1,284	$9,194	$0	$0	$0

Linking Medicare and Medicaid (Crossover) Claims

Once the Medicare claims were combined into stays, a series of steps was used to link each Medicaid crossover claim to a specific Medicare stay. It is worth noting that, at a minimum, crossover claims should reflect dates of service and the underlying payment amounts from the original Medicare claim including (but not limited to) what Medicare paid and any deductible or copayment amounts that were subtracted from Medicare-allowed charges. More than 80 percent of Medicaid inpatient hospital crossover claims for this analysis were matched to Medicare claims using very strict criteria based on patient ID, dates of service, and all three basic Medicare payment amounts. Most of the rest of the crossover claims were linked to Medicare stay claims with increasingly loose matching criteria that included the patient ID, dates of service, and one or more of the Medicare payment fields. Less than 4 percent of Medicaid hospital crossover claims could not otherwise be matched. These will be discussed along with Medicaid crossover payments in more detail below.

Table 4 shows aggregated inpatient stays and costs for continuously enrolled duals with full Medicaid coverage (and no MA enrollment) in Maryland during calendar year 2006. In keeping with the crossover framework shown in Figure 2: Medicare claim activity that is linked to specific crossover claims is shown in the upper left quadrant (Section A, in blue); Medicaid crossover activity is shown in the upper right quadrant (Section B, in green); Medicare claim activity that is not linked to specific crossover claims is shown in the lower left quadrant (Section C, in yellow); and, direct Medicaid benefit coverage that is not otherwise linked to a Medicare claim is shown in the lower right quadrant (Section D, in purple).

Table 4: Crossover Framework - Medicare & Medicaid Payments for Duals[a] w/Full Medicaid (2006)
Hospital Inpatient

	Medicare			Medicaid			
	Users	Stays[b]	Program Payments[c]	Users	Stays[d]	Program Payments[c]	Recipient Payments[e]
Total	*16,214*	*35,060*	*$375,394,179*	*13,822*	*21,373*	*$56,587,869*	*$934,724*
Activity linked to crossover claims	**13,613**	**20,513**	**$214,919,182**	**13,698**	**20,759**	**$20,698,922**	**$50,837**
Medicare claim found	13,613	20,513	$214,919,182	13,593	20,475	$20,459,727	$50,071
No Medicare claim found	-	-	-	221	284	$239,195	$766
Activity NOT linked to crossover claims	**7,367**	**14,547**	**$160,474,998**	**240**	**675**	**$35,888,947**	**$883,887**
Medicare claim found	7,367	14,547	$160,474,998	-	-	-	-
No Medicare claim found[f]	-	-	-	240	675	$35,888,947	$883,887

[a]Includes duals who were continuously enrolled under both 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.

[b]Stays reflect continuous admission with a given provider from the first claim ending in the year to discharge or last claim ending in the year.

[c]Includes payments made by the respective program (Medicare or Medicaid) for claims with service dates that ended in the period.

[d]Stays are defined using contiguous Medicare claims when found, although Medicaid claims per stay may not be contiguous with each other.

[e]Includes recipient contributions/payments for institutional long-term care under Medicaid.

[f]Medicaid payments include coverage for acute hospital stays where the Medicare hospital stay benefit was exhausted; this includes chronic hospital stays.

The total line in Table 4 indicates that Medicare paid $375 million for 35,060 acute hospital stays on behalf of 16,214 duals in Maryland during calendar year 2006. That is roughly $23,150 per user and $10,700 per stay. Medicaid paid another $56.6 million for such services for 13,822 recipients. Only 37 percent of those Medicaid payments ($20.7 million, shown in the upper right green section of the table) were for Medicare deductibles and other coinsurance. The remaining $35.9 million in Medicaid payments (shown in the lower right purple section) covered 240 recipients who had exhausted their inpatient Medicare benefit. Most of these individuals were associated with an admission to a chronic care hospital; they were responsible for nearly 95 percent of the total $934,724 in recipient contributions for hospital care. Medicaid paid an average of $53,169 per stay—or almost $150,000 per user—for acute hospital coverage that was not otherwise covered as a Medicare benefit.

The blue section of Table 4 shows that Medicare paid nearly $215 million for 20,513 hospital stays that generated Medicaid crossover claims for this population. The claims for 81 percent of those stays indicated that a deductible was due for the beginning of a benefit period. The remaining 19 percent of the stays shown in this section of the table indicated that only a copayment was due and, thus, represent readmissions or a change in provider within a longer hospital benefit period. The $20.5 million that Medicaid paid for deductibles and copayments associated with hospital claims plus the $50,071 in recipient institutional payments (shown in the first detail row of the green section of Table 4) was 97.5 percent of the patient liability amounts indicated in the respective Medicare claims ($21 million, not otherwise shown). This is within less than a percentage point of the 98 percent of charges that Medicaid is slated to pay.[24] Note that the number of users and stays does not match in the first detail line of the upper blue and green sections of the table. This is because some crossover claims with end dates in 2007 were matched to longer Medicare stays, but part of the Medicare stay occurred in 2006. The remaining crossover stays and costs shown in the bottom row of the green section of Table 4 could not reasonably be matched to a specific Medicare claim. This may indicate a minor report discrepancy or bad data, but represents less than 1.5 percent of crossover stays and related costs.

The yellow (lower left) section of Table 4 represents Medicare claims data that are not generally reflected in Medicaid crossover claims. Seventy-eight percent of the stays shown in this section of the table did not generate patient liability costs (consistent with Stay 2 in Figure 2 above). The other 22 percent (3,209 stays for 2,639 recipients) indicated that some patient liability (for a total of just over $4.1 million) was associated with the Medicare claim. These claims indicate potential patient liability costs that were either not submitted to Medicaid or otherwise not accepted by Medicaid for payment if they were submitted.

The average number of Medicare-covered days for care associated with the stays shown in both the upper and lower left sections of Table 4 was 6.1 days, with an only slightly lower average (5.93 days) for stays in the upper section related to crossover claims (data not otherwise shown).

[24] While a limited number of inpatient crossover claims, those associated with the loosest match criteria, involve what look like under- or over-payment of copayment amounts that are indicated in the Medicare claims. However, the overall agreement between Medicare-reported and Medicaid-paid hospital crossover costs is reasonably close.

Nursing Facility and ICF/MR

Medicare covers up to 100 SNF days, generally in conjunction with a hospital benefit period. That is, the Medicare SNF benefit must be preceded by a qualifying hospital stay of at least three days. The first admission to the SNF must occur within 30 days of discharge from the qualifying stay and the beneficiary must need skilled nursing or rehabilitation care. Readmission after discharge from an SNF can occur within 30 days without another qualifying hospital stay, as long as skilled care is still required and the 100 day benefit has not been exhausted.

The need for skilled care is determined using an extensive assessment protocol based on the LTC Minimum Data Set (MDS). Medicare- and/or Medicaid-certified nursing facilities are required to perform and report MDS assessments for each patient upon admission and at least every 92 days thereafter until discharge. An accelerated schedule of assessments is required for all Medicare SNF stays that includes 5-, 14-, 30-, 60-, and 90-day assessments.

Payment for Medicare SNF care is made on a per-diem basis using the Resource Utilization Group (RUG) case mix system.[25] Selected data elements from a given MDS assessment are processed through RUG "grouper" software to determine a specific RUG assignment. The current version of the RUG system that is used for SNF payment classifies residents into 1 of 53 mutually exclusive categories (plus a default value) that are assigned in a hierarchy of resource need such that the top 35 categories require skilled care. SNF payments are adjusted for the relative level of service need associated with the patients who are assigned a given RUG. The RUG assigned to each of the scheduled Medicare MDS assessments is used to establish payment for specific days during the 100-day benefit period.

Medicare covers the full payment required for the first 20 days of SNF care during a benefit period. There is a copayment, set at one-eighth of the hospital deductible per day, for SNF days 21 through 100. SNF patients who exhaust their Medicare benefit or no longer require skilled nursing care, *but remain in the nursing facility,* transition to private pay status or, in the case of duals with full benefits, are covered by Medicaid. Until July of 2005, Maryland Medicaid paid the full Medicare SNF copay for duals with full benefits and for QMBs. The state now limits those copays such that it only covers total per-diem payments up to what it would pay on average for the same service under state Medicaid payment rates. Thus, if the full payment for a given RUG minus the copayment is higher than the average Medicaid rate, then no copayment is made by the state for that day. If what Medicare pays is less than the average Medicaid payment, then the state will cover the copay up to the point where total payments (from Medicare, the recipient, and the state) equal the state average. SNF crossover claims with no patient liability at all (for days 1 through 20) will not show up in Medicaid claims. Claims that have some patient liability may show up in Medicaid files even if the program will not cover that cost because, after these crossover claims have been submitted and denied (in whole or in part), the portion that is denied can be reported by the provider as "bad debt"; thus, some of the denied expenses can be recuperated by the provider as a business expense.

[25] See http://www.medpac.gov/documents/MedPAC_Payment_Basics_07_SNF.pdf for a brief overview of Medicare SNF payments.

The Medicaid program in Maryland does not currently use the RUG system as part of the state's payments for NF care. Very broadly, NF payments in the state are made on a per diem basis that reflects differences in the level of patient need and regional costs. Add-on payments are made for certain services such as ventilator care and tube feeding. NF payments include expenditures for bed-hold, where a patient is temporarily discharged or released but is expected to return within a limited amount of time. NF payments also include expenditures for administrative days, which occur when a resident no long meets Maryland's nursing home level care medical criteria and he or she is in the process of being discharged.

Medicare paid $65.5 million for 9,803 SNF stays on behalf of continuously enrolled duals with full Medicaid benefits in 2006 (see the total line in Table 5). The first detail line in the upper left (blue) section of Table 5 indicates that 3,681 of those stays, reflecting $11.3 million in potential Medicare copayments (not otherwise shown), were linked to Medicaid crossover claims. The remaining 6,122 Medicare stays, shown in the bottom right (yellow) section of Table 5, did not show up in Medicaid claims files, but did reflect another $6 million in potential patient liability costs for Medicare copayments (not otherwise shown).

Medicaid paid $1.17 million in copayments for stays linked to Medicare data and recipient payments for institutional LTC accounted for another $2.2 million (see the first detail line in the upper right green section of Table 5). That is, Medicaid covered 10.4 percent and recipient payments covered another 20 percent of potential Medicare copayment liability for this population in 2006. There were crossover claims associated with 290 stays that could not be matched to the Medicare data that generated $238,626 in total Medicaid and recipient payments, or 6.5 percent of all SNF crossover payments (see the lower detail line in the upper right green section of Table 5).

In addition to Medicare SNF copayments, Medicaid paid close to $580 million for NF and ICF/MR stays on behalf of 12,345 duals with full Medicaid benefits in 2006 (see the total line in the lower right purple section of Table 5). Recipient payments added another $103.5 million, or 15 percent of total Medicaid and recipient payments, for that care. Just over 12,000 individuals generated $534.8 million in Medicaid payments and another $101.6 million in recipient payments for care in an NF for a combined (Medicaid and recipient) average payment of $52,610 per person.

Using the data underlying Table 5 (but not otherwise shown here), the average length of Medicare SNF stays in this population was 24.3 days during 2006. The average for non-Medicare (Medicaid-covered) stays was 197.8 days, although this includes bed-hold days for short periods of absence from the facility. Appendix 2 shows how such measures can be drawn from LTC MDS data, which reflects data across payers, providing a broader context for SNF/NF care than claims data alone, including patterns of RUG assignments (not included in Maryland Medicaid claims data) and length of stay at discharge across types of stays—both for the dual population included here and for all of Maryland more broadly.

ICF/MR payments for this population were more than $46.6 million ($44.7 million Medicaid and $1.89 million recipient) for 247 individuals; an average payment of $188,768 per person.

Table 5: Crossover Framework - Medicare & Medicaid Payments for Duals[a] w/Full Medicaid (2006)
Nursing Facility and ICF/MR

	Medicare			Medicaid			
	Users	Stays[b]	Program Payments[c]	Users	Stays[b]	Program Payments[c]	Recipient Payments[d]
Total	*5,763*	*9,803*	*$65,513,160*	*12,930*	*18,015*	*$580,854,448*	*$105,910,530*
Activity linked to crossover claims	**2,599**	**3,681**	**$33,774,730**	**2,621**	**3,732**	**$1,282,934**	**$2,377,257**
Medicare claim found	2,599	3,681	$33,774,730	2,573	3,645	$1,174,777	$2,246,788
No Medicare claim found	-	-	-	274	290	$108,157	$130,469
Activity NOT linked to crossover claims	**4,231**	**6,122**	**$31,738,430**	**12,345**	**16,650**	**$579,571,514**	**$103,533,273**
Medicare claim found	4,231	6,122	$31,738,430	-	-	-	-
No Medicare claim found	-	-	-	12,345	16,650	$579,571,514	$103,533,273
Nursing Facility[e]	-	-	-	*12,098*	*16,266*	*$534,836,708*	*$101,642,403*
ICF/MR[e]	-	-	-	*247*	*384*	*$44,734,806*	*$1,890,870*

[a]Includes duals who were continuously enrolled under both 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.

[b]Stays reflect continuous admission with a given provider from the first claim ending in the year to discharge or last claim ending in the year.

[c]Includes payments made by the respective program (Medicare or Medicaid) for claims with service dates that ended in the period.

[d]Includes recipient contributions/payments for institutional LTC under Medicaid.

[e]Detail component of Medicare claims found/not found line.

Home Health and Other Community Supports

Various home- and community-based services are available in Maryland under both Medicare and Medicaid. The Medicare home health benefit provides physician-ordered skilled care (nursing as well as physical, occupational, and speech therapies), aide services, and medical social services on an intermittent basis to beneficiaries who are homebound.[26] While it was originally covered under Part A, Congress changed the benefit in the Balance Budget Act of 1997 such that the first 100 visits following a 3-day hospital or SNF stay are now covered under Part A as part of a hospital benefit period, and any visits thereafter are covered under Part B.

Payment for the Medicare home health benefit is made under a prospective payment system using the Home Health Resource Group (HHRG) case-mix system.[27] One of 153 specific HHRG categories is assigned using Outcome and Assessment Information Set (OASIS) data that are gathered at the beginning of a payment episode – much like LTC MDS data that underlie SNF payments. Under the HHRG-based system, payments are adjusted for clinical conditions and service needs across three domains (clinical, functional, and service utilization). A geographic wage adjustment is made as well. A new assessment is completed for each 60-day payment episode and subsequent adjustments may be made for high-cost beneficiaries and those who experience a significant change in condition, switch home health agencies, or require four or fewer visits during the 60-day episode.

A Medicare home health payment episode is initiated with the approval of a physician who also establishes a proposed "Plan of Care" for the patient. While the basic unit of service for the benefit is a home health visit, there is no prescribed number of visits required during a payment episode. Rather, visit frequency is established as part of the plan of care (and reflected in the HHRG assignment). Similarly, there is no pre-defined episode length (other than the maximum of 60 days that is mandated purely for payment purposes) such that each beneficiary's payment episode may range from one to 60 days. If a beneficiary is still eligible for the home health benefit after the first 60-day payment episode ends, another payment episode may begin. There is no limit to the number of payment episodes a beneficiary can receive.

To provide a sense of the kind of detail that can be drawn from the data underlying what is reported here, it might be noted that Medicare home health payment episodes had a rough average of 14 days per episode for duals with full Medicaid benefits. Nineteen percent of the payment episodes had four or fewer visits, while .8 percent had more than 60 visits. Close to 30 percent of the home health payment episodes continued for the full 60 days and approximately 42 percent lasted for 30 days or less. Regardless of the number of days in a payment episode, there was a wide range in the number of visits. Typically, however, beneficiaries received a visit every two or three days.

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[26] More detail about Medicare home health benefits and related issues can be found on the CMS website: http://www.cms.hhs.gov/HomeHealthQualityInits/.

[27] See http://www.medpac.gov/documents/MedPAC_Payment_Basics_07_HHA.pdf for a brief overview of the Medicare home health payments.

Medicaid community supports for duals include: medical day care, personal care, selected other services such as case management, and HCBS waiver services for specific subsets of the population. While medical day care was previously offered as a state plan benefit in Maryland, as of July 2008 they are provided under an HCBS waiver. Personal care services are a state plan benefit in Maryland.[28] Medical day care requires an NHLOC assessment and covers health care services that emphasize primary prevention, early diagnosis and treatment, rehabilitation, and continuity of care outside the recipient's home. Personal care services (which can include assistance with activities of daily living ((ADLs)), household services, food shopping, transportation, and other services for recipients in the community) are covered when a qualified physician deems them necessary and includes them in a formal plan of care. Waiver programs can include an array of home and community support services—beyond those that are already included in the State Plan—that are defined in the specific agreement with CMS that establishes a given program.

HCBS waivers, which are authorized under Section 1915(c) of the SSA, account for more than 80 percent of the costs of community-based supports and services provided to duals in Maryland. These agreements allow states to waive certain Medicaid statutory requirements, such as access rules for services and what the state will pay for under its State Plan. To be a waiver participant, an individual must be fully Medicaid-eligible (although financial eligibility may be higher than for regular State Plan services), medically qualified, certified for an institutional level of care, and choose to enroll in the waiver as an alternative to institutionalization. These waivers are also required to cost Medicaid no more to provide services to participants in the community than it would cost the program for institutional care. Each waiver provides a specific set of optional state services that are tailored to support a specific population. There is a formal limit on the number of "slots" available for participants under each waiver in Maryland, and the state manages interest lists for each waiver when the slots are filled. However, Medicaid recipients with full benefits who are in an institution and otherwise eligible for transition into the community under a waiver may be able to do so even if the formal limit on slots has been reached.

The three largest HCBS waivers in Maryland include:[29]

- The *Older Adult Waiver* (OAW) is a statewide program for Medicaid recipients who are aged 50 and over, meet the NHLOC criteria, have a monthly income of no more than 300 percent of SSI (equivalent to 220 percent of the FPL), and have limited assets. Aside from full Medicaid benefits, examples of additional services OAW participants can receive include home-delivered meals, respite care in assisted living, family or consumer training, personal emergency response systems, extended home health care, assistive devices, environmental assessments and modifications, behavior consultation services, and case management through the state's Area Agencies on Aging. Medicaid enrollment data show that the OAW served a total of 3,396 participants during CY 2006. Those participants had a mean age of 77 years and most of them were duals.

[28] The term "state plan benefit" is used here to indicate an optional service that is available to all recipients who are otherwise eligible for full Medicaid benefits. Alternatively, waiver services are typically defined in an amendment to the State Plan and may be limited to recipients who meet certain eligibility requirements or availability.
[29] See details about Maryland waiver programs at http://www.dhmh.state.md.us/mma/waiverprograms/.

- The *Living at Home* (LAH) waiver is a statewide program for people with physical disabilities who are between the ages of 18 and 64 and need assistance with activities of daily living. The program is designed to serve people who are currently in a nursing home with an interest in returning to the community, as well as individuals living in the community who may need nursing home services but would like to remain in the community. Examples of LAH waiver benefits not already mentioned under the OAW include attendant care, such as personal assistance services, and skilled nursing supervision. Medicaid enrollment data show that the LAH waiver served a total of 462 participants, with a mean age of 44 years, during CY 2006. Roughly half of LAH waiver participants are duals.
- The *Community Pathways Waiver* is administered by the Maryland Developmental Disabilities Administration (DDA) and provides services for individuals with developmental disabilities (DD) and meet an ICF/MR level of care. There is no age limitation for eligibility, but similar to the OAW and LAH waivers monthly income may not exceed 300 percent of SSI. Key benefits available under this waiver include resource coordination, residential habilitation, supported employment, day habilitation, respite care, environmental modifications, assistive technology, and adaptive equipment. There were close to 10,600 participants under this waiver in CY 2006, approximately half of whom were duals.

  Maryland has a second DD waiver called *New Directions*. This waiver is much the same as Community Pathways except that it allows participants to direct how some benefits are administered. New Directions was first implemented in July of 2005 and had fewer than 50 participants by the end of CY 2006. For the purposes of this report, data for these two waivers have been combined and are referred to as the DD waivers.

Medicare home health benefits fall under both Part A and Part B, but they are not associated with a deductible or copayment. Thus, these services are not reflected in Medicaid crossover claims. As shown in Table 6, all Medicare-covered home health benefit activity falls within the lower left (yellow) section of the crossover framework. The Medicare program paid $12.4 million on behalf of 3,526 beneficiaries, or $3,526 per user, for home health benefits covering continuously enrolled duals with full Medicaid benefits in 2006.

All Medicaid-covered home and other community supports fall within the lower right (purple) section of Table 6. Medicaid paid $416 million, in total, for community-based LTC on behalf of 13,004 duals in this population. The largest share of those funds ($276 million), and the largest cost per user ($49,327), covered 5,605 participants under the DD waivers. A total of 2,690 OAW recipients and 266 LAH waiver recipients accounted for $59 million and $9.4 million, or $22,005 and $35,322 per user, respectively. Please note that these waiver costs are limited to specific waiver claims; individual recipients may have other State Plan benefit costs, such as medical day care. Medical day care, personal care, and case management services that were not provided as a formal waiver service accounted for another $68 million in Medicaid program costs for this population. The remaining $3 million in expenditures included in the lower right (purple) section of Table 6 covered a small amount of Medicaid home health, costs under other small waivers in the state, and assorted other services.

Table 6: Crossover Framework - Medicare & Medicaid Payments for Duals[a] w/Full Medicaid (2006)
Home Health and Other Community Supports

	Medicare			Medicaid		
	Users	Claims	Program Payments[b]	Users	Claims	Program Payments[b]
Total	***3,526***	***5,287***	***$12,431,289***	***13,004***	***4,260,204***	***$416,080,108***
Activity linked to crossover claims[c]	-	-	-	-	-	-
Activity NOT linked to crossover claims	**3,526**	**5,287**	**$12,431,289**	**13,004**	**4,260,204**	**$416,080,108**
Medicare claim found	3,526	5,287	$12,431,289	-	-	-
No Medicare claim found	-	-	-	13,004	4,260,204	$416,080,108
DD Waivers[d]	-	-	-	*5,605*	*2,321,382*	*$276,476,889*
Older Adult Waiver[d]	-	-	-	*2,690*	*482,564*	*$59,193,391*
Medical Day Care (not waiver)[d]	-	-	-	*3,844*	*679,264*	*$47,709,662*
Personal Care (not waiver)[d]	-	-	-	*2,923*	*676,689*	*$20,059,980*
Living at Home Waiver[d]	-	-	-	*266*	*92,341*	*$9,395,580*
Case Management (not waiver)[d]	-	-	-	*1,111*	*4,598*	*$284,860*
Other[d,e]	-	-	-	*127*	*3,366*	*$2,959,746*

[a]Includes duals who were continuously enrolled under both 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.

[b]Includes payments made by the respective program (Medicare or Medicaid) for claims with service dates that ended in the period.

[c]There is no deductible or co-payment for home health services under Medicare.

[d]Detail component of Medicare claim found/not found line.

[e]Includes a small amount of Medicaid Home Health, other small waivers, and other activity.

Hospice

Medicare covers an array of defined services under Part A in order to support a terminally ill beneficiary so he or she can remain at home. An individual is considered to be terminally ill if he or she has a medical prognosis that includes life expectancy of 6 months or less. The services must be coordinated through a hospice program under a written plan established and periodically reviewed by the individual's attending physician and by the medical director of the program. Services include, but are not limited to, nursing, therapies, medical social services, home health aide, homemaking, and counseling. Short-term inpatient care is covered, as long as it is provided in a participating hospice unit or a participating hospital or nursing facility that meets hospice standards.

Medicaid recipients who meet Medicare hospice requirements are also eligible for Medicaid hospice benefits. While the provision of hospice care is generally in the home, individuals eligible for Medicaid may choose to reside in a nursing facility and receive hospice care in that setting.

Table 7 shows that Medicare paid roughly $13.8 million for hospice care for 1,540 duals with full Medicaid benefits in 2006, for an average payment of $8,954 per person during the year. Medicaid paid another $9.8 million on behalf of 763 individuals ($12,796 per person on average), almost all of whom generated at least one Medicare hospice claim during the year. Medicaid expenses for this group were largely related to room and board (when the beneficiary/recipient was not at home). It is worth noting that only 1,084 individuals were shown in Table 2b of this report as having hospice benefits according hospice eligibility dates in the MMA state file. However, hospice claims from Medicare and Medicaid files reflected here are assumed to be a better indicator of hospice benefit use than the MMA state file.

Table 7: Crossover Framework - Medicare & Medicaid Payments for Duals[a] w/Full Medicaid (2006)
Hospice

	Medicare			Medicaid		
	Users	Claims	Program Payments[b]	Users	Claims	Program Payments[b]
Total	*1,540*	*4,997*	*$13,788,983*	*763*	*2,532*	*$9,763,619*
Activity linked to crossover claims[c]	-	-	-	-	-	-
Activity NOT linked to crossover claims	**1,540**	**4,997**	**$13,788,983**	**763**	**2,532**	**$9,763,619**
Medicare claim found	1,540	4,997	$13,788,983	-	-	-
No Medicare claim found	-	-	-	763	2,532	$9,763,619

[a]Includes duals who were continuously enrolled under both 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.

[b]Includes payments made by the respective program (Medicare or Medicaid) for claims with service dates that ended in the period.

[c]There is no deductible or co-payment for Hospice services under Medicare.

Physician, Outpatient, and Durable Medical Equipment

The last category of services and costs included in this guide reflects those that can be more broadly referred to as Part B services under Medicare. These services include physician care provided in and outside of a hospital setting, other clinical and rehabilitation support, and DME. The term outpatient care can be broadly defined as any care that is not part of an inpatient stay. However, it is also used to refer to hospital outpatient clinics and other non-hospital settings that provide services such as surgeries and other advanced procedures on a walk-in or one-day basis, as was the case when describing Maryland payments in the inpatient hospital section above.

Medicare Part B services are subject to an annual deductible and a copayment once the deductible is met. The copayment is typically 20 percent of the full Medicare-allowed amount, although some services, such as home health (included in a previous table), have none. Maryland limits Medicaid reimbursement for hospital outpatient department services, including Medicare copay amounts, to 98 percent of allowed charges.

Certain physician mental health services are reimbursed at less than the full Medicare-allowed amount such that the patient liability equals 50 percent of the full allowed amount.[30] For these services, Medicare pays 62.5 percent of the full Medicare-allowed amount (rather than the usual 80 percent) and the copay is set at 20 percent of that reduced amount (or 12.5 percent of the full allowed amount). The remaining balance (37.5 percent) of the full Medicare-allowed amount can be billed to the patient. However, this “balance bill” amount may be covered by Medicaid if the state covers all Part B patient liability costs, as is currently the case in Maryland.

As an aside, balance billing for physician mental health services can be understood in the context of billing rules for participating providers under Medicare. Participating providers must agree to accept the Medicare-allowed amount for a service (including any copay) as payment in full. While the rules for participation generally do not allow balance billing, it is allowed for physician mental health services because the sum of the Medicare payment and the copay is less than the full allowed amount. Medicare payments to providers who do not formally participate in the program are still limited to what it would typically pay to a participating provider. While non-participating providers can balance bill Medicare beneficiaries for charges above the Medicare allowed amount, federal regulations still limit the total charge to a prescribed (higher) percentage of the Medicare fee schedule unless the beneficiary formally agrees in writing to a higher charge. Medicaid programs generally do not pay the higher balance bill amounts.

There is no effective limit on the number of Medicare Part B services that a beneficiary can receive (assuming the service is covered and clinically appropriate). In contrast to Medicaid hospital payments that can reflect care when a Medicare benefit is exhausted, Medicaid payments for Part B services typically reflect only deductibles and copayments. Unlike some states, Maryland Medicaid pays the full patient liability amounts for these services. However, Medicaid also covers certain services—particularly mental health services and additional DME—that Medicare does not routinely cover.

[30] See http://www.cms.gov/manuals/downloads/ge101c03.pdf for more detail.

Medicare paid $273 million for physician, outpatient, and DME services on behalf of 50,962 duals with full Medicaid benefits in 2006 (see the total line in Table 8). That is, 94.5 percent of all (53,909) duals with full Medicaid benefits had at least one Part B claim during the year. The $218 million in payments that were linked to specific crossover claims shown in the upper left (blue) section of Table 8 account for roughly 80 percent of total Medicare Part B payments. The remaining 20 percent of Medicare payments that are shown in the bottom left (yellow) section of Table 8 indicate the extent to which Medicare Part B service use is not reflected in Medicaid claims.

Medicaid paid a total of $122 million for physician, outpatient, and DME services for this population. Fifty-four percent ($65.9 million shown in the upper right, green, section of Table 8) of those payments were attributed to Medicare crossover costs. The remaining Medicaid payments (shown in the lower right purple section of the table) were primarily for physician and DME expenses. These physician services were most often related to mental health benefits beyond those that Medicare covers. DME expenditures were typically for supplies, such as gloves and other equipment, that are generally associated with community supports other than those provided under a waiver.

Crossover payments exhibit a somewhat different pattern in relationship to Medicare claims for Part B data than was the case for hospital and SNF claims. While all three categories of service showed evidence of activity that did not show up in Medicaid claims (see the lower left yellow section of each table), there was a noticeably lower percentage of Medicare Part B costs unknown to Medicaid (21 percent) than was the case for Medicare hospital and SNF claims costs (43 and 48 percent, respectively).

Medicaid payments associated with claims that could be linked to Medicare claims for both Medicare hospital and SNF patient costs were well within reasonable expectations based on Medicaid payment rules; that is, Medicaid paid 98 percent of hospital coinsurance charges and covered only limited reimbursement for SNF copayments. However, Medicaid payments for Part B crossover costs were higher than might be expected based on matched Medicare claims. As was the case with inpatient claims, more than 80 percent (88.6) of Medicaid Part B crossover claims were matched to Medicare claims using very strict criteria based on patient ID, dates of service, and all three basic Medicare payment amounts. Most of the remaining crossover claims were linked to Medicare claims with increasingly loose matching criteria that included at least the patient ID, dates of service, and one or more of the Medicare payment fields. In a few cases, Medicaid claims needed to be combined when multiple procedures included on one Medicare claim were submitted separately to Medicaid for payment. In rare instances, claims were matched on patient ID, dates of service, and procedure codes.

Of the looser matches, more than half, or 7 percent of all claims, were based on patient ID, date of service, and Medicare paid amount alone. In most of these cases, the Medicaid claim suggested a copayment amount that was the same as the Medicare paid amount, whereas the matching Medicare claim showed a typical copayment amount of 20 percent of the paid amount. These also proved to be mental health claims that would typically generate the kind of balance

bill treatment described for such claims above. The Medicare paid amount on each original claim was, in fact, 50 percent of the full allowed amount and the copay was 20 percent of that reduced figure (or 12.5 percent of the full allowed amount). When these claims were submitted to Medicaid, the full patient liability amount was included in what is usually the Medicare copay field; that is, the 12.5 percent of the full allowed amount shown as the copay on the Medicare claim plus 37.5 percent reduction to the allowed amount that was not otherwise covered.

Less than 3 percent of Medicaid Part B crossover claims, accounting for $3.9 million (5.9 percent) of payments for crossover costs, could not otherwise be matched to Medicare claims (see the last detail line in the upper right green section of Table 8). The comparable figures were close to 1 percent for hospital and 6.5 percent for SNF services, and fewer individuals were involved in those cases. More than 15,000 individuals were associated with non-matched Medicaid crossover claims. This suggests more routine disagreement across Medicare and Medicaid claim sources for physician, outpatient, and DME services than might be expected. There may be appropriate reporting anomalies that have not yet been accounted for in linking claims. For example, more than half of the non-matched claims can be matched using only the dates of service and the provider ID. That is, further possible matches might be made, but all of the payment fields fail to match the Medicare claims. This may be because a provider who does not participate under Medicare has submitted a claim with adjustments to both the Medicare paid and copay amounts. This may also be related to claims that were denied at some point by Medicare. There may also simply be less scrutiny of these crossover claims because the state has made a commitment to cover Part B patient liability costs more generally. Since it is not clear why the Medicare paid amount, in particular, should be different, these claims were not treated as matches under the framework.

One potential anomaly that was accounted for is that Maryland Medicaid has paid Medicare copayments for some recipients when they were enrolled in a particular SNP in the past. In those cases, there would be no claim reported in the Medicare files. For this analysis, however, all duals with any group health plan coverage during the year have been excluded.

Table 8: Crossover Framework - Medicare & Medicaid Payments for Duals[a] w/Full Medicaid (2006) Physician, Outpatient, and DME[b]

	Medicare			Medicaid		
	Users	Claims	Program Payments[c]	Users	Claims	Program Payments[c]
Total	***50,962***	***1,917,802***	***$273,091,203***	***49,314***	***1,569,651***	***$121,965,549***
Activity linked to crossover claims	**48,851**	**1,367,856**	**$218,148,547**	**49,013**	**1,407,265**	**$65,884,616**
Medicare claim found	48,851	1,367,856	$218,148,547	48,849	1,368,216	$62,006,568
Physician [d]	*48,165*	*1,126,192*	*$113,672,463*	*48,165*	*1,126,554*	*$35,452,878*
Outpatient [d]	*29,755*	*143,269*	*$88,162,634*	*29,755*	*143,285*	*$22,125,424*
DME [d]	*14,693*	*98,395*	*$16,313,451*	*14,686*	*98,377*	*$4,428,266*
No Medicare claim found	-	-	-	15,323	39,049	$3,878,048
Activity NOT linked to crossover claims	**45,912**	**549,946**	**$54,942,655**	**12,824**	**162,386**	**$56,080,933**
Medicare claim found	45,912	549,946	$54,942,655	-	-	-
Physician [d]	*40,082*	*403,072*	*$27,879,791*	-	-	-
Outpatient [d]	*23,606*	*124,479*	*$22,751,555*	-	-	-
DME [d]	*6,007*	*22,395*	*$4,311,310*	-	-	-
No Medicare claim found	-	-	-	12,824	162,386	$56,080,933
Physician [d]	-	-	-	*7,062*	*60,196*	*$44,280,550*
Outpatient [d]	-	-	-	*410*	*3,055*	*$285,708*
DME [d]	-	-	-	*6,385*	*99,135*	*$11,514,675*

[a]Includes duals who were continuously enrolled under both 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.

[b]These generally reflect the bulk of Part B services.

[c]Includes payments made by the respective program (Medicare or Medicaid) for claims with service dates that ended in the period.

[d]Detail component of Medicare claims found/not found line.

Table 9 is a summary of potential Part B patient liability, as revealed in Medicare claims, and what Medicaid paid on behalf of duals with full Medicaid benefits in 2006. These results are drawn from the same underlying data used for Table 8. Over all Medicare Part B claims for this population, Medicaid paid $5.6 million less in total than the sum of potential crossover costs. However, that includes $12 million in potential payments that are not evident in Medicaid claims (see the lower left yellow section of Table 9). More properly, Medicaid paid roughly $2.8 million (or 4.7 percent) more for Medicare cost sharing than is suggested by the matching Medicare claims. $3.1 million in what look like over payments for matched physician services is offset by the almost $360,000 less than matched outpatient and DME claims. The most likely explanation for this result is adjustment of copayment amount fields associated with balance billing. In addition, $3.9 million in crossover payments were not otherwise matched to Medicare claims. That sum of apparent disagreement between Medicaid crossover payments and Medicare claims ($6.7 million) was roughly 10 percent of the total $65.9 million in Medicaid payments for crossover costs related to Part B services for this population in 2006.

Table 9: Crossover Framework - Part B Deductables & Copays Duals w/Full Medicaid (2006)

	Medicare	Medicaid	Over (Under) Payment	
	Potential Deductibles & Copayments	Paid Deductibles & Copayments	Medicaid - Medicare	Percent Difference
Total	***$71,439,355***	***$65,884,616***	($5,554,739)	-7.8%
Linked to crossover claims	**$59,231,518**	**$65,884,616**	$6,653,097	11.2%
Medicare claim found	$59,231,518	$62,006,568	$2,775,049	4.7%
Physician	*$32,318,430*	*$35,452,878*	*$3,134,448*	*9.7%*
Outpatient	*$22,460,207*	*$22,125,424*	*($334,783)*	*-1.5%*
DME	*$4,452,881*	*$4,428,266*	*($24,616)*	*-0.6%*
No Medicare claim found	$0	$3,878,048	$3,878,048	
NOT linked to crossover claims	**$12,207,837**	**$0**		
Medicare claim found	$12,207,837	$0		
Physician	*$6,168,476*	*$0*		
Outpatient	*$4,845,671*	*$0*		
DME	*$1,193,690*	*$0*		

Summary of Medicare and Medicaid Payments

It is important to note, again, that pharmacy costs are not included in these tables because Part D data are not yet generally available. As with other categories of service, Part D costs for duals are shared by Medicare and Medicaid. Some of these costs that are covered by Medicaid are accounted for through "state contributions" that are adjustments to federal payments to states (commonly referred to as the "clawback"), whereby a declining percentage of what the state would have paid for drugs prior to the implementation of Part D is subtracted from FMAP payments the state receives.[31] Other significant Medicaid costs are also not included here. Part B premium payments, which are not included in claims data, were set at $88.50 per month for CY 2006 and add another $55 million in Medicaid costs for the duals with full Medicaid benefits included in the these tables. Part A premiums ($393 per month in 2006) paid by Medicaid on behalf of 9,710 duals with full Medicaid benefits and a Medicare BIC of "M" (see discussion of Table 2a) added another $3.8 million in state payments.[32]

Tables 10a, 10b, and 10c reflect a consolidation of the preceding detail tables by category of service and include additional summary statistics. Table 10a shows combined total Medicare and Medicaid payments of $1.925 billion across the categories of service discussed in the previous sections. Medicaid covered 61.6 percent of those payments. Almost 96 percent (51,601) of 53,909 duals with full Medicaid benefits included here generated at least one claim for benefits during 2006 with average costs of $37,315 per user and $3,113 PMPM for the population as a whole. Less than a quarter (22.4 percent) of all government program costs included here were for inpatient hospital services, most of which were covered by Medicare. Another 33.6 percent of the total was for NF and ICF/MR services, most of which were covered by Medicaid. Medicaid also covered nearly all of the 22.3 percent of claim costs for home health and other community support services. The 20.5 percent of total costs for physician, outpatient, and DME costs were split more evenly, with Medicare covering two-thirds and Medicaid covering one-third. Hospice benefits accounted for the remaining 1.2 percent of payments.

Table 10b is a consolidated version of the Medicare (blue and yellow) sections of the crossover framework. The total line of the table shows that 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 for the services included here. Almost 60 percent of Medicare payments were for inpatient hospital and related SNF care. Physician and other Part B services accounted for 36.9 percent of Medicare costs.

Medicare claims that were not matched to Medicaid crossover claims represented 37.3 percent of all Medicare payments (shown in the first line of the lower yellow section of Table 10b). This reflects $446 PMPM of activity that is not represented in Medicaid claim files, and 14.3 percent of all Medicare and Medicaid claim costs shown here. Results in this section of the framework

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[31] More detail about the clawback and state financing of Part D can be found on the Kaiser Family Foundation web site at http://www.kff.org/medicaid/upload/The-Clawback-State-Financing-of-Medicare-Drug-Coverage.pdf.
[32] Part B and limited Part A premiums for continuously enrolled duals with *partial* Medicaid benefits added an additional $30 million to Medicaid costs. Medicaid payments for Part B and A premiums were roughly $12 million for *non*-continuously enrolled recipients in 2006.

have particular implications for Medicaid program analysts concerned with issues that require information across payers. As previously noted, some data on service use patterns involving home health, hospice, and readmissions to hospital that do not involve copayment will routinely be missing from crossover claims. Diagnosis-based risk adjustment in particular, which is commonly used to measure relative health risk that underlies differences in service use within and across populations that include duals, will be complicated (that is, fail to reveal the full pictures of duals' health risk) because of data that are not regularly included in crossover claims as well as data that are simply not reported. Diagnoses may also be used in some form as the basis for rate setting to support aspects of integrated/coordinated programs of care.

As part of a prior effort to estimate the potential impact of diagnosis data missing from Medicaid claims, diagnoses were drawn separately from Medicare and Medicaid claims for duals in 2003. Relative health risk was assigned to each person using the diagnosis-specific components of the Hierarchical Coexisting Conditions (HCC) payment system used by CMS for risk-based capitation payments to MA plans. Under the HCC system, relative risk factors between 0.06 and 3.2 are assigned to individuals based on program and demographic factors and defined clusters of diagnoses, such as certain cardiac conditions or cancers. For this analysis, the relative risk values for all relevant conditions for an individual were added together as a measure of overall health risk. The average relative risk for duals with full Medicaid benefits in 2003 was 1.379 using diagnoses drawn from Medicare claims, and 0.852 using diagnoses from Medicaid claims. Thus, using Medicaid claims alone suggests a healthier population than would otherwise be the case using more complete data. More detail about this analysis, which will be updated and expanded as part of the broader grant study effort that engendered this guide, is included in Appendix 3. In any event, while there is more to be learned about how diagnoses can and should play a role in analysis of Medicaid programs, results in the lower left section of the framework should serve as a reminder of the limits of using crossover claims alone for such purposes.

Table 10c is a consolidated version of the Medicaid (green and purple) sections of the crossover framework. While Medicaid paid 61.6 percent ($1.185 billion) of total Medicare and Medicaid claim costs shown here, those payments were primarily for institutional LTC (49 percent for NF and ICF/MR care) and community supports (35.1 percent). Payments for Medicare cost sharing, shown in the middle (green) section of the table, were 7.4 percent of Medicaid payments, or $142 PMPM. Three-fourths of those payments (5.6 percent) were for Part B services and most of the remaining (1.7 percent) for hospital care. The lower (purple) section of Table 10c shows that Maryland Medicaid paid $1.097 billion, or an average of $1,774 PMPM, for direct Medicaid benefits on behalf of all continuously enrolled duals with full benefits in CY 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. DD waiver costs for 5,605 duals were 23.3 percent of Medicaid payments and 14.4 percent of total Medicare and Medicaid payments.

Appendix 1 includes a select series of summary tables comparable to Tables 2b, 10a, 10b, and 10c for variously defined groups of continuously enrolled duals underlying this guide.

Table 10a: Total Medicare & Medicaid Payments for Duals[a] w/Full Medicaid (2006)

	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*
Nursing Facility	*5,763*	*$65,513*	*12,683*	*$536,120*	*13,991*	*26.0%*	*$601,633*	*31.2%*	*$43,001*	*$973*
ICF/MR	-	-	*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*
Physician	*50,495*	*$141,552*	*48,545*	*$79,733*	*50,655*	*94.0%*	*$221,286*	*11.5%*	*$4,368*	*$358*
Outpatient	*36,745*	*$110,914*	*30,008*	*$22,411*	*36,757*	*68.2%*	*$133,325*	*6.9%*	*$3,627*	*$216*
DME	*16,989*	*$20,625*	*17,156*	*$15,943*	*19,187*	*35.6%*	*$36,568*	*1.9%*	*$1,906*	*$59*
Special[b]	-	-	*15,323*	*$3,878*	*15,323*	*28.4%*	*$3,878*	*0.2%*	*$253*	*$6*

[a]Includes duals who were continuously enrolled under both 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.

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

Table 10b: Crossover Framework - Medicare Payments for Duals w/Full Medicaid (2006)

	Medicare						
	Users	Users as % of Total (53,909)	Payments (000s)	$s as % Mcare	$s Per User	$s PMPM Per Dual	$s as % Mcare + MCaid
Total	***51,021***	***94.6%***	***$740,219***	***100%***	***$14,508***	***$1,197***	***38.4%***
Hospital Inpatient	***16,214***	***30.1%***	***$375,394***	***50.7%***	***$23,152***	***$607***	***19.5%***
NF & ICF/MR	***5,763***	***10.7%***	***$65,513***	***8.9%***	***$11,368***	***$106***	***3.4%***
HH & Oth Community	***3,526***	***6.5%***	***$12,431***	***1.7%***	***$3,526***	***$20***	***0.6%***
Hospice	***1,540***	***2.9%***	***$13,789***	***1.9%***	***$8,954***	***$22***	***0.7%***
Phys., Outpat., & DME	***50,962***	***94.5%***	***$273,091***	***36.9%***	***$5,359***	***$442***	***14.2%***
Linked to crossover claims	48,912	90.7%	$466,842	63.1%	$9,545	$755	24.2%
Hospital Inpatient	13,613	25.3%	$214,919	29.0%	$15,788	$348	11.2%
NF & ICF/MR	2,599	4.8%	$33,775	4.6%	$12,995	$55	1.8%
HH & Oth Community	-	-	-	-	-	-	-
Hospice	-	-	-	-	-	-	-
Phys., Outpat., & DME	48,851	90.6%	$218,149	29.5%	$4,466	$353	11.3%
Physician	*48,165*	*89.3%*	*$113,672*	*15.4%*	*$2,360*	*$184*	*5.9%*
Outpatient	*29,755*	*55.2%*	*$88,163*	*11.9%*	*$2,963*	*$143*	*4.6%*
DME	*14,693*	*27.3%*	*$16,313*	*2.2%*	*$1,110*	*$26*	*0.8%*
NO crossover claims	46,425	86.1%	$273,376	36.9%	$5,889	$442	14.2%
Hospital Inpatient	7,367	13.7%	$160,475	21.7%	$21,783	$259	8.3%
NF & ICF/MR	4,231	7.8%	$31,738	4.3%	$7,501	$51	1.6%
HH & Oth Community	3,526	6.5%	$12,431	1.7%	$3,526	$20	0.6%
Hospice	1,540	2.9%	$13,789	1.9%	$8,954	$22	0.7%
Phys., Outpat., & DME	45,912	85.2%	$54,943	7.4%	$1,197	$89	2.9%
Physician	*40,082*	*74.4%*	*$27,880*	*3.8%*	*$696*	*$45*	*1.4%*
Outpatient	*23,606*	*43.8%*	*$22,752*	*3.1%*	*$964*	*$37*	*1.2%*
DME	*6,007*	*11.1%*	*$4,311*	*0.6%*	*$718*	*$7*	*0.2%*

Table 10c: Crossover Framework - Medicaid Payments for Duals w/Full Medicaid (2006)

	Medicaid						
	Users	Users as % of Total (53,909)	Payments (000s)	$s as % MCaid	$s Per User	$s PMPM Per Dual	$s as % MCare + MCaid
Total	***50,844***	***94.3%***	***$1,185,252***	***100%***	***$23,312***	***$1,917***	***61.6%***
Hospital Inpatient	***13,822***	***25.6%***	***$56,588***	***4.8%***	***$4,094***	***$92***	***2.9%***
NF & ICF/MR	***12,930***	***24.0%***	***$580,854***	***49.0%***	***$44,923***	***$939***	***30.2%***
HH & Oth Community	***13,004***	***24.1%***	***$416,080***	***35.1%***	***$31,996***	***$673***	***21.6%***
Hospice	***763***	***1.4%***	***$9,764***	***0.8%***	***$12,796***	***$16***	***0.5%***
Phys., Outpat., & DME	***49,314***	***91.5%***	***$121,966***	***10.3%***	***$2,473***	***$197***	***6.3%***
Linked to crossover claims	49,072	91.0%	$87,866	7.4%	$1,791	$142	4.6%
Hospital Inpatient	13,698	25.4%	$20,699	1.7%	$1,511	$33	1.1%
Medicare claim found	13,593	25.2%	$20,460	1.7%	$1,505	$33	1.1%
No Medicare claim found	221	0.4%	$239	0.0%	$1,082	$0	0.0%
NF & ICF/MR	2,621	4.9%	$1,283	0.1%	$489	$2	0.1%
Medicare claim found	2,573	4.8%	$1,175	0.1%	$457	$2	0.1%
No Medicare claim found	274	0.5%	$108	0.0%	$395	$0	0.0%
HH & Oth Community	-	-	-	-	-	-	-
Hospice	-	-	-	-	-	-	-
Phys., Outpat., & DME	49,013	90.9%	$65,885	5.6%	$1,344	$107	3.4%
Medicare claim found	48,849	90.6%	$62,007	5.2%	$1,269	$100	3.2%
Physician	*48,165*	*89.3%*	*$35,453*	*3.0%*	*$736*	*$57*	*1.8%*
Outpatient	*29,755*	*55.2%*	*$22,125*	*1.9%*	*$744*	*$36*	*1.1%*
DME	*14,686*	*27.2%*	*$4,428*	*0.4%*	*$302*	*$7*	*0.2%*
No Medicare claim found	15,323	28.4%	$3,878	0.3%	$253	$6	0.2%
NO crossover claims	30,731	57.0%	$1,097,385	92.6%	$35,709	$1,774	57.0%
Hospital Inpatient	240	0.4%	$35,889	3.0%	$149,537	$58	1.9%
NF & ICF/MR	12,345	22.9%	$579,572	48.9%	$46,948	$937	30.1%
Nursing Facility	*12,098*	*22.4%*	*$534,837*	*45.1%*	*$44,209*	*$865*	*27.8%*
ICF/MR	*247*	*0.5%*	*$44,735*	*3.8%*	*$181,113*	*$72*	*2.3%*
HH & Oth Community	13,004	24.1%	$416,080	35.1%	$31,996	$673	21.6%
DD Waivers	*5,605*	*10.4%*	*$276,477*	*23.3%*	*$49,327*	*$447*	*14.4%*
Older Adult Waiver	*2,690*	*5.0%*	*$59,193*	*5.0%*	*$22,005*	*$96*	*3.1%*
Med Day Care (no waiver)	*3,844*	*7.1%*	*$47,710*	*4.0%*	*$12,411*	*$77*	*2.5%*
Personal Care (no waiver)	*2,923*	*5.4%*	*$20,060*	*1.7%*	*$6,863*	*$32*	*1.0%*
Living at Home Waiver	*266*	*0.5%*	*$9,396*	*0.8%*	*$35,322*	*$15*	*0.5%*
Case Mgmt (no waiver)	*1,111*	*2.1%*	*$285*	*0.0%*	*$256*	*$0*	*0.0%*
Other	*127*	*0.2%*	*$2,960*	*0.2%*	*$23,305*	*$5*	*0.2%*
Hospice	763	1.4%	$9,764	0.8%	$12,796	$16	0.5%
Phys., Outpat., & DME	12,824	23.8%	$56,081	4.7%	$4,373	$91	2.9%
Physician	*7,062*	*13.1%*	*$44,281*	*3.7%*	*$6,270*	*$72*	*2.3%*
Outpatient	*410*	*0.8%*	*$286*	*0.0%*	*$697*	*$0*	*0.0%*
DME	*6,385*	*11.8%*	*$11,515*	*1.0%*	*$1,803*	*$19*	*0.6%*

Next Steps

This guide is the first phase of a four-phase effort to develop linked Medicare and Medicaid analytical resources and expertise for the express purpose of supporting state-level analysis related to integrated/coordinated programs of care. The *Hilltop Crossover Framework*, in particular, is intended to provide a standardized context within which to examine the interplay between services more commonly treated independently under Medicare and Medicaid. Once established, it can be used to array a wide spectrum of service use and costs for various subsets of beneficiaries within the larger dual population.

Using the crossover framework as a starting point, a second phase of the analysis will examine patterns of service use for specific sub-groups in increasingly greater detail. That phase will include using matched samples whenever possible and practical. For example, matched samples of duals who do and do not participate under Maryland's HCBS waivers will be drawn. Various measures of resource use and costs will be examined across those groups to estimate differences related to waiver participation.

General issues that will initially shape analyses in the second phase include:

- The impact of HCBS waiver participation on Medicare and Medicaid institutional service use
- Avoidable hospitalizations
- Patterns of post acute care
- Medicare home health and Medicaid community supports
- Hospice and care in the last months of life
- Medicare and Medicaid service use in the presence of chronic conditions
- Medicaid service use among Medicare Advantage group health plan enrollees

A third phase will establish a rate setting context for duals with full Medicaid. The equivalent of capitation rates for Medicaid program costs will be developed along the lines of comparable rate setting efforts for managed LTC programs in other states. Capitation-like rates for Medicare program costs will be established using the CMS HCC payment system. An important aspect of the work underlying this rate setting phase will be to examine patterns of costs across a variety of potential risk factors that might be used to explain Medicaid program costs for duals, and how those patterns may affect Medicare costs in particular.

A final phase of the overall grant study plan underlying this effort will be to explore how lessons learned about patterns of service use and costs in the second phase of the study can be applied in the context of rate setting established in the third phase. The final study report will provide a summary of the phased analysis as a whole, with an emphasis on lessons learned for state administrators, in particular, about the interactive effects of government-supported health services for duals.

A Framework for State-Level Analysis of Duals: Interleaving Medicare and Medicaid Data

Appendices

Appendix 1
Additional Crossover Framework Summary Tables

The accompanying report, *A Framework for State-Level Analysis of Duals: Interleaving Medicare and Medicaid Data*, includes an overview and summary of Medicare and Medicaid service use and costs for individuals who are eligible under both programs (duals). While summary tables of service use and costs in the main report reflect continuously enrolled duals with full Medicaid benefits, this appendix includes comparable tables reflecting all continuously enrolled duals in Maryland during 2006, as well as selected sub-groupings, to provide a more complete representation of the population as a whole than is evident in the main report.

Please note that, while all duals were eligible for some level of Medicare and Medicaid benefits throughout the calendar year (2006), Medicare status and eligibility for full Medicaid benefits was determined at the end of the year. Some Medicaid recipients with full benefits at the end of the year may have had only partial benefits earlier in the year and vice versa. Some SLMBs, for example, who typically receive only Part B premium support, may have some Medicare coinsurance or direct Medicaid benefits costs during the year if they had some period of full benefits prior to the end of the year. It is not unusual for a small but noticeable number of Medicaid recipients to change from SLMB to QMB or full Medicaid status and back (or not) during a year.

Four tables are provided below for each population grouping. The first includes distributions by selected demographic measures, such as age categories and sex. The remaining tables are comparable to the summary tables shown at the end of the main report, but limited to the given population. Summary tables provided below reflect:

Tables 1a-1d: All continuously enrolled duals including those with full Medicaid benefits, those with partial Medicaid benefits, and those with group health coverage during the year.

Tables 2a-2d: Continuously enrolled duals with full Medicaid benefits and no group health coverage during the year – WHO DIED DURING THE YEAR.

Tables 3a-3d: Continuously enrolled duals with partial Medicaid benefits and no group health coverage during the year – QMBs. Partial Medicaid benefits for QMBs include Medicare Part B premium payments, as well as Medicare deductibles and copayments.

Tables 4a-4d: Continuously enrolled duals with partial Medicaid benefits and no group health coverage during the year – SLMB/QIs. Partial Medicaid benefits for SLB/QIs include only Medicare Part B premium payments.

Tables 5a-5d: Continuously enrolled duals – WITH SOME MEDICARE GROUP HEALTH PLAN COVERAGE DURING THE YEAR.

Table 1a: Continuously Enrolled Duals in Maryland (2006): All

	CY 2006	
	Persons	**%**
Total	82,104	100%
Age Categories		
Less than 21	164	0.2%
21 to 34	4,860	5.9%
35 to 49	12,823	15.6%
50 to 64	13,502	16.4%
65 to 74	20,213	24.6%
75 to 84	19,418	23.7%
84 & over	11,124	13.5%
Sex		
Female	53,835	65.6%
Male	28,269	34.4%
Race		
Asian	4,840	5.9%
Black	31,858	38.8%
Caucasian	39,576	48.2%
Hispanic	1,970	2.4%
Native American/Pacific Isle/Alaskan	168	0.2%
Undetermined	3,692	4.5%
Ever Disabled		
Yes	38,162	46.5%
under 65 (% of Yes)	*30,644*	*80.3%*
65 & over (% of Yes)	*7,518*	*19.7%*
No	43,942	53.5%
under 65 (% of No)	*705*	*1.6%*
65 & over (% of No)	*43,237*	*98.4%*
End Stage Renal Disease		
Yes	2,449	3.0%
No	79,655	97.0%
Hospice Claim		
Yes	2,192	2.7%
Deceased during CY (% of Yes)	*1,724*	*78.6%*
Not Deceased (% of Yes)	*468*	*21.4%*
No	79,912	97.3%
Deceased During CY		
Yes	6,904	8.4%
No	75,200	91.6%
Medicare Group Health Plan Coverage		
Yes	8,137	9.9%
No	73,967	90.1%

Note: Calendar year data.

Table 1b: Total Medicare & Medicaid Payments for Duals[a] (2006)
All

	Medicare		Medicaid		Total					
	Users	Payments (000s)	Users	Payments (000s)	Users	Users as % of Total (82,104)	Payments (000s)	$s as % of Total	$s Per User	$s PMPM Per Dual
Total	***72,924***	***$1,030,561***	***70,626***	***$1,416,213***	***77,926***	***94.9%***	***$2,446,774***	***100%***	***$31,399***	***$2,587***
Hospital Inpatient	***23,020***	***$519,685***	***18,862***	***$63,822***	***23,892***	***29.1%***	***$583,507***	***23.8%***	***$24,423***	***$617***
NF & ICF/MR	***7,128***	***$77,943***	***16,989***	***$764,110***	***19,167***	***23.3%***	***$842,053***	***34.4%***	***$43,932***	***$890***
Nursing Facility	***7,128***	***$77,943***	***16,741***	***$719,262***	***18,919***	***23.0%***	***$797,205***	***32.6%***	***$42,138***	***$843***
ICF/MR	-	-	***248***	***$44,847***	***248***	***0.3%***	***$44,847***	***1.8%***	***$180,837***	***$47***
HH & Oth Community	***5,500***	***$18,909***	***13,649***	***$428,720***	***17,512***	***21.3%***	***$447,629***	***18.3%***	***$25,561***	***$473***
Hospice	***2,172***	***$18,986***	***1,016***	***$13,221***	***2,192***	***2.7%***	***$32,207***	***1.3%***	***$14,693***	***$34***
Phys., Outpat., & DME	***72,668***	***$395,038***	***66,921***	***$146,341***	***75,390***	***91.8%***	***$541,379***	***22.1%***	***$7,181***	***$572***
Physician	***71,957***	***$200,296***	***65,856***	***$90,442***	***72,274***	***88.0%***	***$290,737***	***11.9%***	***$4,023***	***$307***
Outpatient	***52,773***	***$163,668***	***40,921***	***$30,524***	***52,810***	***64.3%***	***$194,192***	***7.9%***	***$3,677***	***$205***
DME	***25,666***	***$31,075***	***23,210***	***$18,269***	***28,116***	***34.2%***	***$49,345***	***2.0%***	***$1,755***	***$52***
Special[b]	-	-	***23,004***	***$7,105***	***23,004***	***28.0%***	***$7,105***	***0.3%***	***$309***	***$8***

[a] Includes duals who were continuously-enrolled under both 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.

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

Table 1c: Crossover Framework - Medicare Payments for Duals (2006)
All

	Medicare						
	Users	Users as % of Total (82,104)	Payments (000s)	$s as % Mcare	$s Per User	$s PMPM Per Dual	$s as % Mcare + MCaid
Total	***72,924***	***88.8%***	***$1,030,561***	***100%***	***$14,132***	***$1,090***	***42.1%***
Hospital Inpatient	***23,020***	***28.0%***	***$519,685***	***50.4%***	***$22,575***	***$549***	***21.2%***
NF & ICF/MR	***7,128***	***8.7%***	***$77,943***	***7.6%***	***$10,935***	***$82***	***3.2%***
HH & Oth Community	***5,500***	***6.7%***	***$18,909***	***1.8%***	***$3,438***	***$20***	***0.8%***
Hospice	***2,172***	***2.6%***	***$18,986***	***1.8%***	***$8,741***	***$20***	***0.8%***
Phys., Outpat., & DME	***72,668***	***88.5%***	***$395,038***	***38.3%***	***$5,436***	***$418***	***16.1%***
Linked to crossover claims	63,929	77.9%	$605,717	58.8%	$9,475	$640	24.8%
Hospital Inpatient	17,958	21.9%	$276,867	26.9%	$15,417	$293	11.3%
NF & ICF/MR	2,978	3.6%	$38,253	3.7%	$12,845	$40	1.6%
HH & Oth Community	-	-	-	-	-	-	-
Hospice	-	-	-	-	-	-	-
Phys., Outpat., & DME	63,854	77.8%	$290,597	28.2%	$4,551	$307	11.9%
Physician	*62,938*	*76.7%*	*$147,921*	*14.4%*	*$2,350*	*$156*	*6.0%*
Outpatient	*39,537*	*48.2%*	*$120,363*	*11.7%*	*$3,044*	*$127*	*4.9%*
DME	*20,025*	*24.4%*	*$22,313*	*2.2%*	*$1,114*	*$24*	*0.9%*
NO crossover claims	66,883	81.5%	$424,843	41.2%	$6,352	$449	17.4%
Hospital Inpatient	11,327	13.8%	$242,818	23.6%	$21,437	$257	9.9%
NF & ICF/MR	5,349	6.5%	$39,690	3.9%	$7,420	$42	1.6%
HH & Oth Community	5,500	6.7%	$18,909	1.8%	$3,438	$20	0.8%
Hospice	2,172	2.6%	$18,986	1.8%	$8,741	$20	0.8%
Phys., Outpat., & DME	65,970	80.3%	$104,441	10.1%	$1,583	$110	4.3%
Physician	*58,384*	*71.1%*	*$52,374*	*5.1%*	*$897*	*$55*	*2.1%*
Outpatient	*35,482*	*43.2%*	*$43,305*	*4.2%*	*$1,220*	*$46*	*1.8%*
DME	*10,920*	*13.3%*	*$8,762*	*0.9%*	*$802*	*$9*	*0.4%*

Table 1d: Crossover Framework - Medicaid Payments for Duals (2006)
All

	Medicaid						
	Users	Users as % of Total (82,104)	Payments (000s)	$s as % MCaid	$s Per User	$s PMPM Per Dual	$s as % MCare + MCaid
Total	***70,626***	***86.0%***	***$1,416,213***	***100%***	***$20,052***	***$1,497***	***57.9%***
Hospital Inpatient	***18,862***	***23.0%***	***$63,822***	***4.5%***	***$3,384***	***$67***	***2.6%***
NF & ICF/MR	***16,989***	***20.7%***	***$764,110***	***54.0%***	***$44,977***	***$808***	***31.2%***
HH & Oth Community	***13,649***	***16.6%***	***$428,720***	***30.3%***	***$31,410***	***$453***	***17.5%***
Hospice	***1,016***	***1.2%***	***$13,221***	***0.9%***	***$13,013***	***$14***	***0.5%***
Phys., Outpat., & DME	***66,921***	***81.5%***	***$146,341***	***10.3%***	***$2,187***	***$155***	***6.0%***
Linked to crossover claims	66,617	81.1%	$117,446	8.3%	$1,763	$124	4.8%
Hospital Inpatient	18,725	22.8%	$27,224	1.9%	$1,454	$29	1.1%
Medicare claim found	17,938	21.8%	$26,156	1.8%	$1,458	$28	1.1%
No Medicare claim found	980	1.2%	$1,068	0.1%	$1,090	$1	0.0%
NF & ICF/MR	3,101	3.8%	$1,401	0.1%	$452	$1	0.1%
Medicare claim found	2,947	3.6%	$1,282	0.1%	$435	$1	0.1%
No Medicare claim found	395	0.5%	$120	0.0%	$303	$0	0.0%
HH & Oth Community	-	-	-	-	-	-	-
Hospice	-	-	-	-	-	-	-
Phys., Outpat., & DME	66,537	81.0%	$88,820	6.3%	$1,335	$94	3.6%
Medicare claim found	63,851	77.8%	$81,715	5.8%	$1,280	$86	3.3%
Physician	*62,938*	*76.7%*	*$45,457*	*3.2%*	*$722*	*$48*	*1.9%*
Outpatient	*39,537*	*48.2%*	*$30,202*	*2.1%*	*$764*	*$32*	*1.2%*
DME	*20,015*	*24.4%*	*$6,057*	*0.4%*	*$303*	*$6*	*0.2%*
No Medicare claim found	23,004	28.0%	$7,105	0.5%	$309	$8	0.3%
NO crossover claims	35,551	43.3%	$1,298,768	91.7%	$36,533	$1,373	53.1%
Hospital Inpatient	271	0.3%	$36,598	2.6%	$135,048	$39	1.5%
NF & ICF/MR	16,170	19.7%	$762,708	53.9%	$47,168	$806	31.2%
Nursing Facility	*15,922*	*19.4%*	*$717,861*	*50.7%*	*$45,086*	*$759*	*29.3%*
ICF/MR	*248*	*0.3%*	*$44,847*	*3.2%*	*$180,837*	*$47*	*1.8%*
HH & Oth Community	13,649	16.6%	$428,720	30.3%	$31,410	$453	17.5%
DD Waivers	*5,719*	*7.0%*	*$280,952*	*19.8%*	*$49,126*	*$297*	*11.5%*
Older Adult Waiver	*2,876*	*3.5%*	*$63,012*	*4.4%*	*$21,909*	*$67*	*2.6%*
Med Day Care (no waiver)	*4,114*	*5.0%*	*$50,417*	*3.6%*	*$12,255*	*$53*	*2.1%*
Personal Care (no waiver)	*3,141*	*3.8%*	*$21,231*	*1.5%*	*$6,759*	*$22*	*0.9%*
Living at Home Waiver	*280*	*0.3%*	*$9,840*	*0.7%*	*$35,141*	*$10*	*0.4%*
Case Mgmt (no waiver)	*1,120*	*1.4%*	*$286*	*0.0%*	*$256*	*$0*	*0.0%*
Other	*132*	*0.2%*	*$2,983*	*0.2%*	*$22,597*	*$3*	*0.1%*
Hospice	1,016	1.2%	$13,221	0.9%	$13,013	$14	0.5%
Phys., Outpat., & DME	13,675	16.7%	$57,520	4.1%	$4,206	$61	2.4%
Physician	*7,526*	*9.2%*	*$44,985*	*3.2%*	*$5,977*	*$48*	*1.8%*
Outpatient	*480*	*0.6%*	*$323*	*0.0%*	*$673*	*$0*	*0.0%*
DME	*6,770*	*8.2%*	*$12,213*	*0.9%*	*$1,804*	*$13*	*0.5%*

Table 2a: Continuously Enrolled Duals in Maryland (2006): Full Medicaid, Who Died During the Year

	CY 2006	
	Persons	**%**
Total	4,937	100%
Age Categories		
Less than 21	2	0.0%
21 to 34	66	1.3%
35 to 49	233	4.7%
50 to 64	422	8.5%
65 to 74	767	15.5%
75 to 84	1,482	30.0%
84 & over	1,965	39.8%
Sex		
Female	3,368	68.2%
Male	1,569	31.8%
Race		
Asian	186	3.8%
Black	1,604	32.5%
Caucasian	2,722	55.1%
Hispanic	69	1.4%
Native American/Pacific Isle/Alaskan	7	0.1%
Undetermined	349	7.1%
Ever Disabled		
Yes	1,177	23.8%
under 65 (% of Yes)	*652*	*55.4%*
65 & over (% of Yes)	*525*	*44.6%*
No	3,760	76.2%
under 65 (% of No)	*71*	*1.9%*
65 & over (% of No)	*3,689*	*98.1%*
End Stage Renal Disease		
Yes	338	6.8%
No	4,599	93.2%
Hospice Claim		
Yes	1,220	24.7%
Deceased during CY (% of Yes)	*1,220*	*100.0%*
Not Deceased (% of Yes)	*0*	*0.0%*
No	3,717	75.3%
Deceased During CY		
Yes	4,937	100.0%
No	0	0.0%
Medicare Group Health Plan Coverage		
Yes	0	0.0%
No	4,937	100.0%

Note: Calendar year data.

Table 2b: Total Medicare & Medicaid Payments for Duals[a] (2006)
Full Medicaid, Who Died During the Year

	Medicare		Medicaid		Total					
	Users	Payments (000s)	Users	Payments (000s)	Users	Users as % of Total (4,937)	Payments (000s)	$s as % of Total	$s Per User	$s PMPM Per Dual
Total	*4,791*	*$160,365*	*4,770*	*$104,064*	*4,833*	*97.9%*	*$264,429*	*100%*	*$54,713*	*$8,590*
Hospital Inpatient	*3,090*	*$104,314*	*2,265*	*$13,736*	*3,122*	*63.2%*	*$118,050*	*44.6%*	*$37,812*	*$3,835*
NF & ICF/MR	*1,564*	*$14,762*	*3,095*	*$67,777*	*3,425*	*69.4%*	*$82,539*	*31.2%*	*$24,099*	*$2,681*
Nursing Facility	*1,564*	*$14,762*	*3,090*	*$67,527*	*3,420*	*69.3%*	*$82,288*	*31.1%*	*$24,061*	*$2,673*
ICF/MR	-	-	*5*	*$250*	*5*	*0.1%*	*$250*	*0.1%*	*$50,092*	*$8*
HH & Oth Community	*516*	*$1,563*	*749*	*$10,073*	*1,012*	*20.5%*	*$11,635*	*4.4%*	*$11,498*	*$378*
Hospice	*1,212*	*$7,012*	*548*	*$4,645*	*1,220*	*24.7%*	*$11,658*	*4.4%*	*$9,555*	*$379*
Phys., Outpat., & DME	*4,739*	*$32,715*	*4,402*	*$7,833*	*4,753*	*96.3%*	*$40,548*	*15.3%*	*$8,531*	*$1,317*
Physician	*4,691*	*$19,904*	*4,321*	*$4,552*	*4,695*	*95.1%*	*$24,456*	*9.2%*	*$5,209*	*$794*
Outpatient	*3,591*	*$11,027*	*2,357*	*$1,906*	*3,593*	*72.8%*	*$12,933*	*4.9%*	*$3,600*	*$420*
DME	*1,640*	*$1,784*	*1,489*	*$964*	*1,778*	*36.0%*	*$2,748*	*1.0%*	*$1,546*	*$89*
Special[b]	-	-	*1,462*	*$410*	*1,462*	*29.6%*	*$410*	*0.2%*	*$281*	*$13*

[a] Includes duals who were continuously-enrolled under both 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.

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

Table 2c: Crossover Framework - Medicare Payments for Duals (2006)
Full Medicaid, Who Died During the Year

	Medicare						
	Users	Users as % of Total (4,937)	Payments (000s)	$s as % Mcare	$s Per User	$s PMPM Per Dual	$s as % Mcare + MCaid
Total	***4,791***	***97.0%***	***$160,365***	***100%***	***$33,472***	***$5,210***	***60.6%***
Hospital Inpatient	***3,090***	***62.6%***	***$104,314***	***65.0%***	***$33,758***	***$3,389***	***39.4%***
NF & ICF/MR	***1,564***	***31.7%***	***$14,762***	***9.2%***	***$9,438***	***$480***	***5.6%***
HH & Oth Community	***516***	***10.5%***	***$1,563***	***1.0%***	***$3,028***	***$51***	***0.6%***
Hospice	***1,212***	***24.5%***	***$7,012***	***4.4%***	***$5,786***	***$228***	***2.7%***
Phys., Outpat., & DME	***4,739***	***96.0%***	***$32,715***	***20.4%***	***$6,903***	***$1,063***	***12.4%***
Linked to crossover claims	4,386	88.8%	$86,516	53.9%	$19,725	$2,811	32.7%
Hospital Inpatient	2,217	44.9%	$54,861	34.2%	$24,746	$1,782	20.7%
NF & ICF/MR	656	13.3%	$7,233	4.5%	$11,025	$235	2.7%
HH & Oth Community	-	-	-	-	-	-	-
Hospice	-	-	-	-	-	-	-
Phys., Outpat., & DME	4,361	88.3%	$24,422	15.2%	$5,600	$793	9.2%
Physician	*4,299*	*87.1%*	*$15,442*	*9.6%*	*$3,592*	*$502*	*5.8%*
Outpatient	*2,315*	*46.9%*	*$7,684*	*4.8%*	*$3,319*	*$250*	*2.9%*
DME	*1,270*	*25.7%*	*$1,297*	*0.8%*	*$1,021*	*$42*	*0.5%*
NO crossover claims	4,513	91.4%	$73,849	46.1%	$16,364	$2,399	27.9%
Hospital Inpatient	1,906	38.6%	$49,453	30.8%	$25,946	$1,607	18.7%
NF & ICF/MR	1,213	24.6%	$7,529	4.7%	$6,207	$245	2.8%
HH & Oth Community	516	10.5%	$1,563	1.0%	$3,028	$51	0.6%
Hospice	1,212	24.5%	$7,012	4.4%	$5,786	$228	2.7%
Phys., Outpat., & DME	4,237	85.8%	$8,292	5.2%	$1,957	$269	3.1%
Physician	*3,556*	*72.0%*	*$4,462*	*2.8%*	*$1,255*	*$145*	*1.7%*
Outpatient	*2,712*	*54.9%*	*$3,343*	*2.1%*	*$1,233*	*$109*	*1.3%*
DME	*666*	*13.5%*	*$487*	*0.3%*	*$731*	*$16*	*0.2%*

Table 2d: Crossover Framework - Medicaid Payments for Duals (2006)
Full Medicaid, Who Died During the Year

	Medicaid						
	Users	Users as % of Total (4,937)	Payments (000s)	$s as % MCaid	$s Per User	$s PMPM Per Dual	$s as % MCare + MCaid
Total	***4,770***	***96.6%***	***$104,064***	***100%***	***$21,816***	***$3,381***	***39.4%***
Hospital Inpatient	***2,265***	***45.9%***	***$13,736***	***13.2%***	***$6,064***	***$446***	***5.2%***
NF & ICF/MR	***3,095***	***62.7%***	***$67,777***	***65.1%***	***$21,899***	***$2,202***	***25.6%***
HH & Oth Community	***749***	***15.2%***	***$10,073***	***9.7%***	***$13,448***	***$327***	***3.8%***
Hospice	***548***	***11.1%***	***$4,645***	***4.5%***	***$8,476***	***$151***	***1.8%***
Phys., Outpat., & DME	***4,402***	***89.2%***	***$7,833***	***7.5%***	***$1,779***	***$254***	***3.0%***
Linked to crossover claims	4,395	89.0%	$11,283	10.8%	$2,567	$367	4.3%
Hospital Inpatient	2,226	45.1%	$4,064	3.9%	$1,825	$132	1.5%
Medicare claim found	2,213	44.8%	$4,035	3.9%	$1,823	$131	1.5%
No Medicare claim found	32	0.6%	$28	0.0%	$888	$1	0.0%
NF & ICF/MR	661	13.4%	$256	0.2%	$387	$8	0.1%
Medicare claim found	649	13.1%	$236	0.2%	$364	$8	0.1%
No Medicare claim found	78	1.6%	$19	0.0%	$246	$1	0.0%
HH & Oth Community	-	-	-	-	-	-	-
Hospice	-	-	-	-	-	-	-
Phys., Outpat., & DME	4,373	88.6%	$6,964	6.7%	$1,592	$226	2.6%
Medicare claim found	4,359	88.3%	$6,554	6.3%	$1,503	$213	2.5%
Physician	*4,299*	*87.1%*	*$4,288*	*4.1%*	*$998*	*$139*	*1.6%*
Outpatient	*2,315*	*46.9%*	*$1,898*	*1.8%*	*$820*	*$62*	*0.7%*
DME	*1,267*	*25.7%*	*$367*	*0.4%*	*$290*	*$12*	*0.1%*
No Medicare claim found	1,462	29.6%	$410	0.4%	$281	$13	0.2%
NO crossover claims	3,918	79.4%	$92,781	89.2%	$23,681	$3,014	35.1%
Hospital Inpatient	81	1.6%	$9,673	9.3%	$119,414	$314	3.7%
NF & ICF/MR	2,959	59.9%	$67,521	64.9%	$22,819	$2,194	25.5%
Nursing Facility	*2,954*	*59.8%*	*$67,271*	*64.6%*	*$22,773*	*$2,185*	*25.4%*
ICF/MR	*5*	*0.1%*	*$250*	*0.2%*	*$50,092*	*$8*	*0.1%*
HH & Oth Community	749	15.2%	$10,073	9.7%	$13,448	$327	3.8%
DD Waivers	*99*	*2.0%*	*$3,262*	*3.1%*	*$32,953*	*$106*	*1.2%*
Older Adult Waiver	*388*	*7.9%*	*$5,042*	*4.8%*	*$12,996*	*$164*	*1.9%*
Med Day Care (no waiver)	*192*	*3.9%*	*$1,026*	*1.0%*	*$5,346*	*$33*	*0.4%*
Personal Care (no waiver)	*194*	*3.9%*	*$605*	*0.6%*	*$3,118*	*$20*	*0.2%*
Living at Home Waiver	*8*	*0.2%*	*$89*	*0.1%*	*$11,130*	*$3*	*0.0%*
Case Mgmt (no waiver)	*36*	*0.7%*	*$5*	*0.0%*	*$146*	*$0*	*0.0%*
Other	*2*	*0.0%*	*$43*	*0.0%*	*$21,267*	*$1*	*0.0%*
Hospice	548	11.1%	$4,645	4.5%	$8,476	$151	1.8%
Phys., Outpat., & DME	693	14.0%	$869	0.8%	$1,254	$28	0.3%
Physician	*195*	*3.9%*	*$264*	*0.3%*	*$1,353*	*$9*	*0.1%*
Outpatient	*18*	*0.4%*	*$8*	*0.0%*	*$434*	*$0*	*0.0%*
DME	*519*	*10.5%*	*$597*	*0.6%*	*$1,151*	*$19*	*0.2%*

Table 3a: Continuously Enrolled Duals in Maryland (2006): With Partial Medicaid Benefits, QMBs

	CY 2006	
	Persons	**%**
Total	13,067	100%
Age Categories		
Less than 21	2	0.0%
21 to 34	424	3.2%
35 to 49	2,299	17.6%
50 to 64	2,834	21.7%
65 to 74	3,973	30.4%
75 to 84	2,664	20.4%
84 & over	871	6.7%
Sex		
Female	8,810	67.4%
Male	4,257	32.6%
Race		
Asian	388	3.0%
Black	5,279	40.4%
Caucasian	6,822	52.2%
Hispanic	276	2.1%
Native American/Pacific Isle/Alaskan	29	0.2%
Undetermined	273	2.1%
Ever Disabled		
Yes	6,863	52.5%
under 65 (% of Yes)	*5,491*	*80.0%*
65 & over (% of Yes)	*1,372*	*20.0%*
No	6,204	47.5%
under 65 (% of No)	*68*	*1.1%*
65 & over (% of No)	*6,136*	*98.9%*
End Stage Renal Disease		
Yes	504	3.9%
No	12,563	96.1%
Hospice Claim		
Yes	165	1.3%
Deceased during CY (% of Yes)	*140*	*84.8%*
Not Deceased (% of Yes)	*25*	*15.2%*
No	12,902	98.7%
Deceased During CY		
Yes	555	4.2%
No	12,512	95.8%
Medicare Group Health Plan Coverage		
Yes	0	0.0%
No	13,067	100.0%

Note: Calendar year data.

Table 3b: Total Medicare & Medicaid Payments for Duals[a] (2006)
With Partial Medicaid Benefits, QMBs

	Medicare		Medicaid		Total					
	Users	Payments (000s)	Users	Payments (000s)	Users	Users as % of Total (13,067)	Payments (000s)	$s as % of Total	$s Per User	$s PMPM Per Dual
Total	*12,603*	*$175,668*	*12,360*	*$24,698*	*12,607*	*96.5%*	*$200,366*	*100%*	*$15,893*	*$1,304*
Hospital Inpatient	*4,057*	*$87,084*	*3,780*	*$5,068*	*4,083*	*31.2%*	*$92,152*	*46.0%*	*$22,570*	*$600*
NF & ICF/MR	*706*	*$6,489*	*223*	*$335*	*716*	*5.5%*	*$6,824*	*3.4%*	*$9,531*	*$44*
Nursing Facility	*706*	*$6,489*	*223*	*$335*	*716*	*5.5%*	*$6,824*	*3.4%*	*$9,531*	*$44*
ICF/MR	-	-	*0*	*$0*	*0*	*0.0%*	*$0*	*0.0%*	*$0*	*$0*
HH & Oth Community	*1,203*	*$3,948*	*41*	*$348*	*1,237*	*9.5%*	*$4,296*	*2.1%*	*$3,473*	*$28*
Hospice	*165*	*$1,161*	*0*	*$0*	*165*	*1.3%*	*$1,161*	*0.6%*	*$7,037*	*$8*
Phys., Outpat., & DME	*12,591*	*$76,986*	*12,360*	*$18,947*	*12,596*	*96.4%*	*$95,933*	*47.9%*	*$7,616*	*$624*
Physician	*12,528*	*$36,305*	*12,237*	*$9,086*	*12,531*	*95.9%*	*$45,390*	*22.7%*	*$3,622*	*$295*
Outpatient	*9,564*	*$34,228*	*8,549*	*$7,386*	*9,565*	*73.2%*	*$41,614*	*20.8%*	*$4,351*	*$271*
DME	*5,155*	*$6,453*	*4,540*	*$1,463*	*5,160*	*39.5%*	*$7,917*	*4.0%*	*$1,534*	*$52*
Special[b]	-	-	*3,923*	*$1,012*	*3,923*	*30.0%*	*$1,012*	*0.5%*	*$258*	*$7*

[a] Includes duals who were continuously-enrolled under both 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.

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

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Table 3c: Crossover Framework - Medicare Payments for Duals (2006) With Partial Medicaid Benefits, QMBs

	Medicare						
	Users	Users as % of Total (13,067)	Payments (000s)	$s as % Mcare	$s Per User	$s PMPM Per Dual	$s as % Mcare + MCaid
Total	***12,603***	***96.4%***	***$175,668***	***100%***	***$13,939***	***$1,143***	***87.7%***
Hospital Inpatient	***4,057***	***31.0%***	***$87,084***	***49.6%***	***$21,465***	***$567***	***43.5%***
NF & ICF/MR	***706***	***5.4%***	***$6,489***	***3.7%***	***$9,191***	***$42***	***3.2%***
HH & Oth Community	***1,203***	***9.2%***	***$3,948***	***2.2%***	***$3,282***	***$26***	***2.0%***
Hospice	***165***	***1.3%***	***$1,161***	***0.7%***	***$7,037***	***$8***	***0.6%***
Phys., Outpat., & DME	***12,591***	***96.4%***	***$76,986***	***43.8%***	***$6,114***	***$501***	***38.4%***
Linked to crossover claims	12,349	94.5%	$122,179	69.6%	$9,894	$795	61.0%
Hospital Inpatient	3,753	28.7%	$54,077	30.8%	$14,409	$352	27.0%
NF & ICF/MR	203	1.6%	$2,453	1.4%	$12,086	$16	1.2%
HH & Oth Community	-	-	-	-	-	-	-
Hospice	-	-	-	-	-	-	-
Phys., Outpat., & DME	12,347	94.5%	$65,649	37.4%	$5,317	$427	32.8%
Physician	*12,227*	*93.6%*	*$30,877*	*17.6%*	*$2,525*	*$201*	*15.4%*
Outpatient	*8,504*	*65.1%*	*$29,414*	*16.7%*	*$3,459*	*$191*	*14.7%*
DME	*4,612*	*35.3%*	*$5,358*	*3.1%*	*$1,162*	*$35*	*2.7%*
NO crossover claims	11,548	88.4%	$53,489	30.4%	$4,632	$348	26.7%
Hospital Inpatient	1,593	12.2%	$33,007	18.8%	$20,720	$215	16.5%
NF & ICF/MR	591	4.5%	$4,035	2.3%	$6,828	$26	2.0%
HH & Oth Community	1,203	9.2%	$3,948	2.2%	$3,282	$26	2.0%
Hospice	165	1.3%	$1,161	0.7%	$7,037	$8	0.6%
Phys., Outpat., & DME	11,438	87.5%	$11,337	6.5%	$991	$74	5.7%
Physician	*10,111*	*77.4%*	*$5,428*	*3.1%*	*$537*	*$35*	*2.7%*
Outpatient	*5,882*	*45.0%*	*$4,814*	*2.7%*	*$818*	*$31*	*2.4%*
DME	*1,835*	*14.0%*	*$1,095*	*0.6%*	*$597*	*$7*	*0.5%*

Table 3d: Crossover Framework - Medicaid Payments for Duals (2006) With Partial Medicaid Benefits, QMBs

	Medicaid						
	Users	Users as % of Total (13,067)	Payments (000s)	$s as % MCaid	$s Per User	$s PMPM Per Dual	$s as % MCare + MCaid
Total	***12,360***	***94.6%***	***$24,698***	***100%***	***$1,998***	***$161***	***12.3%***
Hospital Inpatient	***3,780***	***28.9%***	***$5,068***	***20.5%***	***$1,341***	***$33***	***2.5%***
NF & ICF/MR	***223***	***1.7%***	***$335***	***1.4%***	***$1,503***	***$2***	***0.2%***
HH & Oth Community	***41***	***0.3%***	***$348***	***1.4%***	***$8,480***	***$2***	***0.2%***
Hospice	***0***	***0.0%***	***$0***	***0.0%***	***$0***	***$0***	***0.0%***
Phys., Outpat., & DME	***12,360***	***94.6%***	***$18,947***	***76.7%***	***$1,533***	***$123***	***9.5%***
Linked to crossover claims	12,356	94.6%	$23,835	96.5%	$1,929	$155	11.9%
Hospital Inpatient	3,780	28.9%	$4,995	20.2%	$1,321	$32	2.5%
Medicare claim found	3,754	28.7%	$4,959	20.1%	$1,321	$32	2.5%
No Medicare claim found	54	0.4%	$36	0.1%	$665	$0	0.0%
NF & ICF/MR	206	1.6%	$41	0.2%	$201	$0	0.0%
Medicare claim found	202	1.5%	$40	0.2%	$196	$0	0.0%
No Medicare claim found	14	0.1%	$2	0.0%	$136	$0	0.0%
HH & Oth Community	-	-	-	-	-	-	-
Hospice	-	-	-	-	-	-	-
Phys., Outpat., & DME	12,356	94.6%	$18,799	76.1%	$1,521	$122	9.4%
Medicare claim found	12,347	94.5%	$17,787	72.0%	$1,441	$116	8.9%
Physician	*12,227*	*93.6%*	*$8,950*	*36.2%*	*$732*	*$58*	*4.5%*
Outpatient	*8,504*	*65.1%*	*$7,383*	*29.9%*	*$868*	*$48*	*3.7%*
DME	*4,610*	*35.3%*	*$1,454*	*5.9%*	*$315*	*$9*	*0.7%*
No Medicare claim found	3,923	30.0%	$1,012	4.1%	$258	$7	0.5%
NO crossover claims	172	1.3%	$863	3.5%	$5,016	$6	0.4%
Hospital Inpatient	5	0.0%	$73	0.3%	$14,687	$0	0.0%
NF & ICF/MR	48	0.4%	$294	1.2%	$6,122	$2	0.1%
Nursing Facility	*48*	*0.4%*	*$294*	*1.2%*	*$6,122*	*$2*	*0.1%*
ICF/MR	*0*	*0.0%*	*$0*	*0.0%*	*$0*	*$0*	*0.0%*
HH & Oth Community	41	0.3%	$348	1.4%	$8,480	$2	0.2%
DD Waivers	*4*	*0.0%*	*$127*	*0.5%*	*$31,738*	*$1*	*0.1%*
Older Adult Waiver	*1*	*0.0%*	*$11*	*0.0%*	*$10,799*	*$0*	*0.0%*
Med Day Care (no waiver)	*24*	*0.2%*	*$133*	*0.5%*	*$5,535*	*$1*	*0.1%*
Personal Care (no waiver)	*14*	*0.1%*	*$55*	*0.2%*	*$3,943*	*$0*	*0.0%*
Living at Home Waiver	*0*	*0.0%*	*$0*	*0.0%*	*$0*	*$0*	*0.0%*
Case Mgmt (no waiver)	*3*	*0.0%*	*$0*	*0.0%*	*$80*	*$0*	*0.0%*
Other	*3*	*0.0%*	*$22*	*0.1%*	*$7,209*	*$0*	*0.0%*
Hospice	0	0.0%	$0	0.0%	$0	$0	0.0%
Phys., Outpat., & DME	98	0.7%	$148	0.6%	$1,509	$1	0.1%
Physician	*70*	*0.5%*	*$136*	*0.5%*	*$1,938*	*$1*	*0.1%*
Outpatient	*12*	*0.1%*	*$3*	*0.0%*	*$242*	*$0*	*0.0%*
DME	*20*	*0.2%*	*$9*	*0.0%*	*$463*	*$0*	*0.0%*

Table 4a: Continuously Enrolled Duals in Maryland (2006): With Partial Medicaid Benefits, SLMBs/QIs

	CY 2006	
	Persons	%
Total	6,991	100%
Age Categories		
Less than 21	0	0.0%
21 to 34	120	1.7%
35 to 49	911	13.0%
50 to 64	1,626	23.3%
65 to 74	2,199	31.5%
75 to 84	1,642	23.5%
84 & over	493	7.1%
Sex		
Female	4,452	63.7%
Male	2,539	36.3%
Race		
Asian	118	1.7%
Black	2,457	35.1%
Caucasian	4,141	59.2%
Hispanic	87	1.2%
Native American/Pacific Isle/Alaskan	21	0.3%
Undetermined	167	2.4%
Ever Disabled		
Yes	3,473	49.7%
under 65 (% of Yes)	*2,627*	*75.6%*
65 & over (% of Yes)	*846*	*24.4%*
No	3,518	50.3%
under 65 (% of No)	*30*	*0.9%*
65 & over (% of No)	*3,488*	*99.1%*
End Stage Renal Disease		
Yes	193	2.8%
No	6,798	97.2%
Hospice Claim		
Yes	95	1.4%
Deceased during CY (% of Yes)	*82*	*86.3%*
Not Deceased (% of Yes)	*13*	*13.7%*
No	6,896	98.6%
Deceased During CY		
Yes	346	4.9%
No	6,645	95.1%
Medicare Group Health Plan Coverage		
Yes	0	0.0%
No	6,991	100.0%

Note: Calendar year data.

Table 4b: Total Medicare & Medicaid Payments for Duals[a] (2006)
With Partial Medicaid Benefits, SLMBs/QIs

	Medicare		Medicaid		Total					
	Users	Payments (000s)	Users	Payments (000s)	Users	Users as % of Total (6,991)	Payments (000s)	$s as % of Total	$s Per User	$s PMPM Per Dual
Total	*6,652*	*$87,394*	*687*	*$1,117*	*6,652*	*95.2%*	*$88,511*	*100%*	*$13,306*	*$1,079*
Hospital Inpatient	*2,105*	*$44,141*	*167*	*$255*	*2,106*	*30.1%*	*$44,397*	*50.2%*	*$21,081*	*$541*
NF & ICF/MR	*353*	*$2,823*	*21*	*$43*	*355*	*5.1%*	*$2,865*	*3.2%*	*$8,071*	*$35*
Nursing Facility	*353*	*$2,823*	*21*	*$43*	*355*	*5.1%*	*$2,865*	*3.2%*	*$8,071*	*$35*
ICF/MR	-	-	*0*	*$0*	*0*	*0.0%*	*$0*	*0.0%*	*$0*	*$0*
HH & Oth Community	*636*	*$2,105*	*16*	*$85*	*648*	*9.3%*	*$2,190*	*2.5%*	*$3,380*	*$27*
Hospice	*95*	*$674*	*0*	*$0*	*95*	*1.4%*	*$674*	*0.8%*	*$7,094*	*$8*
Phys., Outpat., & DME	*6,645*	*$37,651*	*685*	*$735*	*6,645*	*95.1%*	*$38,385*	*43.4%*	*$5,777*	*$468*
Physician	*6,594*	*$18,803*	*667*	*$396*	*6,594*	*94.3%*	*$19,199*	*21.7%*	*$2,912*	*$234*
Outpatient	*4,936*	*$15,517*	*346*	*$249*	*4,936*	*70.6%*	*$15,766*	*17.8%*	*$3,194*	*$192*
DME	*2,780*	*$3,331*	*187*	*$54*	*2,782*	*39.8%*	*$3,385*	*3.8%*	*$1,217*	*$41*
Special[b]	-	-	*125*	*$35*	*125*	*1.8%*	*$35*	*0.0%*	*$283*	*$0*

[a] Includes duals who were continuously-enrolled under both 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.

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

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Table 4c: Crossover Framework - Medicare Payments for Duals (2006) With Partial Medicaid Benefits, SLMBs/QIs

	Medicare						
	Users	Users as % of Total (6,991)	Payments (000s)	$s as % Mcare	$s Per User	$s PMPM Per Dual	$s as % Mcare + MCaid
Total	***6,652***	***95.2%***	***$87,394***	***100%***	***$13,138***	***$1,065***	***98.7%***
Hospital Inpatient	***2,105***	***30.1%***	***$44,141***	***50.5%***	***$20,970***	***$538***	***49.9%***
NF & ICF/MR	***353***	***5.0%***	***$2,823***	***3.2%***	***$7,996***	***$34***	***3.2%***
HH & Oth Community	***636***	***9.1%***	***$2,105***	***2.4%***	***$3,310***	***$26***	***2.4%***
Hospice	***95***	***1.4%***	***$674***	***0.8%***	***$7,094***	***$8***	***0.8%***
Phys., Outpat., & DME	***6,645***	***95.1%***	***$37,651***	***43.1%***	***$5,666***	***$459***	***42.5%***
Linked to crossover claims	686	9.8%	$4,440	5.1%	$6,473	$54	5.0%
Hospital Inpatient	166	2.4%	$2,117	2.4%	$12,751	$26	2.4%
NF & ICF/MR	17	0.2%	$186	0.2%	$10,964	$2	0.2%
HH & Oth Community	-	-	-	-	-	-	-
Hospice	-	-	-	-	-	-	-
Phys., Outpat., & DME	683	9.8%	$2,137	2.4%	$3,129	$26	2.4%
Physician	*661*	*9.5%*	*$949*	*1.1%*	*$1,436*	*$12*	*1.1%*
Outpatient	*340*	*4.9%*	*$993*	*1.1%*	*$2,921*	*$12*	*1.1%*
DME	*189*	*2.7%*	*$195*	*0.2%*	*$1,031*	*$2*	*0.2%*
NO crossover claims	6,633	94.9%	$82,954	94.9%	$12,506	$1,011	93.7%
Hospital Inpatient	2,023	28.9%	$42,025	48.1%	$20,773	$512	47.5%
NF & ICF/MR	339	4.8%	$2,636	3.0%	$7,777	$32	3.0%
HH & Oth Community	636	9.1%	$2,105	2.4%	$3,310	$26	2.4%
Hospice	95	1.4%	$674	0.8%	$7,094	$8	0.8%
Phys., Outpat., & DME	6,625	94.8%	$35,514	40.6%	$5,361	$433	40.1%
Physician	*6,569*	*94.0%*	*$17,854*	*20.4%*	*$2,718*	*$218*	*20.2%*
Outpatient	*4,886*	*69.9%*	*$14,524*	*16.6%*	*$2,973*	*$177*	*16.4%*
DME	*2,744*	*39.3%*	*$3,136*	*3.6%*	*$1,143*	*$38*	*3.5%*

Table 4d: Crossover Framework - Medicaid Payments for Duals (2006) With Partial Medicaid Benefits, SLMBs/QIs

	Medicaid						
	Users	Users as % of Total (6,991)	Payments (000s)	$s as % MCaid	$s Per User	$s PMPM Per Dual	$s as % MCare + MCaid
Total	***687***	***9.8%***	***$1,117***	***100%***	***$1,626***	***$14***	***1.3%***
Hospital Inpatient	***167***	***2.4%***	***$255***	***22.8%***	***$1,528***	***$3***	***0.3%***
NF & ICF/MR	***21***	***0.3%***	***$43***	***3.8%***	***$2,030***	***$1***	***0.0%***
HH & Oth Community	***16***	***0.2%***	***$85***	***7.6%***	***$5,301***	***$1***	***0.1%***
Hospice	***0***	***0.0%***	***$0***	***0.0%***	***$0***	***$0***	***0.0%***
Phys., Outpat., & DME	***685***	***9.8%***	***$735***	***65.8%***	***$1,072***	***$9***	***0.8%***
Linked to crossover claims	685	9.8%	$851	76.2%	$1,243	$10	1.0%
Hospital Inpatient	166	2.4%	$210	18.8%	$1,266	$3	0.2%
Medicare claim found	166	2.4%	$210	18.8%	$1,265	$3	0.2%
No Medicare claim found	1	0.0%	$0	0.0%	$47	$0	0.0%
NF & ICF/MR	15	0.2%	$7	0.7%	$487	$0	0.0%
Medicare claim found	15	0.2%	$7	0.7%	$487	$0	0.0%
No Medicare claim found	1	0.0%	$0	0.0%	$0	$0	0.0%
HH & Oth Community	-	-	-	-	-	-	-
Hospice	-	-	-	-	-	-	-
Phys., Outpat., & DME	683	9.8%	$634	56.7%	$928	$8	0.7%
Medicare claim found	682	9.8%	$598	53.6%	$877	$7	0.7%
Physician	*661*	*9.5%*	*$298*	*26.7%*	*$451*	*$4*	*0.3%*
Outpatient	*340*	*4.9%*	*$248*	*22.2%*	*$729*	*$3*	*0.3%*
DME	*188*	*2.7%*	*$52*	*4.7%*	*$279*	*$1*	*0.1%*
No Medicare claim found	125	1.8%	$35	3.2%	$283	$0	0.0%
NO crossover claims	55	0.8%	$266	23.8%	$4,834	$3	0.3%
Hospital Inpatient	1	0.0%	$45	4.0%	$45,021	$1	0.1%
NF & ICF/MR	7	0.1%	$35	3.2%	$5,045	$0	0.0%
Nursing Facility	*7*	*0.1%*	*$35*	*3.2%*	*$5,045*	*$0*	*0.0%*
ICF/MR	*0*	*0.0%*	*$0*	*0.0%*	*$0*	*$0*	*0.0%*
HH & Oth Community	16	0.2%	$85	7.6%	$5,301	$1	0.1%
DD Waivers	*0*	*0.0%*	*$0*	*0.0%*	*$0*	*$0*	*0.0%*
Older Adult Waiver	*0*	*0.0%*	*$0*	*0.0%*	*$0*	*$0*	*0.0%*
Med Day Care (no waiver)	*13*	*0.2%*	*$68*	*6.1%*	*$5,240*	*$1*	*0.1%*
Personal Care (no waiver)	*3*	*0.0%*	*$12*	*1.1%*	*$3,943*	*$0*	*0.0%*
Living at Home Waiver	*1*	*0.0%*	*$5*	*0.4%*	*$4,785*	*$0*	*0.0%*
Case Mgmt (no waiver)	*1*	*0.0%*	*$0*	*0.0%*	*$90*	*$0*	*0.0%*
Other	*0*	*0.0%*	*$0*	*0.0%*	*$0*	*$0*	*0.0%*
Hospice	0	0.0%	$0	0.0%	$0	$0	0.0%
Phys., Outpat., & DME	40	0.6%	$101	9.0%	$2,517	$1	0.1%
Physician	*34*	*0.5%*	*$98*	*8.8%*	*$2,888*	*$1*	*0.1%*
Outpatient	*1*	*0.0%*	*$1*	*0.1%*	*$576*	*$0*	*0.0%*
DME	*6*	*0.1%*	*$2*	*0.2%*	*$318*	*$0*	*0.0%*

Table 5a: Continuously Enrolled Duals in Maryland (2006): With Some Medicare Group Health Plan Coverage During the Year

	CY 2006	
	Persons	**%**
Total	8,137	100%
Age Categories		
Less than 21	3	0.0%
21 to 34	100	1.2%
35 to 49	491	6.0%
50 to 64	1,031	12.7%
65 to 74	2,167	26.6%
75 to 84	2,477	30.4%
84 & over	1,868	23.0%
Sex		
Female	6,058	74.5%
Male	2,079	25.5%
Race		
Asian	164	2.0%
Black	4,390	54.0%
Caucasian	3,007	37.0%
Hispanic	90	1.1%
Native American/Pacific Isle/Alaskan	7	0.1%
Undetermined	479	5.9%
Ever Disabled		
Yes	2,701	33.2%
under 65 (% of Yes)	*1,614*	*59.8%*
65 & over (% of Yes)	*1,087*	*40.2%*
No	5,436	66.8%
under 65 (% of No)	*11*	*0.2%*
65 & over (% of No)	*5,425*	*99.8%*
End Stage Renal Disease		
Yes	84	1.0%
No	8,053	99.0%
Hospice Claim		
Yes	378	4.6%
Deceased during CY (% of Yes)	*282*	*74.6%*
Not Deceased (% of Yes)	*96*	*25.4%*
No	7,759	95.4%
Deceased During CY		
Yes	1,066	13.1%
No	7,071	86.9%
Medicare Group Health Plan Coverage		
Yes	8,137	100.0%
No	0	0.0%

Note: Calendar year data.

Table 5b: Total Medicare & Medicaid Payments for Duals[a] (2006)
With Some Medicare Group Health Plan Coverage During the Year

	Medicare		Medicaid		Total					
	Users	Payments (000s)	Users	Payments (000s)	Users	Users as % of Total (8,137)	Payments (000s)	$s as % of Total	$s Per User	$s PMPM Per Dual
Total	*2,648*	*$27,280*	*6,735*	*$205,147*	*7,066*	*86.8%*	*$232,427*	*100%*	*$32,894*	*$2,539*
Hospital Inpatient	*644*	*$13,066*	*1,093*	*$1,911*	*1,304*	*16.0%*	*$14,977*	*6.4%*	*$11,485*	*$164*
NF & ICF/MR	*306*	*$3,118*	*3,815*	*$182,877*	*3,858*	*47.4%*	*$185,996*	*80.0%*	*$48,210*	*$2,031*
Nursing Facility	*306*	*$3,118*	*3,814*	*$182,765*	*3,857*	*47.4%*	*$185,883*	*80.0%*	*$48,194*	*$2,030*
ICF/MR	-	-	*1*	*$113*	*1*	*0.0%*	*$113*	*0.0%*	*$112,677*	*$1*
HH & Oth Community	*135*	*$424*	*588*	*$12,208*	*684*	*8.4%*	*$12,631*	*5.4%*	*$18,467*	*$138*
Hospice	*372*	*$3,361*	*253*	*$3,457*	*378*	*4.6%*	*$6,819*	*2.9%*	*$18,039*	*$74*
Phys., Outpat., & DME	*2,470*	*$7,310*	*4,562*	*$4,693*	*4,973*	*61.1%*	*$12,004*	*5.2%*	*$2,414*	*$131*
Physician	*2,340*	*$3,636*	*4,407*	*$1,226*	*2,494*	*30.7%*	*$4,862*	*2.1%*	*$1,950*	*$53*
Outpatient	*1,528*	*$3,009*	*2,018*	*$479*	*1,552*	*19.1%*	*$3,488*	*1.5%*	*$2,247*	*$38*
DME	*742*	*$666*	*1,327*	*$809*	*987*	*12.1%*	*$1,475*	*0.6%*	*$1,494*	*$16*
Special[b]	-	-	*3,633*	*$2,179*	*3,633*	*44.6%*	*$2,179*	*0.9%*	*$600*	*$24*

[a] Includes duals who were continuously-enrolled under both 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.

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

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Table 5c: Crossover Framework - Medicare Payments for Duals (2006) With Some Medicare Group Health Plan Coverage During the Year

	Medicare						
	Users	Users as % of Total (8,137)	Payments (000s)	$s as % Mcare	$s Per User	$s PMPM Per Dual	$s as % Mcare + MCaid
Total	***2,648***	***32.5%***	***$27,280***	***100%***	***$10,302***	***$298***	***11.7%***
Hospital Inpatient	***644***	***7.9%***	***$13,066***	***47.9%***	***$20,289***	***$143***	***5.6%***
NF & ICF/MR	***306***	***3.8%***	***$3,118***	***11.4%***	***$10,191***	***$34***	***1.3%***
HH & Oth Community	***135***	***1.7%***	***$424***	***1.6%***	***$3,139***	***$5***	***0.2%***
Hospice	***372***	***4.6%***	***$3,361***	***12.3%***	***$9,036***	***$37***	***1.4%***
Phys., Outpat., & DME	***2,470***	***30.4%***	***$7,310***	***26.8%***	***$2,960***	***$80***	***3.1%***
Linked to crossover claims	1,982	24.4%	$12,256	44.9%	$6,183	$134	5.3%
Hospital Inpatient	426	5.2%	$5,755	21.1%	$13,508	$63	2.5%
NF & ICF/MR	159	2.0%	$1,839	6.7%	$11,564	$20	0.8%
HH & Oth Community	-	-	-	-	-	-	-
Hospice	-	-	-	-	-	-	-
Phys., Outpat., & DME	1,973	24.2%	$4,662	17.1%	$2,363	$51	2.0%
Physician	*1,885*	*23.2%*	*$2,423*	*8.9%*	*$1,285*	*$26*	*1.0%*
Outpatient	*938*	*11.5%*	*$1,793*	*6.6%*	*$1,911*	*$20*	*0.8%*
DME	*531*	*6.5%*	*$447*	*1.6%*	*$841*	*$5*	*0.2%*
NO crossover claims	2,277	28.0%	$15,025	55.1%	$6,598	$164	6.5%
Hospital Inpatient	344	4.2%	$7,311	26.8%	$21,254	$80	3.1%
NF & ICF/MR	188	2.3%	$1,280	4.7%	$6,807	$14	0.6%
HH & Oth Community	135	1.7%	$424	1.6%	$3,139	$5	0.2%
Hospice	372	4.6%	$3,361	12.3%	$9,036	$37	1.4%
Phys., Outpat., & DME	1,995	24.5%	$2,648	9.7%	$1,327	$29	1.1%
Physician	*1,622*	*19.9%*	*$1,213*	*4.4%*	*$748*	*$13*	*0.5%*
Outpatient	*1,108*	*13.6%*	*$1,216*	*4.5%*	*$1,097*	*$13*	*0.5%*
DME	*334*	*4.1%*	*$220*	*0.8%*	*$657*	*$2*	*0.1%*

Table 5d: Crossover Framework - Medicaid Payments for Duals (2006) With Some Medicare Group Health Plan Coverage During the Year

	Medicaid						
	Users	Users as % of Total (8,137)	Payments (000s)	$s as % MCaid	$s Per User	$s PMPM Per Dual	$s as % MCare + MCaid
Total	***6,735***	***82.8%***	***$205,147***	***100%***	***$30,460***	***$2,241***	***88.3%***
Hospital Inpatient	***1,093***	***13.4%***	***$1,911***	***0.9%***	***$1,748***	***$21***	***0.8%***
NF & ICF/MR	***3,815***	***46.9%***	***$182,877***	***89.1%***	***$47,936***	***$1,997***	***78.7%***
HH & Oth Community	***588***	***7.2%***	***$12,208***	***6.0%***	***$20,761***	***$133***	***5.3%***
Hospice	***253***	***3.1%***	***$3,457***	***1.7%***	***$13,666***	***$38***	***1.5%***
Phys., Outpat., & DME	***4,562***	***56.1%***	***$4,693***	***2.3%***	***$1,029***	***$51***	***2.0%***
Linked to crossover claims	4,504	55.4%	$4,892	2.4%	$1,086	$53	2.1%
Hospital Inpatient	1,081	13.3%	$1,320	0.6%	$1,221	$14	0.6%
Medicare claim found	425	5.2%	$527	0.3%	$1,241	$6	0.2%
No Medicare claim found	704	8.7%	$793	0.4%	$1,127	$9	0.3%
NF & ICF/MR	259	3.2%	$70	0.0%	$269	$1	0.0%
Medicare claim found	157	1.9%	$60	0.0%	$383	$1	0.0%
No Medicare claim found	106	1.3%	$9	0.0%	$90	$0	0.0%
HH & Oth Community	-	-	-	-	-	-	-
Hospice	-	-	-	-	-	-	-
Phys., Outpat., & DME	4,485	55.1%	$3,503	1.7%	$781	$38	1.5%
Medicare claim found	1,973	24.2%	$1,323	0.6%	$671	$14	0.6%
Physician	*1,885*	*23.2%*	*$756*	*0.4%*	*$401*	*$8*	*0.3%*
Outpatient	*938*	*11.5%*	*$445*	*0.2%*	*$475*	*$5*	*0.2%*
DME	*531*	*6.5%*	*$122*	*0.1%*	*$230*	*$1*	*0.1%*
No Medicare claim found	3,633	44.6%	$2,179	1.1%	$600	$24	0.9%
NO crossover claims	4,593	56.4%	$200,254	97.6%	$43,600	$2,187	86.2%
Hospital Inpatient	25	0.3%	$591	0.3%	$23,627	$6	0.3%
NF & ICF/MR	3,770	46.3%	$182,808	89.1%	$48,490	$1,997	78.7%
Nursing Facility	*3,769*	*46.3%*	*$182,695*	*89.1%*	*$48,473*	*$1,995*	*78.6%*
ICF/MR	*1*	*0.0%*	*$113*	*0.1%*	*$112,677*	*$1*	*0.0%*
HH & Oth Community	588	7.2%	$12,208	6.0%	$20,761	$133	5.3%
DD Waivers	*110*	*1.4%*	*$4,348*	*2.1%*	*$39,528*	*$47*	*1.9%*
Older Adult Waiver	*185*	*2.3%*	*$3,807*	*1.9%*	*$20,580*	*$42*	*1.6%*
Med Day Care (no waiver)	*233*	*2.9%*	*$2,506*	*1.2%*	*$10,756*	*$27*	*1.1%*
Personal Care (no waiver)	*201*	*2.5%*	*$1,104*	*0.5%*	*$5,494*	*$12*	*0.5%*
Living at Home Waiver	*13*	*0.2%*	*$439*	*0.2%*	*$33,783*	*$5*	*0.2%*
Case Mgmt (no waiver)	*5*	*0.1%*	*$1*	*0.0%*	*$224*	*$0*	*0.0%*
Other	*2*	*0.0%*	*$1*	*0.0%*	*$745*	*$0*	*0.0%*
Hospice	253	3.1%	$3,457	1.7%	$13,666	$38	1.5%
Phys., Outpat., & DME	713	8.8%	$1,191	0.6%	$1,670	$13	0.5%
Physician	*360*	*4.4%*	*$470*	*0.2%*	*$1,306*	*$5*	*0.2%*
Outpatient	*57*	*0.7%*	*$34*	*0.0%*	*$591*	*$0*	*0.0%*
DME	*359*	*4.4%*	*$687*	*0.3%*	*$1,913*	*$8*	*0.3%*

Appendix 2
Measures of Nursing Facility Days and Stays from LTC MDS Data

As shown in the accompanying report, *A Framework for State-Level Analysis of Duals: Interleaving Medicare and Medicaid Data*, nursing facility care accounts for nearly 50 percent of Medicaid expenditures and a third of combined Medicare and Medicaid expenditures for duals. Unlike other categories of service that tend to be covered primarily by one program or the other, such as Medicare coverage of hospital and physician care, both Medicare and Medicaid cover differing—but often related—aspects of care in nursing homes. Also unlike many other services, significant detail about nursing home activity is collected and reported on a routine basis in the long-term care (LTC) Minimum Data Set (MDS). The LTC MDS includes an extensive array of administrative, demographic, and clinical information that is collected to support patient care; it also serves as the basis for payment and quality assessment under Medicare and many state Medicaid programs. Because they consist of assessments rather than claims, MDS data do not include payment information. However, the data set is somewhat unique among routinely collected health data sources in that it reflects all residents in Medicare and/or Medicaid certified nursing homes regardless of payer. Because this also includes private pay residents, MDS data can provide a more comprehensive picture of nursing home activity than Medicare and Medicaid data sources alone. More importantly, with respect to duals, MDS data provide a single source of information about the nature and patterns of nursing home care across those programs.

This appendix is intended as a brief introduction to how LTC MDS data can be used to help establish and examine patterns of nursing home care with an emphasis on broad measures that might be used to support state-level programs and planning.

Refining MDS Data

Data available for this study are collected on a routine basis at The Hilltop Institute on behalf of the state of Maryland and include all records for Maryland facilities covering October 1998 to the present. New data are refined on an ongoing basis through a series of steps that include: checking for changes in MDS resident identification numbers over time; updating Medicaid ID numbers, which are not dependably reported in the data; refining the data to account for factors that complicate making associations across records; and then "rolling-up" refined assessment data into stay records that reflect discrete periods of care.[1] Examples of factors that complicate making associations across records include: missing or misleading entry dates on admission assessments; the lack of a formal "through date" on assessments that are not followed by a discharge record; and the lack of a formal indicator of transition in payer status when a Medicare stay ends but the patient remains in the facility. Discrete periods of care (stays) are initially defined as a new admission (or re-entry) to a facility through discharge from that facility. Medicare payment status is established using a secondary reason for assessment included in

[1] The Hilltop MDS refinement process is an updated and expanded version of an earlier process first outlined in Tucker, A. M. & F. H. Decker (July 2004). Using Long-Term Care MDS Data: Patient Days and Case Mix. *The American Health Care Association*.

MDS data that identifies specific Medicare assessments. Stays that transition from Medicare to non-Medicare coverage are treated as one stay with two payer components.

Once essential tracking components of the original assessment-level data are "cleaned up" and combined into stays, Medicaid files are used to establish Medicaid eligibility for full benefits during each stay. Thus, each stay can be identified by Medicare payment status and, independently, by Medicaid eligibility for full benefits.

With respect to Medicare payment status, a variable is created that flags each stay as covered by Medicare, not covered by Medicare (non-Medicare), or "Mixed Medicare", which indicates that part of the stay was covered by Medicare and part was not. Separate variables are created for the number of Medicare and non-Medicare days attributed to each stay. As outlined in the accompanying report, a new Medicare skilled nursing facility (SNF) admission is generally preceded by a qualifying hospital stay. Consequently, the most discrete definition of a stay that includes Medicare coverage in the refinement process requires that any Medicare-covered days are the first days of the stay. In other words, stays that include a mix of Medicare and non-Medicare covered days (flagged as Mixed Medicare) represent instances where a resident began a stay as a Medicare benefit (by definition related to an acute hospital stay) and then transitioned to non-Medicare status, either because the Medicare benefit was exhausted or skilled care was no longer required.[2] Unless they are covered by Medicaid, non-Medicare covered days can generally be treated as private-pay days.[3]

Medicaid eligibility is flagged much like that for Medicare coverage but it does not directly reflect payment. A variable is created that flags each stay as occurring during a period of full Medicaid benefit eligibility, during a period with no Medicaid eligibility (for full benefits), or as "Mixed Medicaid", where the resident was eligible for full Medicaid benefits during only part of the stay. While there are cases where a resident will lose Medicaid eligibility during a stay, the overwhelming majority of Mixed Medicaid stays represent transition *to* eligibility. Separate variables are created to indicate the number of days during (full) Medicaid eligibility and days without full Medicaid eligibility. Note that for duals with full Medicaid benefits, non-Medicare-covered days are essentially equivalent to days covered (for payment) by Medicaid.

Because this appendix is presented in the context of using MDS data to compliment Medicare and/or Medicaid claims data, it is important to note some of the similarities and differences across sources. As mentioned above, where claims data tend to have clear start and through dates, ascribing days of care to MDS data requires some assumptions across records. At the same time—at least for duals with full Medicaid benefits—MDS assessments should cover the same days of care that are evident in Medicare and Medicaid claims files. For those duals who were

[2] The Hilltop MDS refinement process is also amenable to more flexible definitions of stays, whereby discrete stays are combined into more extended stays that allow for short periods of discharge or transfer between facilities. For such "extended" stays, Medicare-covered days will not necessarily be the first days of stays that include a mix of Medicare and non-Medicare coverage over multiple "discrete" stays.

[3] Non-Medicare days may be covered by public programs other than Medicaid, such as the Veterans Administration, but those days and stays are relatively few and payer information included in the MDS data is not considered consistent or dependable enough to rely on for payer status.

continuously enrolled, combined Medicare and Medicaid claims data suggested slightly more than 3.6 million days of nursing home care during 2006. Refined MDS data suggested just under 3.6 million days, or less than 1.5 percent fewer days than the claims-based total (a difference of 51,437 days). One possible source for this difference is that the MDS data for Maryland only reflect facilities in the state, while the claims data are drawn regardless of location. There also may be some misattribution of data because of changes in resident IDs over time. In any event, the overall discrepancy between the data sources is relatively small.

Within the overall total of days for continuously enrolled duals, the refined MDS data suggested almost 4.5 percent more Medicare days than was evident from Medicare paid claims. However, this primarily appears to reflect days that looked like Medicare days in the MDS data that were subsequently not covered under the program—either because a benefit was exhausted or skilled care was no longer needed. These denied (or “no-pay”) days should more properly be attributed to non-Medicare coverage.[4] Where the average length of Medicare SNF stays was 24.3 days for continuously enrolled duals based on Medicare paid claims, the comparable average was 25.4 days based on refined MDS data. The number of stays was roughly the same across Medicare and MDS sources for this population (9,803 and 9,844, respectively) and days of care that were denied (or not otherwise covered) by Medicare tended to be associated with other existing paid coverage.

Where the average length of non-Medicare stays (or portions of stays) for continuously enrolled duals in 2006 was 197.8 based on Medicaid claims, the comparable average was 187 days based on refined MDS data. The primary source of the difference between these measures is that Maryland Medicaid claim files include bed-hold days that appear as periods of discharge and reentry in the MDS data. The result is fewer, somewhat longer stays (on average) evident in the claims files than is the case using refined MDS data.

On the whole, the refined MDS data provide a very good approximation of nursing facility activity, particularly with respect to patterns of days and stays over time. The refinement process tends to ascribe too many days of care to Medicare coverage, but that misattribution is limited in scale and tends to be associated with stays that involve transition to non-Medicare coverage (that is, Mixed Medicare stays). Nevertheless, Hilltop refined MDS data appear to be a reasonably close approximation of nursing facility activity as evident in claims.

As a final preliminary note, because federal reporting regulations require that there be no more than 92 days between assessments, the lag time for MDS data can be markedly shorter than claims data generally. MDS data can be used by states as an ongoing resource for more timely information about the full continuum of nursing facility care than claims data, regardless of payer. Since MDS data include all residents, states can also examine Medicare and Medicaid coverage for duals in the context of the broader population.

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[4] More than 18,500 days of care were recorded as non-Medicare-chargeable on Medicare claims for this population during 2006. There were 1,250 non-chargeable days on claims that otherwise included some Medicare payment. The remaining non-chargeable days were on claims with no Medicare payment.

Days and Stays by Medicare/Non-Medicare Coverage

Refined MDS data indicate that there were more than 9 million days of care during more than 107,000 stays in Maryland nursing homes in calendar year 2006 (see Table 1). Overall, 61.2 percent of residents and 58.8 percent of stays were covered at least in part by Medicare. Non-Medicare coverage was involved for 55.1 percent of residents and 50.3 percent of stays. Of 69,923 residents, 18.6 percent were under 65 years of age, although a lower percentage of those younger residents (11 percent) received Medicare coverage for that care. Note that the columns for residents and stays in Table 1 add up to more than 100 percent across Medicare and non-Medicare coverage status because some stays involve portions of each. While roughly half of all stays involved Medicare coverage, only 15.6 percent of all days were associated with that care, for an average Medicare length of stay of 22 days. Non-Medicare stays (or, more properly, the non-Medicare portions of stays) had an average of 142 days of care within the calendar year.

Table 2 shows the same measures as those in Table 1, but it is limited to continuously enrolled duals with full Medicaid benefits. This population represented 20 percent of all nursing home residents, but 40 percent of all resident days of care. The distributions of residents, stays, and days were markedly different across Medicare status for these duals than for all residents with higher percentages of non-Medicare coverage for duals on each measure. For example, 85.9 percent of duals had some non-Medicare coverage as compared to 55.1 percent for all residents

The broad measures of nursing home activity within a calendar year shown in Tables 1 and 2 might be used, for example, by analysts and actuaries to make general estimates for planning purposes. In contrast, Table 3 reflects measures related to full stays *at discharge* during the same period; these measures would more typically be used in assessing individual stays or types of residents. There were 79,990 discharges from Maryland nursing homes in 2006. Nearly 60 percent (59.7 percent) of those stays were covered as a Medicare benefit; 28.9 percent involved only non-Medicare coverage; and the remaining 11.5 percent were mixed Medicare stays. The average length of stay (LOS) at discharge was markedly different by Medicare stay type, from a low of 21 days for Medicare-only stays to almost a year (337 days) for mixed Medicare stays. Stays that involve only non-Medicare coverage were more than 6 months long (191 days) on average. This suggests that non-Medicare stay status alone may indicate that a resident could have significant need for institutional care. Again, non-Medicare coverage does not necessarily mean that the resident is not a Medicare beneficiary, but only that Medicare is not the primary payer. Given the even longer average LOS for mixed Medicare stays, the fact that a resident makes a transition from Medicare to non-Medicare coverage appears to be an even stronger indicator of subsequent potential nursing home need than non-Medicare stay status alone.

The bottom section of Table 3 reflects continuously enrolled duals. As was the case with the results based on all days during the calendar year, duals have a noticeably longer average LOS, with an overall average at discharge that is more than twice that of the population as a whole. As a group, these duals have a higher percentage of non-Medicare-only stays and nearly twice the percentage of mixed-Medicare stays. Taken together, the results based on non-Medicare only and mixed-Medicare stays indicate that non-Medicare coverage for this population has an average length of more than a year.

Table 1: Nursing Home Residents, Stays and Days in Maryland within Calendar Year 2006 by Medicare/Non-Medicare Benefit Coverage and Age Category All Residents

	Residents	%	Stays	%	Days	%	Avg LOS within CY	Avg Days per Resident
All	**69,923**	**100**	**107,418**	**100**	**9,107,476**	**100**	**85**	**130**
< 20	120	0.2	170	0.2	12,483	0.1	73	104
20 - 34	627	0.9	1,074	1.0	70,479	0.8	66	112
35 - 49	3,219	4.6	5,390	5.0	360,604	4.0	67	112
50 - 64	8,998	12.9	14,243	13.3	990,076	10.9	70	110
65 - 74	11,988	17.1	19,063	17.7	1,283,763	14.1	67	107
75 - 84	23,845	34.1	36,518	34.0	2,958,343	32.5	81	124
85+	21,126	30.2	30,960	28.8	3,431,728	37.7	111	162
Medicare	**42,761**	**61.2**	**63,167**	**58.8**	**1,417,845**	**15.6**	**22**	**33**
< 20	52	0.1	78	0.1	1,374	0.1	18	26
20 - 34	145	0.3	221	0.3	4,142	0.3	19	29
35 - 49	996	2.3	1,595	2.5	33,825	2.4	21	34
50 - 64	3,529	8.3	5,268	8.3	108,925	7.7	21	31
65 - 74	8,975	21.0	13,354	21.1	281,691	19.9	21	31
75 - 84	16,902	39.5	24,917	39.4	561,138	39.6	23	33
85+	12,162	28.4	17,734	28.1	426,750	30.1	24	35
Non-Medicare	**38,517**	**55.1**	**54,010**	**50.3**	**7,689,631**	**84.4**	**142**	**200**
< 20	77	0.2	100	0.2	11,109	0.1	111	144
20 - 34	534	1.4	890	1.6	66,337	0.9	75	124
35 - 49	2,510	6.5	4,033	7.5	326,779	4.2	81	130
50 - 64	6,456	16.8	9,733	18.0	881,151	11.5	91	136
65 - 74	4,892	12.7	7,314	13.5	1,002,072	13.0	137	205
75 - 84	10,986	28.5	15,176	28.1	2,397,205	31.2	158	218
85+	13,062	33.9	16,764	31.0	3,004,978	39.1	179	230

Notes:

Stays are defined as a new admission (or rentry) to a facility through discharge from that facility.

Medicare and non-Medicare covered portions within the same stay are treated as separate stays in this table. Thus, the sums of Medicare and non-Medicare residents and stays are greater than the sum of "All" residents and stays, respectively. The sum of Medicare and non-Medicare days is the sum of "All" days.

Days associated with stays are limited to those within the calendar year.

Source: Hilltop Refined MDS data.

Table 2: Nursing Home Residents, Stays and Days in Maryland within Calendar Year 2006
by Medicare/Non-Medicare Benefit Coverage and Age Category
Continuously Enrolled Duals

	Residents	%	Stays	%	Days	%	Avg LOS within CY	Avg Days per Resident
All	**14,099**	**100**	**24,238**	**100**	**3,599,165**	**100**	**148**	**255**
< 20	9	0.1	12	0.0	2,079	0.1	173	231
20 - 34	79	0.6	188	0.8	16,282	0.5	87	206
35 - 49	520	3.7	1,077	4.4	104,696	2.9	97	201
50 - 64	1,271	9.0	2,506	10.3	286,840	8.0	114	226
65 - 74	2,410	17.1	4,640	19.1	572,005	15.9	123	237
75 - 84	4,665	33.1	7,982	32.9	1,219,779	33.9	153	261
85+	5,145	36.5	7,833	32.3	1,397,484	38.8	178	272
Medicare	**5,798**	**41.1**	**9,844**	**40.6**	**249,790**	**6.9**	**25**	**43**
< 20	6	0.1	8	0.1	113	0.0	14	19
20 - 34	48	0.8	100	1.0	2,071	0.8	21	43
35 - 49	297	5.1	558	5.7	13,156	5.3	24	44
50 - 64	670	11.6	1,246	12.7	29,883	12.0	24	45
65 - 74	1,301	22.4	2,301	23.4	59,229	23.7	26	46
75 - 84	1,902	32.8	3,172	32.2	83,215	33.3	26	44
85+	1,574	27.1	2,459	25.0	62,123	24.9	25	39
Non-Medicare	**12,112**	**85.9**	**17,915**	**73.9**	**3,349,375**	**93.1**	**187**	**277**
< 20	6	0.0	6	0.0	1,966	0.1	328	328
20 - 34	54	0.4	108	0.6	14,211	0.4	132	263
35 - 49	350	2.9	656	3.7	91,540	2.7	140	262
50 - 64	962	7.9	1,621	9.0	256,957	7.7	159	267
65 - 74	1,894	15.6	3,066	17.1	512,776	15.3	167	271
75 - 84	4,051	33.4	6,020	33.6	1,136,564	33.9	189	281
85+	4,795	39.6	6,438	35.9	1,335,361	39.9	207	278

Notes:

Stays are defined as a new admission (or rentry) to a facility through discharge from that facility.

Medicare and non-Medicare covered portions within the same stay are treated as separate stays in this table. Thus, the sums of Medicare and non-Medicare residents and stays are greater than the sum of "All" residents and stays, respectively. The sum of Medicare and non-Medicare days is the sum of "All" days.

Days associated with stays are limited to those within the calendar year.

Limited to residents with both Medicare and full Medicaid benefits throughout the year.

Source: Hilltop Refined MDS data.

Table 3: Number & Length of Nursing Home Stays at Discharge in CY 2006
by Medicare Stay Type and Age Categories
All Resident versus Continuously Enrolled Duals

	All Stays			Medicare Only			Non-Medicare Only			Mixed Medicare		
	Stays	%	Average LOS at Discharge	Stays	%	Average LOS at Discharge	Stays	%	Average LOS at Discharge	Stays	%	Average LOS at Discharge
All	**79,990**	**100**	**106**	**47,720**	**59.7**	**21**	**23,101**	**28.9**	**191**	**9,169**	**11.5**	**337**
< 20	130	0.2	58	64	0.1	15	60	0.3	79	6	0.1	310
20 - 34	858	1.1	72	162	0.3	15	664	2.9	82	32	0.3	171
35 - 49	4,315	5.4	68	1,225	2.6	20	2,871	12.4	79	219	2.4	207
50 - 64	11,119	13.9	69	4,035	8.5	19	6,406	27.7	85	678	7.4	210
65 - 74	15,012	18.8	73	10,614	22.2	19	3,009	13.0	179	1,389	15.1	259
75 - 84	27,260	34.1	95	19,068	40.0	21	5,009	21.7	236	3,183	34.7	315
85+	21,296	26.6	173	12,552	26.3	22	5,082	22.0	368	3,662	39.9	419
Duals	**14,838**	**100**	**254**	**5,402**	**36.4**	**22**	**5,233**	**35.3**	**366**	**4,203**	**28.3**	**412**
< 20	7	0.0	191	4	0.1	6	0	0.0	0	3	0.1	437
20 - 34	141	1.0	87	71	1.3	16	51	1.0	139	19	0.5	218
35 - 49	798	5.4	109	388	7.2	21	286	5.5	171	124	3.0	239
50 - 64	1,698	11.4	138	779	14.4	21	557	10.6	225	362	8.6	257
65 - 74	3,039	20.5	171	1,352	25.0	22	969	18.5	271	718	17.1	318
75 - 84	4,738	31.9	246	1,650	30.5	22	1,668	31.9	347	1,420	33.8	386
85+	4,417	29.8	395	1,158	21.4	21	1,702	32.5	526	1,557	37.0	531

Notes:

Stays are defined as a new admission (or rentry) to a facility through discharge from that facility. This table is limited to stays that ended with a discharge in 2006.

Days associated with stays include all days during the stay regardless of year.

Medicare stay type was based on whether Medicare was primarily responsible for payment. Mixed Medicare stays are those that begin with Medicare paid coverage and then transition to non-Medicare paid coverage.

Residents denoted as continuously enrolled duals in this table are those who had both Medicare and full Medicaid benefits throughout 2006.

Source: Hilltop Refined MDS data.

In general, the percentage of stays increased with age for all stays and for duals with a slight decrease related to Medicare-only coverage for residents who were 85 and older. One anomaly in this pattern that serves as an example of how data arrayed in this way may highlight issues for subsequent research is that a disproportionate 27.7 percent of all non-Medicare stays were for residents who were 50 to 64 years of age. Although further analysis is beyond the scope of this report, data underlying these results indicate that this group represents residents with disabilities who are not yet eligible for Medicare and may or may not yet be eligible for Medicaid, but who are at significant potential risk of transition to one or both programs while in the nursing home. Refined MDS data can help identify this group and provide an early indicator for potential subsequent government program service need and cost.

Medicaid Eligibility Status

As described above, refined MDS data reflect whether a resident was eligible for full Medicaid benefits during a stay. Medicaid eligibility may occur during a Medicare-covered stay; thus it does not necessarily indicate payer status since Medicare is the primary payer in those cases. However, non-Medicare days for individuals with full Medicaid benefits can be assumed to be Medicaid-paid days of care.

Table 4 shows the same stays at discharge that are shown in Table 3, but the data are arrayed by Medicaid rather than Medicare stay type. Almost two-thirds (65.8 percent) of all stays were non-Medicaid-only with an average LOS of 46 days. Although it is not directly evident from this table, most of these stays are covered by Medicare. Medicaid-only stays make up another 29.9 percent of stays with an average LOS of nearly 6 months (180 days). The 4.3 percent of stays that are flagged as mixed Medicaid represent individuals who did not have full Medicaid benefits at the beginning of their stay but subsequently became eligible during the stay. As was the case with mixed-Medicare stays, the high average LOS for mixed Medicaid stays (514 days) suggests that the point of transition to Medicaid coverage *while in the nursing home* is an important indicator that long-term supports and services of some kind may be needed for that recipient.

The bottom rows of Table 4 reflect continuously enrolled duals. At 9.8 percent, the proportion of stays that are mixed Medicaid is twice that among all residents. For these residents mixed-Medicaid stays have an average length of stay at discharge of nearly 2 years, which is more than 200 days longer than the same stay type for the population as a whole.

Since this group of duals is generally defined to include those who have full Medicaid benefits during the year, all related stays *should* fall into the Medicaid only and mixed Medicaid columns. However, full Medicaid benefits status was determined as of the end of 2006. Thus, the small percentage of non-Medicaid-only stays shown for duals in Table 4 occurred when some residents had partial Medicaid benefits, such as QMB or SLMB status, earlier in the year. Although also beyond the scope of this report, a Medicare SNF stay for a QMB or SLMB with partial Medicaid benefits may be an early indicator for state Medicaid administrators of potential full Medicaid benefit need in the future. Subsequent research might explore how such a marker might be used to target early intervention, such as increased community supports, designed to moderate or forestall future need. MDS data could be a key routine source for such a marker.

Table 4: Number & Length of Nursing Home Stays at Discharge in CY 2006
by Medicaid Stay Type and Age Categories
All Residents versus Continuously Enrolled Duals

	All Stays			Non-Medicaid Only			Medicaid Only			Mixed Medicaid		
	Stays	%	Average LOS at Discharge	Stays	%	Average LOS at Discharge	Stays	%	Average LOS at Discharge	Stays	%	Average LOS at Discharge
All	**79,990**	**100**	**106**	**52,619**	**65.8**	**46**	**23,900**	**29.9**	**180**	**3,471**	**4.3**	**514**
< 20	130	0.2	58	78	0.1	27	50	0.2	107	2	0.1	57
20 - 34	858	1.1	72	213	0.4	37	629	2.6	81	16	0.5	221
35 - 49	4,315	5.4	68	1,439	2.7	28	2,774	11.6	87	102	2.9	134
50 - 64	11,119	13.9	69	5,833	11.1	23	4,979	20.8	110	307	8.8	268
65 - 74	15,012	18.8	73	10,145	19.3	27	4,355	18.2	153	512	14.8	315
75 - 84	27,260	34.1	95	20,021	38.0	40	6,122	25.6	207	1,117	32.2	460
85+	21,296	26.6	173	14,890	28.3	78	4,991	20.9	304	1,415	40.8	713
Duals	**14,838**	**100.0**	**254**	**210**	**1.4**	**19**	**13,170**	**88.8**	**206**	**1,458**	**9.8**	**722**
< 20	7	0.0	191	0	0.0	0	7	0.1	191	0	0.0	0
20 - 34	141	1.0	87	1	0.5	7	138	1.0	81	2	0.1	583
35 - 49	798	5.4	109	9	4.3	18	771	5.9	108	18	1.2	184
50 - 64	1,698	11.4	138	40	19.0	20	1,599	12.1	131	59	4.0	429
65 - 74	3,039	20.5	171	58	27.6	18	2,804	21.3	157	177	12.1	455
75 - 84	4,738	31.9	246	64	30.5	17	4,186	31.8	205	488	33.5	625
85+	4,417	29.8	395	38	18.1	22	3,665	27.8	303	714	49.0	891

Notes:

Stays are defined as a new admission (or rentry) to a facility through discharge from that facility. This table is limited to stays that ended with a discharge in 2006.

Days associated with stays include all days during the stay regardless of year.

Medicaid stay type was based on eligibility for full Medicaid eligibility, *but does not necessarily indicate payment.* Mixed Medicaid stays are those that includes periods with and without full Medicaid eligibility. These stays most often reflect transition to Medicaid during the stay.

Medicaid-only stays may be paid for by Medicare, if the stay includes Medicare coverage, and/or by Medicaid. Non-Medicaid-only and non-Medicaid portions of Mixed Medicaid stays may be paid for by Medicare, other public sources such as the VA, and/or private sources.

Continuously enrolled duals in this table are beneficiaries who had both Medicare and full Medicaid benefits throughout 2006. However, full Medicaid benefits status was determined as of year end. The small percentage of non-Medicaid-only stays shown for duals occurred when some residents had partial Medicaid benefits early in the year.

Source: Hilltop Refined MDS data.

Point-in-Time Measures

For a slightly different perspective, Table 5 shows the nursing home population in Maryland at one point in time.[5] The distribution of all residents on July 1, 2006 is shown in the top half of the table by Medicare and Medicaid stay type. The length of each resident's stay is calculated as of that date (July 1, 2006) and the average of that measure is shown for each stay type. The distribution of residents by LOS in months is also shown. Percentages for each row of residents included in the top are shown in the bottom part of the table.

The proportion of residents covered by Medicare on July 1 was effectively the same as that for all days during the calendar year (15.5 and 15.6, respectively). While only 27.1 percent of residents covered by Medicare were also Medicaid recipients, fully three-fourths of all residents not covered by Medicare had full Medicaid benefits. The 24.3 percent of non-Medicare residents not eligible for Medicaid were 20.6 percent of all residents, and largely private pay patients.

At 511 days, the average LOS to date for this population was similar to the 514 days for all mixed Medicaid stays at discharge shown in Table 4. While this may seemed to be high at first, note that more than 57 percent of these residents had been in the nursing home for more than 6 months and 30.8 percent had been there more than 18 months without an intervening discharge. Non-Medicare coverage clearly overwhelms these LOS measures, in part because Medicare coverage is limited to 100 days per stay, consistent with Medicare SNF benefit rules. Given non-Medicare coverage alone, 67.6 percent of residents on July 1, 2006 had been in the nursing home for more than 6 months without a discharge.

Extended Stays

The basic definition of a stay used in the MDS refinement process reflects a continuous period of time from admission (or reentry) to discharge in one facility. However, longer episodes of nursing home care are commonly punctuated by short periods of discharge, either to another facility or, more often, to an acute care hospital. A broader definition of a stay may often be appropriate, particularly for analyses of long-term custodial care. In order to accommodate this broader perspective, basic (or discrete) stays can be combined into "extended" stays that allow for some defined period of discharge between basic stays. A 30-day rule is often used with Hilltop refined data, whereby stays for any given resident are effectively combined if there is less than 30 days between a discharge and a subsequent admission. The 30-day limit was chosen somewhat arbitrarily but reflects Medicare hospital and SNF benefit coverage rules. This "extended" stay is comparable to the general definition of a stay that is used in the National Nursing Home Survey, which also allows for short periods of intervening discharge.

Table 6 shows the same population and distribution by types of stays as that in Table 5. However, all measures of length of stay reflect extended stays using a 30-day rule, rather than

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[5] The population underlying point-in-time measures is basically equivalent to "active residents" as defined by CMS for quarterly reports of MDS data (see http://www.cms.hhs.gov/MDSPubQIandResRep/04_activeresreport.asp), except that any given point in time might be used rather than (effectively) the last day of a given quarter.

discrete stays used in Table 5. The average length of extended stay of 833 days for this population is nearly a year longer than the 511 days that is evident using discrete stays. Although not otherwise shown here, residents who had more than one discrete stay within an extended stay had an average of less than 14 total days of discharge during the extended period. As of July 1, 2006, 49.1 percent of residents had an extended stay of 18 months or more. Medicaid recipients who were being covered by Medicare had an average length of extended stay of 355 days. Medicaid recipients as a whole (68.2 percent of the resident population) had an average length of extended stay of 1,022 days. Tables 5 and 6, together, suggest that, while Medicare coverage is relatively dynamic for residents who are not eligible for Medicaid, the population as a whole in nursing homes is really very stable, particularly because of long-term Medicaid residents.

Table 5: Nursing Home Residents in Maryland on July 1, 2006
by Medicare Coverage, Medicaid Eligibility, and Length of Stay
All Residents

			Length of Stay in Months to Date					
	# Residents	Avg. LOS	< 1	1-3	3-6	6-18	18-36	> 36
			Residents					
All	**25,305**	**511**	**4,464**	**3,416**	**2,968**	**6,671**	**3,987**	**3,799**
Medicare	3,910	22	2,904	983	23	0	0	0
Medicaid	*1,061*	*28*	*698*	*349*	*14*	*0*	*0*	*0*
Non-Medicaid	*2,849*	*20*	*2,206*	*634*	*9*	*0*	*0*	*0*
Non-Medicare	21,395	600	1,560	2,433	2,945	6,671	3,987	3,799
Medicaid	*16,186*	*650*	*953*	*1,680*	*2,136*	*5,039*	*3,140*	*3,238*
Non-Medicaid	*5,209*	*446*	*607*	*753*	*809*	*1,632*	*847*	*561*
Medicaid	17,247	611	1,651	2,029	2,150	5,039	3,140	3,238
Non-Medicaid	8,058	296	2,813	1,387	818	1,632	847	561
	% Residents	Avg. LOS	Percent of Row (Percent of Detail)					
All	**100**	**511**	**17.6**	**13.5**	**11.7**	**26.4**	**15.8**	**15.0**
Medicare	15.5	22	74.3	25.1	0.6	0.0	0.0	0.0
Medicaid	*(27.1)*	*28*	*(24.0)*	*(35.5)*	*(60.9)*	*0.0*	*0.0*	*0.0*
Non-Medicaid	*(72.9)*	*20*	*(76.0)*	*(64.5)*	*(39.1)*	*0.0*	*0.0*	*0.0*
Non-Medicare	84.5	600	7.3	11.4	13.8	31.2	18.6	17.8
Medicaid	*(75.7)*	*650*	*(61.1)*	*(69.1)*	*(72.5)*	*(75.5)*	*(78.8)*	*(85.2)*
Non-Medicaid	*(24.3)*	*446*	*(38.9)*	*(30.9)*	*(27.5)*	*(24.5)*	*(21.2)*	*(14.8)*
Medicaid	68.2	611	9.6	11.8	12.5	29.2	18.2	18.8
Non-Medicaid	31.8	296	34.9	17.2	10.2	20.3	10.5	7.0

Notes:

Stays are defined as a new admission (or rentry) to a facility to July 1, 2006 with no intervening discharge.

Medicaid eligibility is based on full Medicaid benefits, e.g., excludes QMB/SLMB.

Medicare coverage reflects primary payment source, not necessarily general Medicare eligibility.

Source: Hilltop Refined MDS data.

Table 6: Nursing Home Residents in Maryland on July 1, 2006
by Medicare Coverage, Medicaid Eligibility, and Length of Extended Stay
All Residents

	# Residents	Avg. LOS	Length of Stay in Months to Date < 1	1-3	3-6	6-18	18-36	> 36
			Residents					
All	**25,305**	**833**	**2,803**	**2,265**	**2,133**	**5,695**	**4,830**	**7,579**
Medicare	3,910	130	2,091	1,167	216	185	125	126
Medicaid	*1,061*	*355*	*329*	*265*	*103*	*140*	*113*	*111*
Non-Medicaid	*2,849*	*46*	*1,762*	*902*	*113*	*45*	*12*	*15*
Non-Medicare	21,395	962	712	1,098	1,917	5,510	4,705	7,453
Medicaid	*16,186*	*1,066*	*324*	*605*	*1,245*	*3,917*	*3,648*	*6,447*
Non-Medicaid	*5,209*	*639*	*388*	*493*	*672*	*1,593*	*1,057*	*1,006*
Medicaid	17,247	1,022	653	870	1,348	4,057	3,761	6,558
Non-Medicaid	8,058	429	2,150	1,395	785	1,638	1,069	1,021
	% Residents	**Avg. LOS**	**Percent of Row (Percent of Detail)**					
All	**100**	**833**	**11.1**	**9.0**	**8.4**	**22.5**	**19.1**	**30.0**
Medicare	15.5	130	53.5	29.8	5.5	4.7	3.2	3.2
Medicaid	*(27.1)*	*355*	*(15.7)*	*(22.7)*	*(47.7)*	*(75.7)*	*(90.4)*	*(88.1)*
Non-Medicaid	*(72.9)*	*46*	*(84.3)*	*(77.3)*	*(52.3)*	*(24.3)*	*(9.6)*	*(11.9)*
Non-Medicare	84.5	962	3.3	5.1	9.0	25.8	22.0	34.8
Medicaid	*(75.7)*	*1,066*	*(45.5)*	*(55.1)*	*(64.9)*	*(71.1)*	*(77.5)*	*(86.5)*
Non-Medicaid	*(24.3)*	*639*	*(54.5)*	*(44.9)*	*(35.1)*	*(28.9)*	*(22.5)*	*(13.5)*
Medicaid	68.2	1,022	3.8	5.0	7.8	23.5	21.8	38.0
Non-Medicaid	31.8	429	26.7	17.3	9.7	20.3	13.3	12.7

Notes:
Stays are initially defined as a new admission (or rentry) to a facility to July 1, 2006 with no intervening discharge.
Extended stays are concatenated stays where up to 30 days may occur between stays and facility may change.
Medicaid eligibility is based on full Medicaid benefits (e.g., excludes QMB/SLMB).
Medicare coverage reflects primary payment source, not necessarily general Medicare eligibility.

Source: Hilltop Refined MDS data.

Among other applications, the data arrayed in Table 6 can help facilitate state program planning efforts such as CMS-sponsored Money Follows the Person (MFP) transition grants. MFP allows states to receive additional federal funds to help support residents who have been in the nursing home for at least 6 months to transition to the community. Limited to Medicaid recipients, Table 6 shows the number of possible candidates for such a program. Data underlying Table 6 can be refined to help target specific residents who are more or less likely to be successful candidates for such a program.

Resource Utilization Groups

As discussed in the accompanying report, selected data elements from MDS assessments can be used to assign a Resource Utilization Group (RUG) category to a given assessment. Various versions of RUG assignments are used widely: as the basis for payment for Medicare SNF days; to adjust Medicaid NF payments to providers for case-mix in many states; and to adjust for case-mix differences more generally in analyses of nursing home care. Typically, some measure of relative resource need is associated with each RUG. For Medicare SNF payments, for example, relative weights for nursing and rehabilitation therapy services are assigned to each of 53 RUGs. RUGs with a higher combined relative weight result in higher relative payment. Most states that use RUGs to adjust Medicaid NF payments rely on a 44-RUG or 34-RUG version of the system and apply a nursing weight alone to establish relative resource differences.

Each version of the RUG system can also be collapsed into a more limited set of resource categories based on the type and level of services required for patients assigned each RUG. The 53-RUG version that is used in this report can be collapsed into 8 levels that include (along with the number of underlying RUGs), in hierarchical order from high to low resource need: Rehabilitation Therapy and Extensive Services (9); Rehabilitation Therapy (14); Extensive Services (3); Special Care (3); Clinically Complex (6); Impaired Cognition (4); Behavioral Only (4); and, Reduced Physical Function (10). While a resident may meet the criteria for more than one RUG, only one RUG is assigned per assessment, which is most often the RUG with the highest associated resource need. A low-resource "default" category is used if no other RUG can be assigned.

For this report, one of 53 RUG categories was assigned to each assessment, along with the relative nursing weight associated with that RUG. It is important to note that, while all Medicare and non-Medicare admission and annual assessments are required to include all the data elements needed to make RUG assignments, some states—including Maryland—do not require such full reporting on quarterly assessments. Therefore, in order to associate some RUG value with each assessment, the most recent admission or annual assessment within a given stay was assigned to quarterly assessments. The days associated with each assessment were then associated with each RUG and nursing weight.

Table 7 shows the distribution of all nursing home days in Maryland in 2006 by RUG category level, along with separate distributions for Medicare-covered and non-Medicare-covered days. Overall, the RUG categories with the highest numbers of associated days are those for patients with reduced physical function (25.6 percent), need for rehabilitation therapy (20.5 percent), or are clinically complex (20.1 percent). At the same time, there are marked differences in the distribution of days across RUG categories by Medicare coverage status. Medicare-covered days are heavily weighted toward the highest resource RUGs. This is in large part because Medicare SNF coverage is generally associated with an acute hospital stay and Medicare patients must be assigned a RUG from one of the top 5 RUG levels at admission to be covered. The pattern of non-Medicare days across RUG category levels is similar to that for all days because non-Medicare days are the overwhelming majority of days (84.4 percent, in Table 1).

Table 7: Nursing Home Resident Days in Maryland within Calendar Year 2006
by Medicare/Non-Medicare Benefit Coverage and RUG Category Level
All Residents versus Continuously Enrolled Duals

	All			Medicare			Non-Medicare		
	Days	% of column	Average Nursing Weight	Days	% of column	Average Nursing Weight	Days	% of column	Average Nursing Weight
All	**9,107,500**	**100**	**1.00**	**1,417,869**	**100**	**1.25**	**7,689,631**	**100**	**0.96**
1: Rehabilitation & Extensive Services	883,126	9.7	1.53	415,736	29.3	1.51	467,390	6.1	1.54
2: Rehabilitation	1,867,107	20.5	1.07	639,444	45.1	1.07	1,227,663	16.0	1.08
3: Extensive Services	659,250	7.2	1.59	163,612	11.5	1.61	495,638	6.4	1.58
4: Special Care	787,058	8.6	1.14	86,724	6.1	1.14	700,334	9.1	1.14
5: Clinically Complex	1,831,490	20.1	0.90	85,548	6.0	0.91	1,745,942	22.7	0.90
6: Impaired Cognition	654,998	7.2	0.67	4,317	0.3	0.67	650,681	8.5	0.67
7: Behavioral	32,941	0.4	0.60	521	0.0	0.61	32,420	0.4	0.60
8: Reduced Physical	2,330,310	25.6	0.72	21,967	1.5	0.72	2,308,343	30.0	0.72
Default	61,220	0.7	0.50	0	0.0	0.00	61,220	0.8	0.50
Duals	**3,599,165**	**39.5**	**0.92**	**249,790**	**17.6**	**1.25**	**3,349,375**	**43.6**	**0.90**
1: Rehabilitation & Extensive Services	96,315	2.7	1.58	46,836	18.8	1.56	49,479	1.5	1.60
2: Rehabilitation	422,677	11.7	1.08	89,982	36.0	1.08	332,695	9.9	1.08
3: Extensive Services	235,963	6.6	1.58	49,835	20.0	1.62	186,128	5.6	1.57
4: Special Care	339,753	9.4	1.14	26,493	10.6	1.14	313,260	9.4	1.15
5: Clinically Complex	864,781	24.0	0.91	29,024	11.6	0.91	835,757	25.0	0.91
6: Impaired Cognition	346,215	9.6	0.67	1,492	0.6	0.65	344,723	10.3	0.67
7: Behavioral	17,159	0.5	0.59	196	0.1	0.58	16,963	0.5	0.59
8: Reduced Physical	1,250,724	34.8	0.73	5,932	2.4	0.73	1,244,792	37.2	0.73
Default	25,578	0.7	0.50	0	0.0	0.00	25,578	0.8	0.50

Notes: RUG categories were based on RUG 53 assignments. Nursing weights are those used by CMS for Medicare SNF payment.

Maryland does not require reporting to support RUG assignments on quarterly MDS assessments. RUGs for quarterly assessments were assigned based on the last prior (admission or annual) RUG assignment. Default assignments reflect discharges before an MDS assessment was completed.

Residents denoted as Duals in this table had both Medicare and full Medicaid benefits throughout 2006.

Source: Hilltop Refined MDS data.

Differences in resource need for Medicare versus non-Medicare coverage is also evident in measures of nursing weight. While the average nursing weight for all days in Maryland was 1.00, the comparable averages were 1.25 and 0.96 for Medicare and non-Medicare days, respectively. Note that the average nursing weight for rehabilitation-only days was less than that for extensive services only—even though extensive services is lower in the hierarchy of RUG levels—because a therapy component to the RUG weighting is not included in this table.

The bottom sections of Table 7 show comparable distributions of days by RUG category level for continuously enrolled duals. As a group, these duals have a higher proportion of days associated with lower resource RUGs than do all residents, with 48 percent of non-Medicare days in the lower 3 RUG categories levels. This lower resource use is most clearly evident in the lower overall average nursing weight for duals at 0.92. Medicare-covered days for these duals also tend to fall more heavily within the lower hierarchical categories that Medicare covers, although the average nursing weight is the same as that for all days (1.25); this is because of the heavier concentration of duals in the extensive services grouping.

Summary and Conclusion

Given the substantial role that Medicaid programs have in underwriting nursing home care, state administrators, in particular, may benefit most from more robust development of MDS data as an ongoing resource for analytical purposes than is common to date. Patterns of measures, such as resident days and stays, lengths of stay calculated from various perspectives, and relative resource use that are drawn from MDS data can support a variety of analytical efforts. Measures that focus on periods of time, such as a year, can be used for actuarial purposes, to identify and understand trends, to inform new and existing program planning, and to provide a template within which to assess the effects of program changes over time. Measures can be tailored to examine issues related to specific types of patients, such as those who are more or less likely to be good candidates for transition to the community. Measures of case mix can be broadly applied to assess and adjust for differences in the services provided across facilities. Finally, developing MDS data as an ongoing resource is a key potential source, not only for measures needed to monitor nursing home care, but also to foster the institutional knowledge necessary to effectively address the growing demand for long-term care supports within the broader framework of coordinated care under public programs for persons with disabilities and the elderly.

Appendix 3
Crossover Claims and Diagnosis-Based Patient Health Risk

The following analysis was developed to support The Hilltop Institute (formerly the Center for Health Program Development and Management) application for a new data use agreement covering Medicare data for duals in Maryland on behalf of the State's Department of Health and Mental Hygiene. That agreement (CMS DUA # 17223) broadened the specific uses for which the State could apply Medicare claims data, beyond claims payment administration alone, to include analyses related to programs designed to facilitate the integration/coordination of Medicare and Medicaid service use for duals. The analysis is presented here as it was originally submitted to CMS, but it will be updated and tailored more specifically as part of forthcoming analysis related to rate setting assumptions under the State's RWJF/HCFO grant (# 63756). The analysis presented here includes reference to a proposed 1115 waiver program called CommunityChoice, which was intended as a statewide program of managed care for duals. CommunityChoice was not subsequently put in place.

ANALYSES RELATED TO
THE COORDINATION OF MEDICARE AND MEDICAID SERVICES IN MARYLAND
(June 2006)

The most recent comprehensive Medicare data that Maryland has on dual eligible recipients in the State were provided with the understanding that subsequent information on Medicare service activity would be derived by the State through crossover claims. While this may be adequate to ensure that the Medicaid program does not pay for services already paid for under Medicare, our preliminary analysis shows that crossover claims do not provide as comprehensive an understanding of the total health service use, including prospective expectations for resource use, as is needed to monitor and administer truly integrated programs for dual eligible recipients under programs such as CommunityChoice.

It order to examine this issue, calendar year 2003 data on diagnoses reported in claims were drawn for all dual eligible recipients in Maryland separately from Medicaid and Medicare data sources. In addition to crossover claims that reflect Medicare-covered care, Medicaid data include claims for services not covered by Medicare, particularly support services for long-term care. All diagnoses available from Medicaid data were included for this analysis. Medicare data were limited to diagnoses from inpatient, outpatient, and physician claims, which are most comparable to those that are included for payment purposes under the Medicare Advantage risk-based payment system.

Very briefly stated, under the CMS-HCC payment system for Medicare Advantage plans diagnoses for a given period are associated with relative risk factors defined for selected clusters of conditions. The sum of relative risk factors across all relevant conditions is determined for each Medicare beneficiary, which serves as a measure of the overall prospective (future) level of health service resource use that individuals are expected to require (on average in a broadly defined population) over the subsequent year. The payment system also reflects age, gender, and other factors, although those are not included in this analysis because we were most interested in the implications of using alternative diagnosis streams to assess health risk. For payment purposes, the sum of (all of) a person's relative risk is converted to a payment amount using an average dollar conversion factor and geographic adjustments. For the purposes of this analysis, the relative risk associated with diagnoses derived from alternative data sources is used to examine the implications of using each source as a general measure of health risk rather than to estimate payment, thus the relative risk is not converted to a dollar amount.

The population for this analysis was limited to dual eligible Medicaid recipients in Maryland who would have been eligible for CommunityChoice as of January 1, 2004. For illustrative purposes, the population was also divided into groups based on a hierarchy of service categories using Medicaid data alone as of that date (i.e., the end of the reporting period used to collect diagnoses). The hierarchy includes those who were: 1) admitted to a chronic care hospital; 2) in a nursing facility; 3) enrolled in the State's Living at Home waiver; 4) enrolled in the State's Older Adult waiver; 5) receiving medical day care services; 6) receiving personal care services; or, 7) none of the above. Individuals are assigned to the lowest numbered group they are associated with as of the assignment date (i.e., January 1, 2004).

Table 1 shows the count of individuals, in total and by hierarchical group, along with the average relative risk for individuals in each group based on diagnoses collected separately from Medicare and Medicaid data sources. Slightly more than 50,000 dual eligible individuals would have been eligible for CommunityChoice as of January 1, 2004. The average (CMS-HCC-based) relative risk for this population using diagnoses drawn from Medicare claims data for calendar year 2003 was 1.379. The comparable relative risk based on Medicaid data for the same period, including but not limited to crossover claims, was .852. The ratio of Medicare- to Medicaid-derived relative risk, 1.618 shown in the rightmost column of the table, indicates that Medicare data suggest the health risk of this population to be more than 60 percent higher than do the available Medicaid data. This suggests the extent of diagnosis and, by extension, service use data that is missing from Medicaid data and, thus, essentially unavailable for the level of analysis Maryland hopes to affect in the development and administration of better integrated programs of care for duals such as CommunityChoice.

Note that Table 1 indicates that diagnoses drawn from Medicaid data alone – including crossover claims – under-represent the (CMS-HCC) relative risk for dual eligibles in the State by 61.8 percent, on average (a ratio of relative risk of 1.681 shown in the rightmost column of Table 1). The ratio of relative risk derived from Medicare as opposed to Medicaid claims ranged from 1.20 for individuals associated with personal care services to 2.256, or more than 2 times the Medicare claims-derived relative risk, for those associated with nursing home care.

Table 1: Average Prospective Relative Risk Using Alternative Data Sources

	Persons	Average Relative Risk		Medicare RR / Medicaid RR
		Medicare	Medicaid	
Total	*50,178*	*1.379*	*0.852*	*1.618*
Hierarchical Groupings				
Chronic Hospital	81	6.845	5.032	1.360
Nursing facility	12,208	2.037	0.903	2.256
Living at Home Waiver	225	2.168	1.599	1.356
Older Adult Waiver	2,353	1.781	1.097	1.623
Medical Day Care	1,898	1.114	0.915	1.218
Personal Care	1,250	1.408	1.164	1.210
Other (Well Dual)	32,163	1.095	0.784	1.398

Notes:

Population limited to CommunityChoice eligible duals as of January 1, 2004.

Medicaid data includes all claim types in Maryland State files. Medicare data is limited to hospital, outpatient, and physician claims. Relative risk (RR) is based on factors associated with diagnostic clusters defined using the CMS-HCC payment methodology for Medicare Advantage plans.

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