Medicare-Medicaid Enrollee State Profile

South Dakota - 2008

Centers for Medicare & Medicaid Services

Table of Contents

I. Introduction 1

II. Results 2

A. Population Overview 2

B. Demographic Characteristics 3

C. Physical, Mental Health and Disability Related Conditions among Fee-for-Service Enrollees 5

Conditions Prevalence: 5

D. Utilization of Services among Fee-For-Service Enrollees 9

E. Medicare and Medicaid Expenditures among Fee-for-Service Enrollees 11

1. Medicare Expenditures 13

2. Medicaid Expenditures 14

III. Acronym List 15

Appendix A: Representativeness of Study Population, CY 2008 16

Appendix B: Methodology 17

Appendix C: Claim Types Included in Medicare Services 23

Appendix D: Claim Types Included in Medicaid Services 24

Appendix E: Medicare Fee-for-Service Enrollee Count by Medicare-Medicaid Eligibility Type Examined in the Medicare Expenditure Analysis, South Dakota, CY 2008 25

Appendix F: Medicaid Fee-for-Service Enrollee Count by Medicare-Medicaid Eligibility Type Examined in the Medicaid Expenditure Analysis, South Dakota, CY 2008 26

I. Introduction

This report focuses on the State of South Dakota and is based on Medicare-Medicaid enrollee data from 2008.

In 2008, more than 60 million people in the U.S. were covered by Medicaid or the Children's Health Insurance Program (CHIP).[1] Medicaid is a state-administered program with shared funding and oversight from the federal government (Title XIX of Social Security Act). Each state must provide the minimum federally mandated services and coverage for federally mandated eligibility groups; however, states may also cover a wide range of optional benefits across different benefit designs and optional eligibility groups that vary from state to state. Depending on each state, these may include coverage for long term services and supports (LTSS), behavioral health, dental services and/or vision services. Many groups of people are covered by Medicaid, depending on the state's requirements (e.g., age; whether pregnant, disabled, blind, or age 65+; income level and resources; U.S. citizenship or lawful immigration status).

Medicare is the primary health insurance program for individuals age 65 and older, people under age 65 with disabilities, and persons of all ages with end-stage renal disease (ESRD).[2] Medicare is comprised of Parts A, B, C, and D types of coverage. Nearly all individuals enrolled in Medicare have Part A coverage, which includes inpatient hospital care, skilled nursing facility stays, home health services, and hospice care. The majority of Medicare enrollees also have Part B fee-for-service (FFS) coverage of physician services, hospital outpatient care, durable medical equipment (DME) and some home health care. Alternatively, those Medicare enrollees who are not enrolled in fee-for-service Parts A and B are typically enrolled in a Medicare Part C managed care plan, called "Medicare Advantage." Lastly, as of 2006, the Medicare Part D program made available federally-sponsored prescription drug coverage to Medicare enrollees, including Medicare-Medicaid enrollees who have transitioned under this program.

At the national level, approximately 9 million individuals qualified for both programs at the same time. These Medicare-Medicaid enrollees (dual eligibles) are the core of the overall study. This report provides basic counts and demographic information on the approximately 20,700 Medicare-Medicaid enrollees in the State of South Dakota. In addition, for a smaller FFS sample of Medicare-Medicaid enrollees in South Dakota, this report also provides information on physical, mental, and disability-related health condition prevalence rates as well as Medicare and Medicaid services utilization and associated expenditures. The Medicare-Medicaid enrollees include three main segments: Full Benefit (Qualified Medicare Beneficiary-Plus (QMB-Plus), Specified Low-Income Medicare Beneficiaries Plus (SLMB-Plus) and Other Full Benefit), QMB-only and Partial Benefit (Specified Low-Income Medicare Beneficiaries (SLMB-only), Qualified Disabled Working Individuals (QDWI), and Qualifying Individuals (QI)). The study adds a new focus on those under 65 versus 65 and over, to illuminate areas in which their experiences differ, and compares them, respectively, to persons enrolled in Medicare but not Medicaid (i.e., "Medicare-only"), as well as those enrolled in Medicaid, qualifying due to disability, but not Medicare (i.e., "Medicaid-only").

[1] http://www.ccwdata.org/web/guest/medicare-tables-reports
[2] Ibid.

II. Results

A. Population Overview

Table 1 shows the number of Medicare-Medicaid enrollees and the proportion by type of Medicare-Medicaid eligibility, in 2008. Full Benefit enrollees represent the largest segment in South Dakota (67%), although they account for a smaller proportion than at the national level (77%). QMB-only enrollees and Partial Benefit enrollees make up a larger proportion of the total Medicare-Medicaid enrollees in South Dakota (18% and 15% respectively) than at the national level (11% and 12% respectively),

Table 1: Overview of Medicare-Medicaid Eligibility Type in South Dakota as Compared to the Nation as a Whole: Number and Relative Distribution of Medicare-Medicaid Enrollees, CY 2008

	State of South Dakota		National	
	Number of Enrollees (In State)	Relative Distribution of Medicare-Medicaid enrollee types	Number of Enrollees (National)	Relative Distribution of Medicare-Medicaid enrollee types
Full Benefit Medicare-Medicaid Enrollee	13,926	67.3%	6,984,789	76.8%
QMB-only Medicare-Medicaid Enrollee	3,714	18.1%	984,558	10.8%
Partial Benefit Medicare-Medicaid Enrollee	3,047	14.6%	1,126,647	12.4%
TOTAL Medicare-Medicaid Dual Enrollees	**20,687**	**100%**	**9,095,994**	**100%**

Source: CY 2008 MMLEADS data

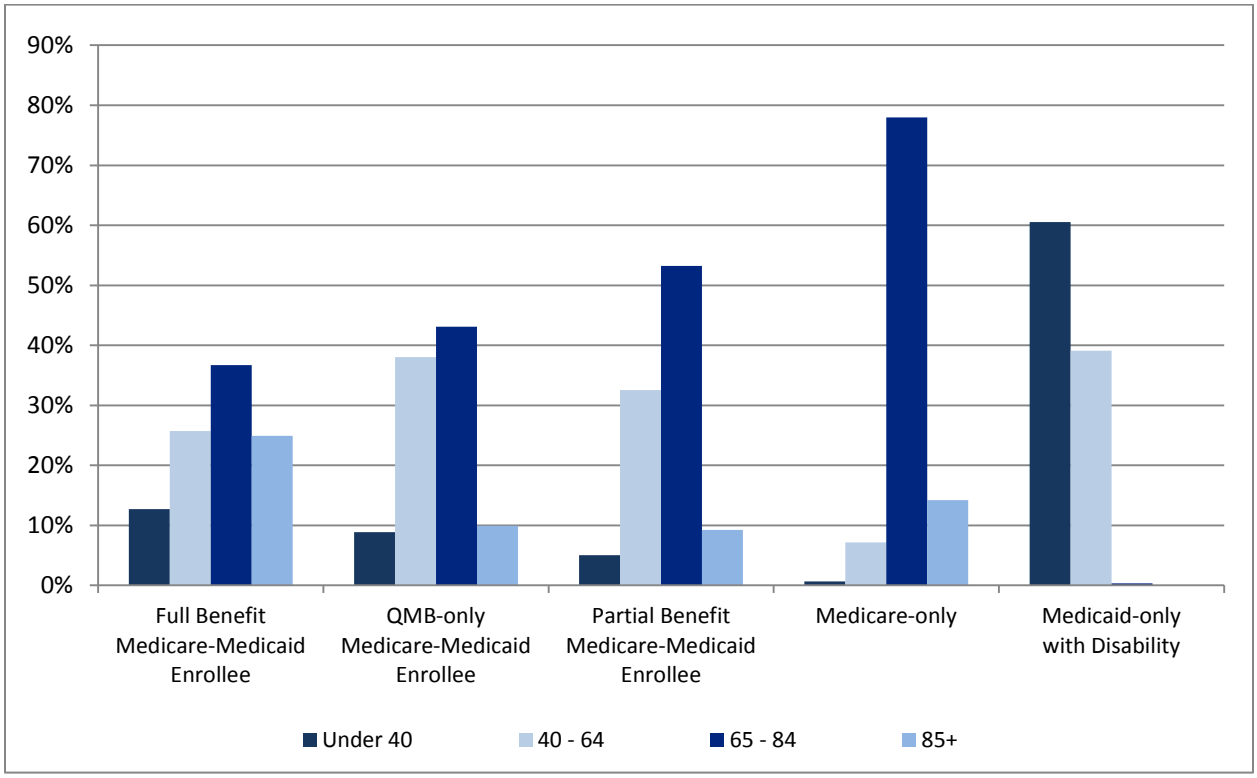
Note: While "QMB-only" Medicare-Medicaid enrollees are technically considered "Partial Benefit," in this Report QMB-only is presented separately from "Partial Benefit," with the latter referring only to all *other* types of Partial Benefit Medicare-Medicaid enrollees: Specified Low-income Medicare Beneficiaries (i.e., "SLMB-only"), Qualified Disabled Working Individuals (i.e., "QDWI"), and Qualifying Individuals (i.e., "QI").

The focus of the analysis is within the different segments of the Medicare-Medicaid enrollee population. As mentioned, the study also provides, when appropriate, comparisons of Medicare-Medicaid enrollees to Medicaid-only enrollees with disabilities and Medicare-only enrollees.

B. Demographic Characteristics

Age and race characteristics were examined within the study cohorts. An analysis of age patterns showed that Medicare-Medicaid enrollees are predominantly in the 40-64 and 65-84 age groups (62% to 86% of the cohorts' populations), although we also find that the Full Benefit group has nearly 13% of its population in the under 40 segment. As expected, the majority of Medicare-only enrollees are 65 and over, while Medicaid-only enrollees with disabilities are nearly all under 65 (over 99%). **Figure 1** shows the age distribution by the study groups.

Figure 1: Age Distribution by Medicare-Medicaid Eligibility Type in South Dakota, CY 2008

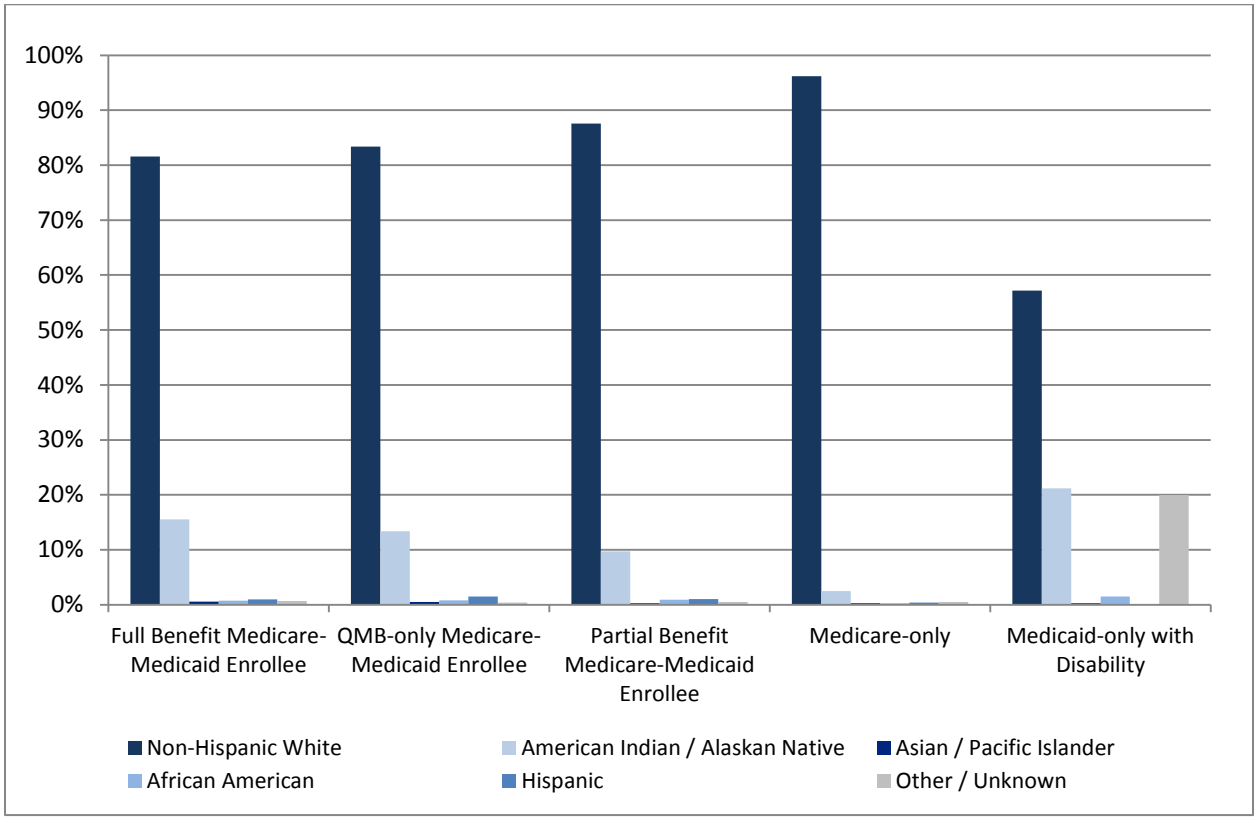


Source: CY 2008 MMLEADS data

Note: While "QMB-only" Medicare-Medicaid enrollees are technically considered "Partial Benefit," in this Report QMB-only is presented separately from "Partial Benefit," with the latter referring only to all *other* types of Partial Benefit Medicare-Medicaid enrollees: Specified Low-income Medicare Beneficiaries (i.e., "SLMB-only"), Qualified Disabled Working Individuals (i.e., "QDWI"), and Qualifying Individuals (i.e., "QI").

An analysis of ethnicity and race shows that White beneficiaries comprise the largest group across all Medicare-Medicaid enrollee groups (**Figure 2),** followed distantly by American Indian /Alaskan Native beneficiaries. Across all Medicare-Medicaid dually enrolled groups, American Indian/Alaskan Native beneficiaries represent a larger percentage (approximately 10% to 16%) when compared to the Medicare-only population, where they represent just under 3%. American Indian/Alaskan Native beneficiaries comprise over 21% of the Medicaid-only with disability cohort.

Figure 2: Ethnicity/Race Distribution by Medicare-Medicaid Eligibility Type in South Dakota, CY 2008



Source: CY 2008 MMLEADS data

Note: While "QMB-only" Medicare-Medicaid enrollees are technically considered "Partial Benefit," in this Report QMB-only is presented separately from "Partial Benefit," with the latter referring only to all *other* types of Partial Benefit Medicare-Medicaid enrollees: Specified Low-income Medicare Beneficiaries (i.e., "SLMB-only"), Qualified Disabled Working Individuals (i.e., "QDWI"), and Qualifying Individuals (i.e., "QI").

C. Physical, Mental Health and Disability Related Conditions among Fee-for-Service Enrollees

This section analyzes enrollees in each cohort along a number of selected chronic conditions.

For analyses in all subsequent sections, in order to ensure complete claims data, the study only includes individuals enrolled in Medicare FFS and/or Medicaid FFS during the entire calendar year. See **Appendix A** for an analysis of representativeness of the study population.

Conditions Prevalence:

This section presents the prevalence of certain conditions for FFS enrollees across each Medicare-Medicaid enrollee eligibility/age subgroup.

To determine the health status of the study population, we utilized the Chronic Conditions Data Warehouse (CCW) which includes a series of algorithms that generate indicators for select physical, mental and disability related conditions. **Appendix B** details the wider set of conditions that were examined individually to determine prevalence in the study population as well as a smaller subset that were utilized in analysis of condition counts.

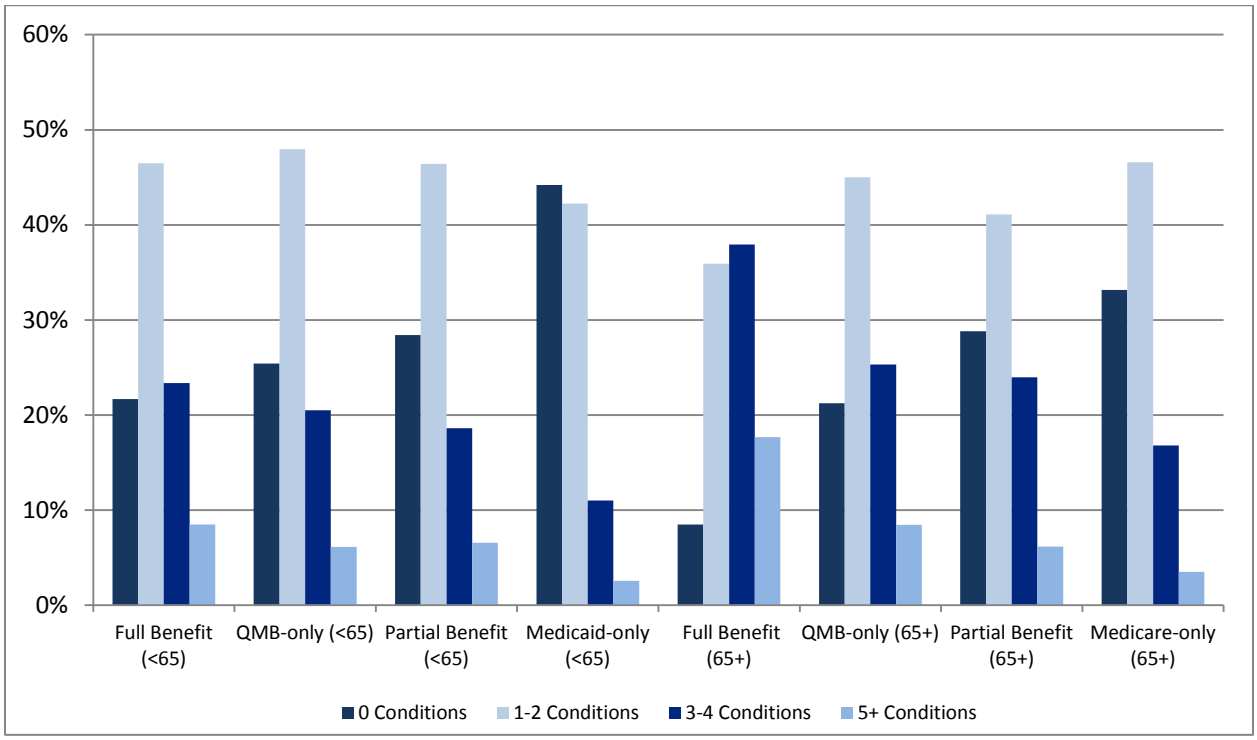
We analyzed the physical, mental and disability-related conditions among the different cohorts to identify prevailing conditions as well as differences between the groups. We also looked at both the number of enrollees with specific conditions and the number of comorbidities.

As shown in **Figure 3**, our analysis indicates that a significant number of the Medicare-Medicaid enrollees present with at least one condition, with figures ranging from 71% for Partial Benefit enrollees 65 and over to 92% for Full Benefit enrollees 65 and over. These levels are higher than in the Medicare-only 65 and over population, in which 67% of individuals have at least one condition. Among Medicaid–only with disability, 56% present with at least one condition.

Among Medicare-Medicaid enrollees under 65, Full Benefit enrollees have slightly higher rates of three or more conditions (32%) compared to QMB-only (27%) and Partial Benefit (25%) enrollees. Full Benefit enrollees under age 65 also have slightly higher rates with five or more conditions (8%) compared to the other Medicare-Medicaid enrollees in the under 65 cohorts (QMB-only at 6% and Partial Benefit at 7%). Medicaid-only enrollees with disabilities have lower rates of co-morbidities, with 14% having three or more conditions and 3% having five or more conditions.

Those who are Full Benefit and 65 and over have a different pattern than the other cohorts, with 18% presenting with five or more conditions and approximately 56% with three or more conditions. Rates of five or more conditions are two to three times as high as other Medicare-Medicaid enrollees 65 and over (QMB-only at 8% and Partial Benefit at 6%) and approximately five times as high as Medicare-only. When considering three or more comorbidities, Full Benefit enrollees 65 and over have rates more than 1.5 times as high as the other Medicare-Medicaid enrollee 65 and over cohorts and nearly three times those of Medicare-only.

Figure 3: Number of Physical and Mental Health Conditions among Fee-for-Service Enrollees by Medicare-Medicaid Eligibility Type and Age in South Dakota, CY 2008



Source: CY 2008 MMLEADS data for FFS enrollees in Medicare and/or Medicaid

Note: While "QMB-only" Medicare-Medicaid enrollees are technically considered "Partial Benefit," in this Report QMB-only is presented separately from "Partial Benefit," with the latter referring only to all *other* types of Partial Benefit Medicare-Medicaid enrollees: Specified Low-income Medicare Beneficiaries (i.e., "SLMB-only"), Qualified Disabled Working Individuals (i.e., "QDWI"), and Qualifying Individuals (i.e., "QI").

Table 2 shows prevalence rates for a wider set of physical health, mental health, and disability-related conditions among enrollees by eligibility type. In general, we find higher prevalence rates for mental health conditions (except Alzheimer's) among beneficiaries under age 65 and higher prevalence rates for Alzheimer's and physical health conditions among those age 65 and over.

Overall, hypertension is the most prevalent condition across cohorts, with important differences between the under 65 and 65 and over groups. This condition has significantly higher prevalence among Full Benefit enrollees 65 and over (58%) than any other age/enrollee cohort, though over 47% of individuals in every segment 65 and over have a hypertension diagnosis. Beyond hypertension, there are a number of conditions that affect at least 25% of individuals in a given segment. These conditions include diabetes (across nearly all age/enrollee segments); hyperlipidemia, ischemic heart disease, and rheumatoid osteo-arthritis (in almost all 65 and over cohorts); and depression (in all Medicare-Medicaid under 65 cohorts). Several conditions are particularly prevalent in the Full Benefit 65 and older cohort, including Alzheimer's and related disorders, anemia, depression, and heart failure.

Table 2: Rate of Physical and Mental Health Conditions, and Conditions Related to Intellectual, Development and Physical Disabilities among Fee-for-Service Enrollees by Medicare-Medicaid Eligibility Type and Age in South Dakota, CY 2008

Condition	Full Benefit (<65)	QMB-only (<65)	Partial Benefit (<65)	Medicaid-only (<65)	Full Benefit (65+)	QMB-only (65+)	Partial Benefit (65+)	Medicare-only (65+)
Acquired hypothyroidism	9.0%	7.9%	8.1%	2.7%	15.5%	10.6%	9.8%	8.8%
Acute myocardial infarction	0.2%	0.6%	0.2%	0.0%	1.2%	1.2%	1.2%	0.8%
Alzheimer's disease and Alzheimer's related disorders	6.8%	1.7%	2.4%	2.2%	41.8%	6.4%	4.7%	7.5%
Anemia	13.7%	13.5%	10.5%	5.2%	32.4%	19.6%	18.0%	14.8%
Anxiety	15.9%	18.3%	16.8%	5.2%	11.3%	6.4%	6.9%	4.6%
Asthma	7.0%	7.0%	6.5%	5.2%	3.5%	4.1%	3.8%	2.6%
Atrial fibrillation	0.9%	1.4%	1.8%	0.2%	9.6%	7.7%	7.2%	7.2%
Attention deficit hyperactivity disorder (ADHD)	6.8%	2.5%	2.1%	19.7%	1.0%	0.0%	0.2%	0.1%
Autism	2.4%	0.2%	0.5%	7.6%	0.1%	0.0%	0.0%	0.0%
Benign prostatic hyperplasia	0.6%	0.6%	1.0%	0.1%	3.4%	2.0%	2.4%	4.1%
Bipolar disorder	10.6%	12.8%	11.7%	4.8%	2.0%	0.8%	0.7%	0.3%
Brain injury	1.8%	1.0%	0.5%	1.0%	0.9%	0.3%	0.1%	0.2%
Breast cancer (Female)	0.4%	0.3%	0.8%	3.1%	0.7%	1.1%	1.0%	2.5%
Breast cancer (Male)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cataract	8.0%	6.0%	4.1%	1.5%	17.8%	21.5%	18.7%	26.9%
Cerebral palsy	5.2%	0.4%	0.3%	8.8%	0.6%	0.2%	0.0%	0.0%
Chronic kidney disease	7.1%	8.0%	8.8%	2.0%	17.7%	13.8%	12.0%	8.7%
Chronic obstructive pulmonary disease (COPD)	8.5%	10.4%	12.4%	2.2%	18.7%	16.9%	16.4%	9.1%
Colorectal cancer (Female)	0.0%	0.0%	0.2%	0.1%	0.4%	0.4%	0.6%	0.8%
Colorectal cancer (Male)	0.1%	0.1%	0.2%	0.0%	0.3%	0.2%	0.4%	0.8%

Condition	Full Benefit (<65)	QMB-only (<65)	Partial Benefit (<65)	Medicaid-only (<65)	Full Benefit (65+)	QMB-only (65+)	Partial Benefit (65+)	Medicare-only (65+)
Cystic fibrosis	0.8%	0.4%	0.3%	0.8%	0.3%	0.4%	0.0%	0.2%
Deafness or hearing impairment	4.4%	1.4%	1.2%	2.8%	5.2%	3.2%	1.8%	2.0%
Depression	27.2%	32.1%	30.8%	6.0%	25.2%	14.0%	9.4%	8.2%
Diabetes	19.4%	23.5%	25.3%	4.2%	33.2%	30.9%	28.9%	19.1%
Endometrial cancer (Female)	0.0%	0.0%	0.2%	0.2%	0.0%	0.1%	0.2%	0.3%
Epilepsy	11.6%	4.5%	3.4%	11.3%	2.9%	1.0%	1.2%	0.6%
Glaucoma	3.8%	3.5%	3.0%	0.9%	6.8%	8.8%	5.7%	9.7%
Heart failure	7.0%	9.5%	10.0%	1.5%	36.1%	21.3%	21.3%	13.4%
Hip fracture	0.3%	0.0%	0.2%	0.1%	3.0%	1.2%	0.8%	0.9%
Hyperlipidemia	16.1%	19.5%	21.6%	2.2%	22.8%	32.0%	27.2%	33.2%
Hypertension	22.5%	28.4%	29.1%	3.8%	58.2%	53.8%	47.4%	47.2%
Intellectual disability	17.8%	0.4%	1.4%	11.0%	2.5%	0.4%	0.0%	0.0%
Ischemic heart disease	7.5%	13.4%	14.2%	1.2%	32.8%	31.4%	29.7%	24.2%
Learning disability	0.4%	0.0%	0.0%	2.8%	0.1%	0.0%	0.0%	0.0%
Lung cancer (Female)	0.0%	0.0%	0.1%	0.2%	0.1%	0.4%	0.5%	0.4%
Lung cancer (Male)	0.0%	0.1%	0.1%	0.0%	0.3%	0.2%	0.6%	0.6%
Mobility disability	5.5%	2.3%	2.4%	4.3%	5.7%	1.6%	1.8%	1.2%
Multiple sclerosis	1.8%	2.2%	1.2%	0.4%	0.7%	0.2%	0.1%	0.2%
Muscular dystrophy	0.5%	0.3%	0.3%	0.5%	0.0%	0.0%	0.0%	0.0%
Osteoporosis	2.4%	2.1%	1.9%	0.4%	9.0%	6.9%	6.3%	6.2%
Other developmental disorder	0.6%	0.2%	0.1%	4.1%	0.1%	0.0%	0.0%	0.0%
Personality disorder	4.4%	4.6%	4.3%	0.7%	0.7%	0.0%	0.2%	0.1%
Post-traumatic stress disorder (PTSD)	3.3%	4.0%	3.9%	1.7%	0.2%	0.0%	0.0%	0.0%
Prostate cancer (Male)	0.1%	0.1%	0.1%	0.0%	1.7%	1.6%	2.0%	4.5%
Rheumatoid osteo-arthritis	12.6%	20.4%	18.8%	0.9%	31.8%	26.6%	24.7%	24.6%
Schizophrenia	15.6%	12.8%	12.2%	3.1%	11.3%	2.4%	1.6%	1.7%
Spina bifida	0.8%	0.1%	0.1%	2.9%	0.2%	0.0%	0.0%	0.0%
Spinal injury	0.9%	0.5%	0.1%	0.7%	0.2%	0.0%	0.0%	0.1%
Stroke	1.4%	1.4%	1.5%	0.6%	5.8%	3.0%	2.5%	2.4%
Tobacco use	14.0%	20.8%	18.5%	1.4%	4.6%	7.6%	6.8%	2.7%
Visual impairment	0.8%	0.5%	0.2%	0.4%	0.8%	0.4%	0.4%	0.2%

Source: CY 2008 MMLEADS data for FFS enrollees in Medicare and/or Medicaid

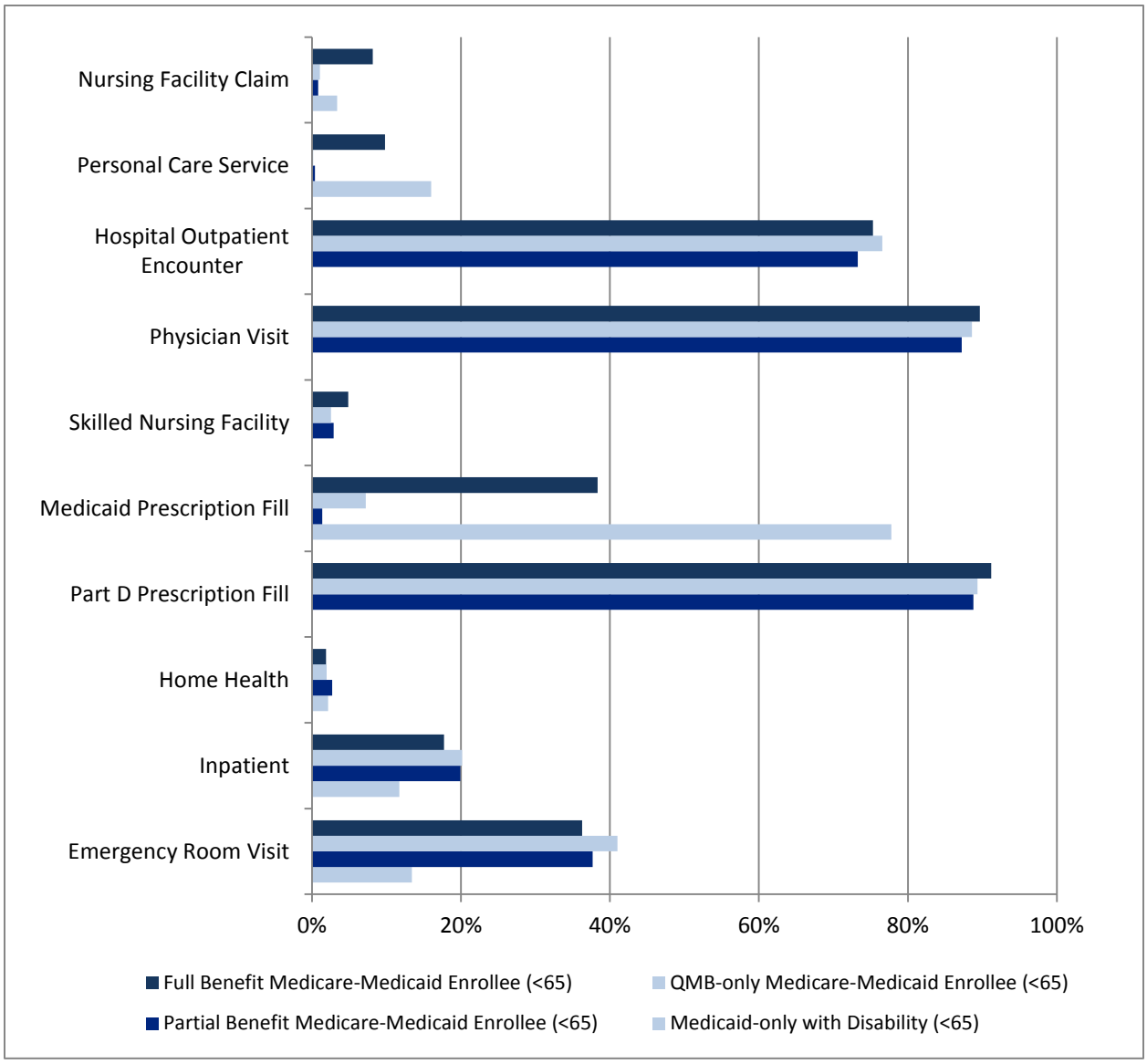
Note: While "QMB-only" Medicare-Medicaid enrollees are technically considered "Partial Benefit," in this Report QMB-only is presented separately from "Partial Benefit," with the latter referring only to all *other* types of Partial Benefit Medicare-Medicaid enrollees: Specified Low-income Medicare Beneficiaries (i.e., "SLMB-only"), Qualified Disabled Working Individuals (i.e., "QDWI"), and Qualifying Individuals (i.e., "QI").

Note: Sex-specific cancer prevalence rates are presented.

D. Utilization of Services among Fee-For-Service Enrollees

Figure 4 shows the relative distribution of FFS service utilization among those Medicare-Medicaid enrollees under age 65 and Medicaid-only enrollees under age 65 with disability. Full Benefit enrollees utilize more services than other Medicare-Medicaid enrollee cohorts across most services with the exception of hospital outpatient encounters, inpatient care and emergency room visits. Medicaid-only enrollees with disability have much higher utilization rates for Medicaid prescription fills.

Figure 4: Fee-for-Service Utilization Rates by Medicare-Medicaid Eligibility Type and Age (<65) in South Dakota, CY 2008



Source: CY 2008 MMLEADS data for FFS enrollees in Medicare and/or Medicaid

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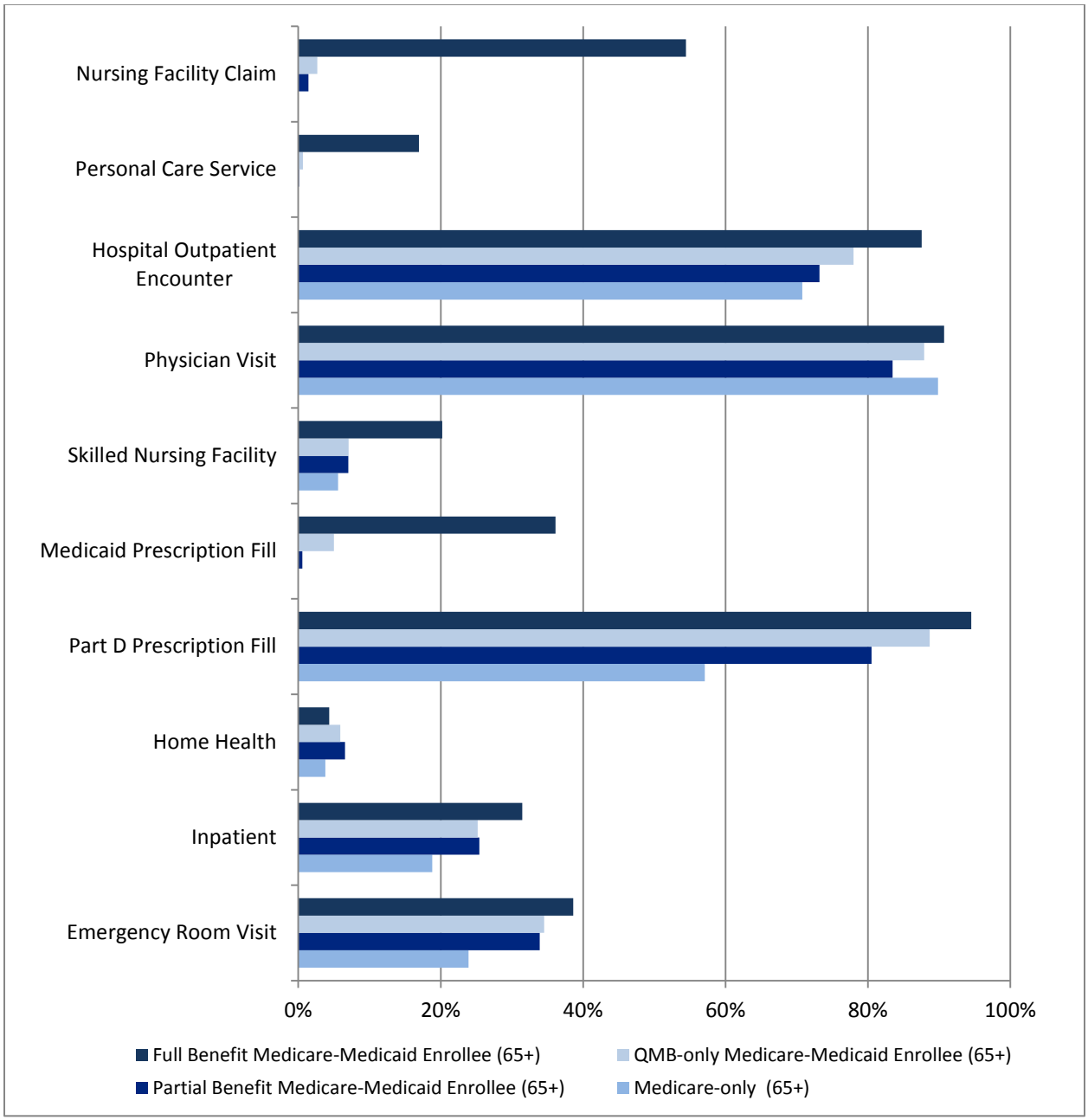
As shown in **Figure 5**, Medicare-Medicaid enrollees 65 and over utilize services at higher rates than Medicare-only enrollees, with the exceptions of physician visits and home health, where these differences were not as pronounced. Full Benefit enrollees 65 and over utilize slightly more services than other Medicare-Medicaid cohorts across all categories except home health.

Figure 5: Fee-for-Service Utilization Rates by Medicare-Medicaid Eligibility Type and Age (65+) in South Dakota, CY 2008



Source: CY 2008 MMLEADS data for FFS enrollees in Medicare and/or Medicaid

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E. Medicare and Medicaid Expenditures among Fee-for-Service Enrollees

Table 3 and **Figure 6** show per capita Medicare and Medicaid expenditures for each of the eligibility/age subgroups. As is evident in **Table 3**, Full Benefit Medicare-Medicaid enrollees incur the highest total expenditures of all Medicare-Medicaid enrollees. Among enrollees under 65, expenditures for Full Benefit enrollees ($31,000) were more than twice as high as those for QMB-only and Partial Benefit enrollees and just over 15% higher than Medicaid-only enrollees with disability. For Full Benefit enrollees 65 and over, combined Medicare and Medicaid per capita expenditures ($32,000) are approximately three times as high as expenditures for QMB-only and Partial Benefit enrollees, and just under five times as high as Medicare-only enrollee expenditures.

Table 3: Total Fee-for-Service Medicaid and Medicare Expenditures by Medicare-Medicaid Eligibility Type and Age Category in South Dakota, CY 2008

	Number of Medicare FFS Enrollees	Medicare Per Capita Expenditures	Number of Medicaid FFS Enrollees	Medicaid Per Capita Expenditures	Total Per Capita Expenditures
Full Benefit (<65)	4,900	$12,526	4,532	$18,305	**$30,831**
QMB-only (<65)	1,524	$13,338	1,252	$1,517	**$14,855**
Partial Benefit (<65)	939	$12,663	734	$278	**$12,941**
Medicaid-only with disability (<65)			3,263	$26,383	**$26,383**
Full Benefit (65+)	8,049	$14,019	7,178	$17,921	**$31,940**
QMB-only (65+)	1,791	$10,096	1,595	$1,183	**$11,279**
Partial Benefit (65+)	1,587	$9,281	1,459	$137	**$9,418**
Medicare-only (65+)	86,475	$6,758			**$6,758**

Source: CY 2008 MMLEADS data for FFS enrollees in Medicare and/or Medicaid

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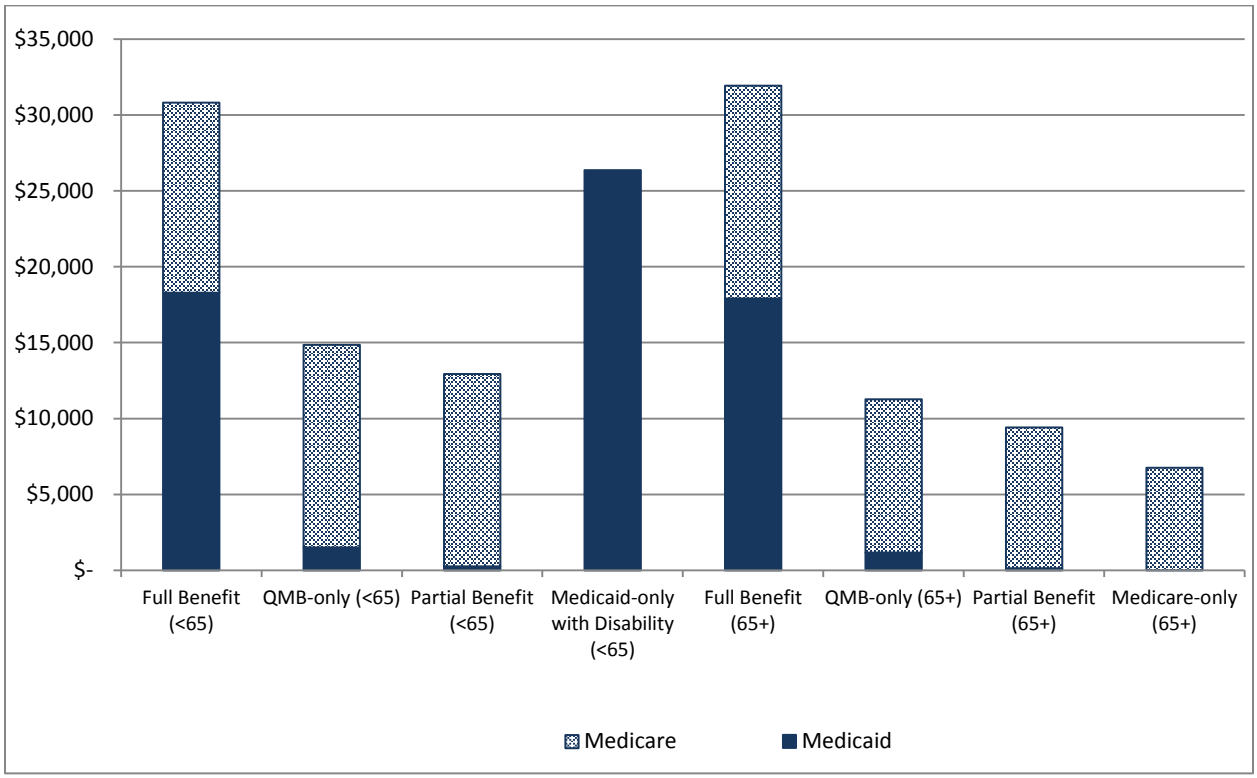
Figure 6 shows total per capita expenditures among FFS enrollees by eligibility type and age category. Full Benefit enrollees have significantly higher expenditures than all other Medicare-Medicaid cohorts with Medicare expenditures responsible for over 40% of the total spend. Medicaid spending on Medicaid-only enrollees with disability (under 65) is much higher than the Medicaid expenditure total for Full Benefit enrollees under 65.

Figure 6: Per Capita Annual Expenditures among Fee-for-Service Enrollees by Medicare-Medicaid Eligibility Type and Age in South Dakota, CY 2008



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Note: While "QMB-only" Medicare-Medicaid enrollees are technically considered "Partial Benefit," in this Report QMB-only is presented separately from "Partial Benefit," with the latter referring only to all *other* types of Partial Benefit Medicare-Medicaid enrollees: Specified Low-income Medicare Beneficiaries (i.e., "SLMB-only"), Qualified Disabled Working Individuals (i.e., "QDWI"), and Qualifying Individuals (i.e., "QI").

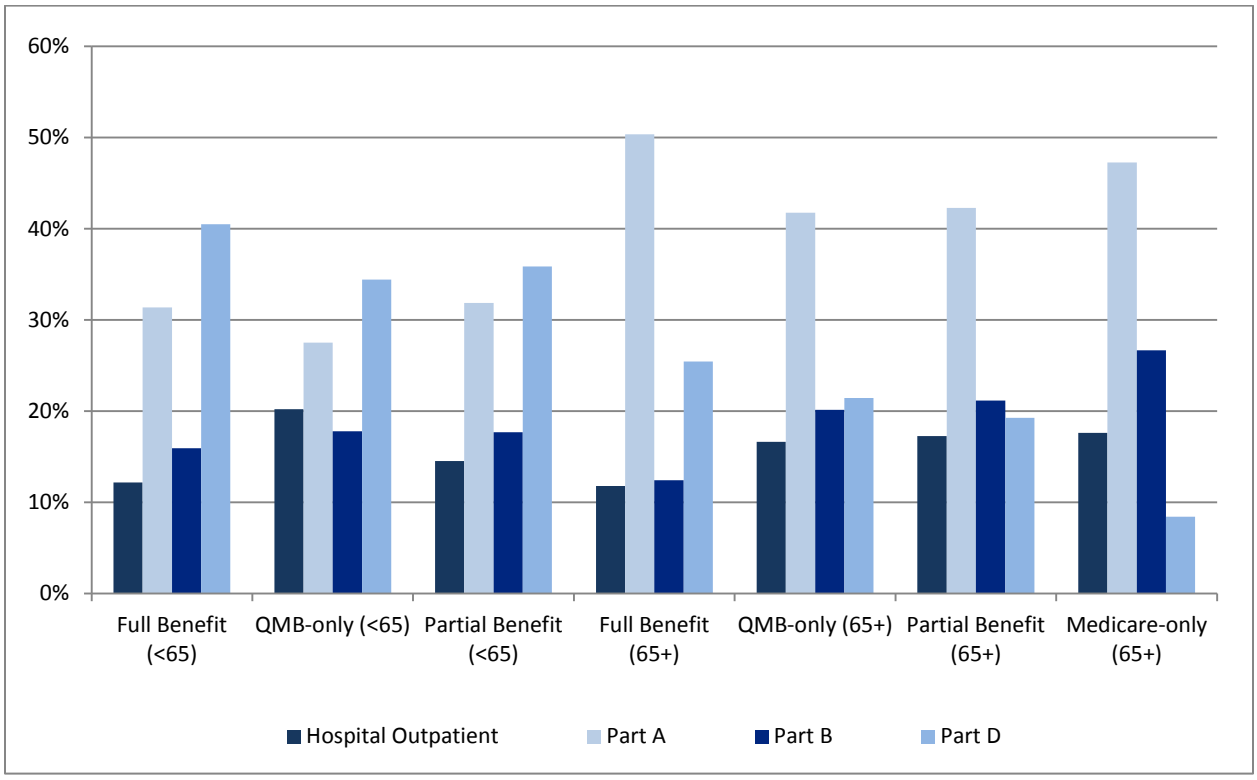
1. Medicare Expenditures

Total Medicare expenditures among FFS Medicare enrollees were examined by setting of care (**Figure 7**). The numbers of enrollees by eligibility type and age category are found in **Appendix E.** Examples of Medicare service types are found in **Appendix C**.

Medicare-Medicaid enrollees that are 65 and over have a higher percentage of their total Medicare expenditures that are comprised of Part A claims (42% to 50%) than do those under 65, which range from 28% to 32%. In the under 65 segment, Part D makes up a higher proportion of total Medicare expenditures (34% to 41%) compared to Medicare-Medicaid enrollees 65 and over (19% to 25%).

Among Medicare-Medicaid enrollees 65 and over, Medicare Part B comprises a smaller proportion of Medicare expenditures, particularly for Full Benefit enrollees where this category is just over 12% of total expenditures, much lower than Medicare-only enrollees (approximately 27%). By contrast, Medicare Part D expenditures comprise a higher proportion of Medicare-Medicaid enrollees 65 and over expenditures (19% to 25%) compared to Part D expenditures for Medicare-only enrollees, which account for just over 8%

Figure 7: Medicare Expenditure Distribution among Fee-for-Service Enrollees by Medicare-Medicaid Eligibility Type and Age in South Dakota, CY 2008



Source: CY 2008 MMLEADS data for FFS enrollees in Medicare

Note: While "QMB-only" Medicare-Medicaid enrollees are technically considered "Partial Benefit," in this Report QMB-only is presented separately from "Partial Benefit," with the latter referring only to all *other* types of Partial Benefit Medicare-Medicaid enrollees: Specified Low-income Medicare Beneficiaries (i.e., "SLMB-only"), Qualified Disabled Working Individuals (i.e., "QDWI"), and Qualifying Individuals (i.e., "QI").

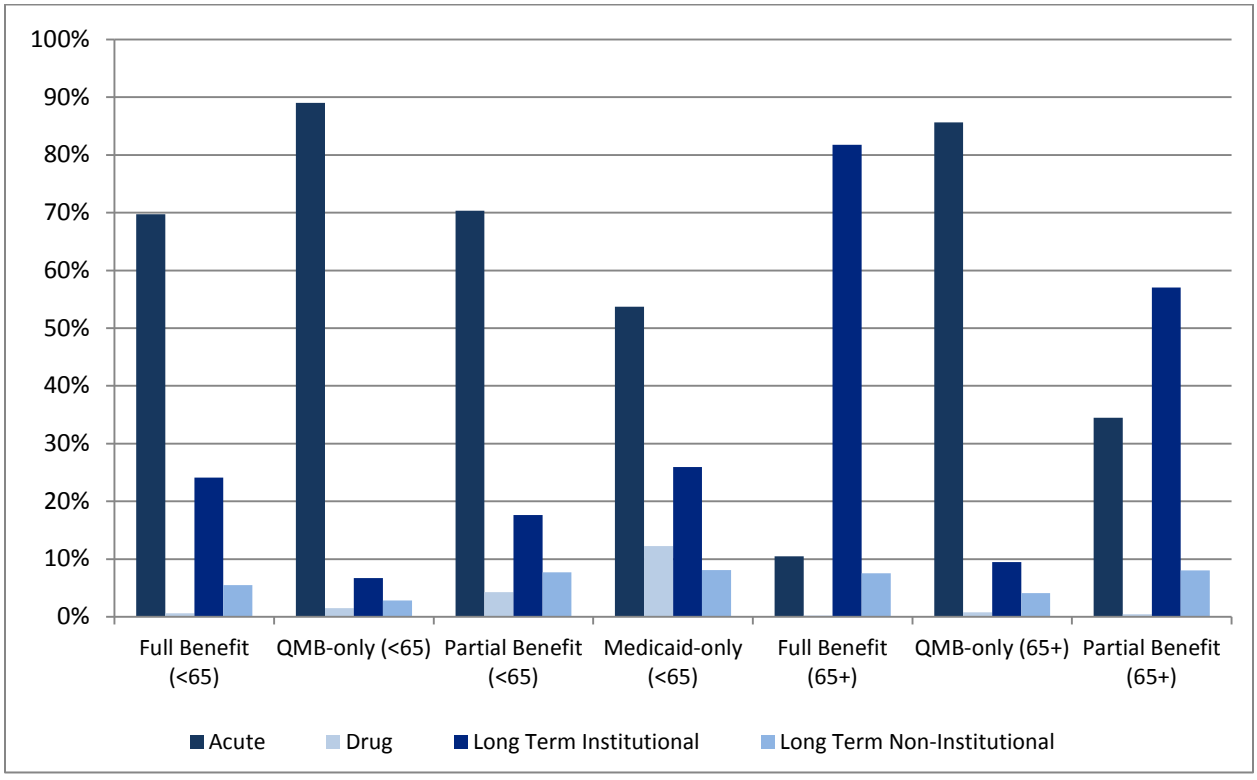
2. Medicaid Expenditures

The distribution of Medicaid expenditures by service type was examined among FFS enrollees (**Figure 8).** The numbers of enrollees examined for each eligibility type and age category are found in **Appendix F.** The Medicaid service types and examples are found in **Appendix D**.

Among all Medicare-Medicaid enrollees under 65, the vast majority of Medicaid spending is attributable to acute care services (70% to 89%). The next-highest area of spending is nursing homes and other long-term institutional care settings, which comprises less than 25% for all groups under 65.

Among Medicare-Medicaid enrollees 65 and over, we find that QMB-only enrollees also have the highest level of spending attributable to acute care (86%), but Full Benefit and Partial Benefit enrollees have a different pattern. For those two cohorts, long term institutional care is the area of highest spending (82% and 57%, respectively). Medicaid-only enrollees with disability have 54% attributable to acute care, 26% for long term institutional services, and 12% and 8% on drug and long term non-institutional services, respectively.

Figure 8: Medicaid Expenditure Distribution among Fee-for-Service Enrollees by Medicare-Medicaid Eligibility Type and Age in South Dakota, CY 2008



Source: CY 2008 MMLEADS data for FFS enrollees in Medicaid

Note: While "QMB-only" Medicare-Medicaid enrollees are technically considered "Partial Benefit," in this Report QMB-only is presented separately from "Partial Benefit," with the latter referring only to all *other* types of Partial Benefit Medicare-Medicaid enrollees: Specified Low-income Medicare Beneficiaries (i.e., "SLMB-only"), Qualified Disabled Working Individuals (i.e., "QDWI"), and Qualifying Individuals (i.e., "QI").

III. Acronym List

Acronym	Definition
ADHD	Attention Deficit hyperactivity Disorder
AMI	Acute Myocardial Infarction
ASC	Ambulatory Surgery Center
CCW	Chronic Condition Data Warehouse
CMS	Centers for Medicare & Medicaid Services
COPD	Chronic Obstructive Pulmonary Disease
DME	Durable Medical Equipment
ESRD	End-Stage Renal Disease
FFS	Fee-for-Service
HH	Home Health
HMO	Health Maintenance Organization
MAX	Medicaid Analytic Extract
MDS	Minimum Data Set
MMLEADS	Medicare-Medicaid Linked Enrollee Analytic Data Source
PTSD	Post-Traumatic Stress Disorder
QMB	Qualified Medicare Beneficiary

Appendix A: Representativeness of Study Population, CY 2008

		Conditions Prevalence Analyses	Medicare Expenditure and Utilization Analyses	Medicaid Expenditure and Utilization Analyses
Managed care exclusion criteria		Excludes enrollees with Medicare OR Medicaid managed care	Excludes enrollees with Medicare managed care	Excludes enrollees with Medicaid managed care
Other exclusion criteria		Excludes Medicaid-only enrollees eligible due to disability and ages 65+, excludes Medicare-only enrollees under age 65; excludes enrollees only eligible for part of the year	Excludes Medicaid-only enrollees eligible due to disability and ages 65+; excludes enrollees only eligible for part of the year	Excludes Medicare-only enrollees under age 65; excludes enrollees only eligible for part of the year
Cohorts	Study Population as Percent of all Enrollees by Enrollee Type			
Full Benefit (<65)	5,348	94.9%	91.6%	84.7%
QMB-only (<65)	1,743	91.2%	87.4%	71.8%
Partial Benefit (<65)	1,144	88.8%	82.1%	64.2%
Medicaid-only with Disability (<65)	9,376	34.8%		34.8%
Full Benefit (65+)	8,578	96.5%	93.8%	83.7%
QMB-only (65+)	1,971	94.8%	90.9%	80.9%
Partial Benefit (65+)	1,903	93.9%	83.4%	76.7%
Medicare-only (65+)	108,732	79.5%	79.5%	

Source: CY 2008 MMLEADS data

Note: While "QMB-only" Medicare-Medicaid enrollees are technically considered "Partial Benefit," in this Report QMB-only is presented separately from "Partial Benefit," with the latter referring only to all *other* types of Partial Benefit Medicare-Medicaid enrollees: Specified Low-income Medicare Beneficiaries (i.e., "SLMB-only"), Qualified Disabled Working Individuals (i.e., "QDWI"), and Qualifying Individuals (i.e., "QI").

Appendix B: Methodology

Data sources

Profiles were created for each state as well as for the nation as a whole using the 2008 CMS Medicare-Medicaid Linked Enrollee Analytic Data Source (MMLEADS). Across five linked files, MMLEADS combines person-level enrollment and claims summary data from Medicare and Medicaid thereby making possible a comprehensive examination of demographic characteristics, condition prevalence, and service-level utilization and payments for dually enrolled Medicare-Medicaid enrollees, as well as Medicare-only enrollees and Medicaid-only enrollees with disabilities. The MMLEADS Medicare Beneficiary File contains enrollment information obtained from the Medicare Enrollment Database (EDB). The MMLEADS Medicaid Beneficiary File consists of demographic information from the Medicaid Analytic eXtract (MAX) Person Summary (PS) file. MMLEADS also contains two service level files specific to Medicare and Medicaid, as well as one aggregated health conditions file.

The percentage of the overall Medicare and Medicaid population comprised of Medicare-Medicaid eligible enrollees (Partial Benefit, QMB-only and Full Benefit Medicare-Medicaid enrollees) was examined by state and compared to national totals.

A listing of all the source data files appears in **Table B-1.**

Table B-1: Description of Data Sources

Data Source	Input to Research File
MMLEADS Medicare Beneficiary File 2008	Cohort identification, demographics, and monthly Medicare enrollment for all Medicare-Medicaid enrollees and Medicare-only enrollees
MMLEADS Medicaid Beneficiary File 2008	Cohort identification, demographics, and monthly Medicaid enrollment for all Medicare-Medicaid enrollees and Medicaid-only enrollees with disability
MMLEADS Condition File 2008	Prevalence of conditions of interest
MMLEADS Medicare Service-level File 2008	Medicare setting specific utilization and expenditure
MMLEADS Medicaid Service-level File 2008	Medicaid setting specific expenditure and utilization

Sample Identification and Data File Construction

1. Demographic characteristics

Because individuals may reside in more than one state in a given year, algorithms were necessary to assign each individual to only one state. Therefore, in our study population, Medicare-Medicaid eligible and Medicaid-only enrollees with disabilities were assigned to states based on state submitted Medicaid Statistical Information System (MSIS) data available in the MAX Personal Summary (PS) file. Medicare-only enrollees were assigned a single state based on the billing address of the individual at the end of 2008 as reported in the Medicare Enrollment Database (EDB).

Age was categorized into four groups: under 40, 40-64, 65-84, and 85+ years. Age category assignments were determined using an enrollee's age as of December 31, 2008 or the age at death if an individual died during 2008. Race/ethnicity characteristics for Medicare-only and Medicare-

Medicaid eligible enrollees were from the RTI race code. Race for Medicaid-only with disability enrollees was based on the state reported race code available in the MAX PS file. The race values for each eligibility group are similar, but the RTI race code available for Medicare enrollees uses additional logic for assignment of race based on surname. The RTI race code was not available for Medicaid enrollees since the MAX file does not contain surname. Race was categorized as Non-Hispanic White, African American, Hispanic, Asian/Pacific Islander, American Indian/Alaskan Native, and Other Races.

2. Exclusion of Managed Care Enrollees

Statistics related to condition prevalence, utilization and annual expenditures were limited to full FFS enrollees. Specifically, analyses of condition prevalence were limited to enrollees with FFS Medicare or Medicaid since complete administrative claims would be available through one program for identification of conditions. Analyses of Medicare payment and utilization statistics were limited to FFS Medicare enrollees, and Medicaid payment and utilization statistics were limited to FFS Medicaid enrollees. Please see **Appendix A** for a detailed analysis of the representativeness of the study populations.

There are multiple reasons for this method of sample identification. The encounter claims for Medicare managed care were not available for 2008 data, as Medicare did not begin collecting them until 2012. In addition, while the CCW data include complete FFS claims for Medicaid and Medicare (as provider reimbursement is conditional upon submission of accurate and complete claims for FFS enrollees), the completeness of Medicaid encounter data is known to vary by state. We chose to structure our analysis in a fashion that would ensure a consistent methodological approach for each state analyzed.

Medicare full FFS enrollees were defined as those with Medicare Part A and Part B coverage and no Medicare Advantage coverage for all months alive during the reference year. Medicaid full FFS enrollees were defined as those without eligible pre-paid plan coverage of comprehensive managed care, long term care managed care, program of all-inclusive care for the elderly (PACE), primary care case management (PCCM), behavioral managed care, or prenatal managed care.

To allow for suitable comparisons, the FFS populations were categorized into eight groups by Medicare-Medicaid eligibility type and age category (<65 or 65+ years) for analyses of condition prevalence, utilization, and expenditures:

1. Full Benefit Medicare-Medicaid enrollees (<65)
2. QMB-only Medicare-Medicaid enrollees (<65)
3. Partial Benefit Medicare-Medicaid enrollees (<65)
4. Medicaid-only with a disability (<65)

   and
5. Full Benefit Medicare-Medicaid enrollees (65+)
6. QMB-only Medicare-Medicaid enrollees (65+)
7. Partial Benefit Medicare-Medicaid enrollees (65+)
8. Medicare-only (65+)

3. Health, Mental Health and Disability-related Conditions

Prevalence rates for a wide set of physical, mental health, and disability-related conditions were examined by Medicare-Medicaid eligibility type and age category.

A subset of these conditions, based on algorithms created for analysis of Medicare and/or Medicaid enrollees, were utilized to determine the total count of conditions per individual by Medicare-Medicaid eligibility and age group. **Table B-2** lists conditions evaluated in the study populations and indicates which of these were included in a count of conditions per enrollee. Some conditions were grouped into categories to reduce duplication while others were excluded as they were not accurate indicators of ongoing comorbidities in the population. Details of groupings and logic for inclusion or exclusion are included in **Table B-2**.

Table B-2: Inclusion of Conditions in Condition Count

Condition	Category used in Condition Count	Comments
Acquired hypothyroidism	--	Excluded since the condition is easily maintained with medication
Acute myocardial infarction (AMI)	Heart disease/failure	Counted as part of Heart disease/failure condition including AMI, IHD, and Heart failure
Alzheimer's disease and Alzheimer's related disorders	Alzheimer's disease and Alzheimer's related disorders	
Anemia	--	Excluded as it may be a symptom of another condition
Anxiety	Anxiety & PTSD	Counted as part of a condition including anxiety and PTSD
Asthma	Asthma & COPD	Counted as part of a condition including COPD and asthma
Atrial fibrillation	--	Excluded as it may be a symptom of another condition and has low prevalence
Attention deficit hyperactivity disorder (ADHD)	--	Excluded since it has less relevance for the Medicare-Medicaid population
Autism	Intellectual & developmental disabilities	Counted as part of a condition including autism, learning disabilities, intellectual & related disabilities, and other developmental delays
Benign prostatic hyperplasia	--	Excluded as it is a benign condition, common in men over 50, that is not related to cancer risk
Bipolar disorder	Bipolar disorder	
Brain injury	Mobility-related impairments & spine/brain injury	Counted as part of a condition including mobility impariments, spinal cord injury, and brain injury
Breast cancer (Female)	Cancer	Counted as part of a condition including breast , colorectal, endometrial, lung, and prostate cancers
Breast cancer (Male)	Cancer	Counted as part of a condition including breast , colorectal, endometrial, lung, and prostate cancers
Cataract	Visual impairment	Counted as part of a visual impairment condition including cataract, glaucoma, and blindness/visual impairment
Cerebral palsy	Cerebral palsy	
Chronic kidney disease	Chronic kidney disease	

Condition	Category used in Condition Count	Comments
Chronic obstructive pulmonary disease (COPD)	Asthma & COPD	Counted as part of a condition including COPD and asthma
Colorectal cancer (Female)	Cancer	Counted as part of a condition including breast , colorectal, endometrial, lung, and prostate cancers
Colorectal cancer (Male)	Cancer	Counted as part of a condition including breast , colorectal, endometrial, lung, and prostate cancers
Cystic fibrosis	Cystic fibrosis	
Deafness or hearing impairment	Deafness & hearing impairment	
Depression	Depression	
Diabetes	Diabetes	
Endometrial cancer (Female)	Cancer	Counted as part of a condition including breast , colorectal, endometrial, lung, and prostate cancers
Epilepsy	Epilepsy	
Glaucoma	Visual impairment	Counted as part of a visual impairment condition including cataract, glaucoma, and blindness/visual impairment
Heart failure	Heart disease/failure	Counted as part of Heart Disease/failure condition including AMI, IHD, and Heart failure
Hip fracture	--	Excluded as this is a distinct event occuring at one point in time rather than an ongoing condition
Hyperlipidemia	--	Excluded as it may be a symptom of a more serious condition
Hypertension	--	Excluded as it may be a symptom of a more serious condition
Intellectual disability	Intellectual & developmental disabilities	Counted as part of a condition including autism, learning disabilities, intellectual & related disabilities, and other developmental delays
Ischemic heart disease (IHD)	Heart disease/failure	Counted as part of Heart Disease/failure condition including AMI, IHD, and Heart failure
Learning disability	Intellectual & developmental disabilities	Counted as part of a condition including autism, learning disabilities, intellectual & related disabilities, and other developmental delays
Lung cancer (Female)	Cancer	Counted as part of a condition including breast , colorectal, endometrial, lung, and prostate cancers
Lung cancer (Male)	Cancer	Counted as part of a condition including breast , colorectal, endometrial, lung, and prostate cancers
Mobility disability	Mobility-related impairments & spine/brain injury	Counted as part of a condition including mobility impariments, spinal cord injury, and brain injury
Multiple sclerosis	Multiple sclerosis	
Muscular dystrophy	Muscular dystrophy	
Osteoporosis	Osteoporosis	
Other developmental disorder	Intellectual & developmental disabilities	Counted as part of a condition including autism, learning disabilities, intellectual & related disabilities, and other developmental delays

Condition	Category used in Condition Count	Comments
Personality disorder	Personality disorder	
Post-traumatic stress disorder (PTSD)	Anxiety & PTSD	Counted as part of a condition including anxiety and PTSD
Prostate cancer (Male)	Cancer	Counted as part of a condition including breast , colorectal, endometrial, lung, and prostate cancers
Rheumatoid osteo-arthritis	Rheumatoid osteo-arthritis	
Schizophrenia	Schizophrenia	
Spina bifida	Spina bifida	
Spinal injury	Mobility-related impairments & spine/brain injury	Counted as part of a condition including mobility impariments, spinal cord injury, and brain injury
Stroke	Stroke	
Tobacco use	--	Excluded since this is a behavior that is a risk factor for developing other conditions
Visual impairment	Visual impairment	Counted as part of a visual impairment condition including cataract, glaucoma, and blindness/visual impairment

Five individual cancer conditions (breast, endometrial, prostate, colorectal, and lung) were combined to create an overall cancer condition, and other similar diagnoses were grouped together and counted once for each condition. The final list of conditions included in the condition count include the following: Alzheimer's disease and Alzheimer's related disorders, asthma & chronic obstructive pulmonary disease (COPD), anxiety & PTSD, bipolar disorder, cancer, cerebral palsy, chronic kidney disease, cystic fibrosis, deafness & hearing impairment, depression, diabetes, epilepsy, heart disease/failure, intellectual & developmental disabilities, mobility-related impairments & spine/brain injury, multiple sclerosis, muscular dystrophy, osteoporosis, personality disorder, rheumatoid osteo-arthritis, schizophrenia, spina bifida, stroke, and visual impairment.

Proportions of Medicare-Medicaid, Medicare-only, and Medicaid-only enrollees with disability populations in the following categories were examined: enrollees with none of the included conditions, one to two conditions, three to four conditions, and five or more conditions.

4. Medicare and Medicaid Utilization

The services covered by Medicare and Medicaid differ. Medicare utilization statistics included the following: hospital outpatient services, skilled nursing facilities (SNF), and Medicare Part D prescription fills. Medicaid utilization statistics included the following: Medicaid drug prescriptions, personal care services, and nursing facility claims. The services covered by Medicare and Medicaid, including emergency room, inpatient stays, and home health visits were examined across programs. Per capita utilization rates of these services were examined for full FFS enrollees.

5. Medicare and Medicaid Expenditures

The percentage of total expenditures by Medicare-Medicaid eligibility type was calculated, including the mean per capita Medicare and Medicaid expenditures and the proportion of Medicare expenditures attributed to Medicare Parts A, Part B (non-institutional), Hospital Outpatient (Part B Institutional) and Part D claims. The distribution of Medicaid expenditures are presented by service type based on circumstances of care. Medicare and Medicaid service types are listed in **Appendix C** and **Appendix D** respectively**.**

Study Limitations

The condition, utilization, and expenditure analyses necessarily excluded enrollees who received services under Medicare and Medicaid managed care programs since, in 2008, managed care encounter claims were not reported to Medicare and were not reliably reported to Medicaid. As a result, statistics presented may not be entirely generalizable to the entire enrolled populations. This warrants concern given that state Medicaid programs are heading in the direction of managed care programs instead of FFS, and Medicare eligible individuals enrolled in managed care programs may not have as high a rate of chronic conditions as FFS Medicare enrollees.

Twenty-one percent of the South Dakota cohort in the MMLEADS data did not receive benefits under FFS in either Medicare or Medicaid programs and were excluded from the condition analysis. Refer to **Appendix E** and **Appendix F** for more information about managed care enrollment and population sizes.

Appendix C: Claim Types Included in Medicare Services

Medicare Service Type	Included Services
Hospital Outpatient	Community Mental Health Center
	End Stage Renal Disease
	Other Hospital Outpatient
	Other Skilled Nursing Facility
	Outpatient Clinic
	Outpatient Prospective Payment Schedule
	Outpatient Therapy
Part A	Home Health
	Hospice
	Inpatient
	Other Inpatient (Inpatient Psychiatric Facility)
	Other Post Acture Care (Long Term Care, Inpatient Rehabilitation Facility)
	Skilled Nursing Facility
Part B	Ambulatory Surgical Center
	Durable Medical Equipment
	Imaging
	Laboratory and Testing
	Part B Drug
	Physician Evaluation and Management
	Procedure
Part D	Prescription Drug

Appendix D: Claim Types Included in Medicaid Services

Medicaid Service Type	Included Services (Medicaid Type of Service)
Acute	01 - Inpatient hospital
	11 - Outpatient hospital
	08 - Physician
	15 - Lab X-ray
	09 - Dental
	10 - Other practitioners
	12 - Clinic
	19 - Other services
	24 - Sterilizations
	25 - Abortions
	34 - PT, OT, Speech, Hearing services
	36 - Nurse midwife services
	37 - Nurse practitioner services
	39 - Religious non-medical health care institutions
	53 - Psychiatric services
	99 - Unknown
Drug	16 - Prescribed drugs
Long Term Care Institutional	02 - Mental hospital services for the aged
	04 - Inpatient psychiatric facility for individuals under the age of 21
	05 - Intermediate care facility (ICF) for individuals with intellectual disabilities
	07 - Nursing facility services (NFS) - all other
Long Term Care Non-Institutional	33 - Rehabilitative services, waiver
	13 - Home health
	35 - Hospice benefits
	51 - Durable medical equipment (DME) and supplies (including emergency response systems and home modifications
	30 - Personal care services
	52 - Residential care
	54 - Adult day care
	26 - Transportation services
	31 - Targeted case management
	38 - Private duty nursing
Managed Care	20 - Capitated payments to HMO or HIO plan
	21 - Capitated payments to prepaid health plans (PHPs)
	22 - Capitated payments for primary care case management (PCCM)
Other	Charges but Type of Service was not populated

Appendix E: Medicare Fee-for-Service Enrollee Count by Medicare-Medicaid Eligibility Type Examined in the Medicare Expenditure Analysis, South Dakota, CY 2008

	Medicare Managed Care		Medicare Fee-for-Service		Not all Months Alive Medicare Fee-for-Service		Total Medicare Denominator
	Number	Percent	Number	Percent	Number	Percent	
Full Benefit (<65)	87	1.6%	4,900	91.6%	361	6.8%	5,348
QMB-only (<65)	95	5.5%	1,524	87.4%	124	7.1%	1,743
Partial Benefit (<65)	115	10.1%	939	82.1%	90	7.9%	1,144
Full Benefit (65+)	294	3.4%	8,049	93.8%	235	2.7%	8,578
QMB-only (65+)	123	6.2%	1,791	90.9%	57	2.9%	1,971
Partial Benefit (65+)	275	14.5%	1,587	83.4%	41	2.2%	1,903
Medicare-only (65+)	12,087	11.1%	86,475	79.5%	10,170	9.4%	108,732

Note: While "QMB-only" Medicare-Medicaid enrollees are technically considered "Partial Benefit," in this Report QMB-only is presented separately from "Partial Benefit," with the latter referring only to all *other* types of Partial Benefit Medicare-Medicaid enrollees: Specified Low-income Medicare Beneficiaries (i.e., "SLMB-only"), Qualified Disabled Working Individuals (i.e., "QDWI"), and Qualifying Individuals (i.e., "QI").

Appendix F: Medicaid Fee-for-Service Enrollee Count by Medicare-Medicaid Eligibility Type Examined in the Medicaid Expenditure Analysis, South Dakota, CY 2008

	Medicaid Managed Care		Medicaid Fee-for-Service		Not all Months Alive Medicaid Fee-for-Service		Total Medicaid Denominator
	Number	Percent	Number	Percent	Number	Percent	
Full Benefit (<65)	237	4.4%	4,532	84.7%	579	10.8%	5,348
QMB-only (<65)	16	0.9%	1,252	71.8%	475	27.3%	1,743
Partial Benefit (<65)	N/A	N/A	734	64.2%	N/A	N/A	1,144
Medicaid-only with disability (<65)	4,995	53.3%	3,263	34.8%	1,118	11.9%	9,376
Full Benefit (65+)	91	1.1%	7,178	83.7%	1,309	15.3%	8,578
QMB-only (65+)	N/A	N/A	1,595	80.9%	376	19.1%	1,971
Partial Benefit (65+)	N/A	N/A	1,459	76.7%	N/A	N/A	1,903

Note: While "QMB-only" Medicare-Medicaid enrollees are technically considered "Partial Benefit," in this Report QMB-only is presented separately from "Partial Benefit," with the latter referring only to all *other* types of Partial Benefit Medicare-Medicaid enrollees: Specified Low-income Medicare Beneficiaries (i.e., "SLMB-only"), Qualified Disabled Working Individuals (i.e., "QDWI"), and Qualifying Individuals (i.e., "QI").