Medicare-Medicaid Enrollee State Profile

Illinois - 2008

Centers for Medicare & Medicaid Services

Table of Contents

I.	Introduction1						
II.	Res	ults		.2			
	A.	Popu	pulation Overview				
	B.	Demo	ographic Characteristics	3			
	C.	5	cal, Mental Health and Disability Related Conditions among Fee-for-Service lees	.5			
		Condi	tions Prevalence:	5			
	D.	Utiliz	ation of Services among Fee-For-Service Enrollees	.9			
	E.	Medi	care and Medicaid Expenditures among Fee-for-Service Enrollees1	1			
		1. <i>N</i>	Medicare Expenditures1	13			
		2. <i>I</i>	Medicaid Expenditures1	4			
III.	Acr	onym	List1	15			
App	oend	ix A:	Representativeness of Study Population, CY 2008	16			
App	oend	ix B:	Methodology1	17			
App	oend	ix C:	Claim Types Included in Medicare Services2	23			
App	oend	ix D:	Claim Types Included in Medicaid Services2	24			
Арр	oend	ix E:	Medicare Fee-for-Service Enrollee Count by Medicare-Medicaid Eligibility Type Examined in the Medicare Expenditure Analysis, Illinois, CY 2008	25			
App	oend	ix F:	Medicaid Fee-for-Service Enrollee Count by Medicare-Medicaid Eligibility Type Examined in the Medicaid Expenditure Analysis, Illinois, CY 2008	26			

I. Introduction

This report focuses on the State of Illinois 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-forservice 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 federallysponsored 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 eligible) are the core of the study. This report provides basic counts and demographic information on the approximately 324,000 Medicare-Medicaid enrollees in the State of Illinois. In addition, for a smaller FFS sample of Medicare-Medicaid enrollees in Illinois, 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 <u>http://www.ccwdata.org/web/guest/medicare-tables-reports</u>

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 Illinois (approximately 87%), a significantly higher proportion than at the national level (77%). QMB-only enrollees (4%) and Partial Benefit enrollees (9%) make up a significantly smaller proportion of the total Medicare-Medicaid enrollees in Illinois than at the national level (11% and 12% respectively).

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

	Sta	te of Illinois	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	281,062	86.6%	6,984,789	76.8%
QMB-only Medicare-Medicaid Enrollee	13,610	4.3%	984,558	10.8%
Partial Benefit Medicare-Medicaid Enrollee	29,056	9.1%	1,126,647	12.4%
TOTAL Medicare-Medicaid Dual Enrollees	323,728	100%	9,095,994	100%

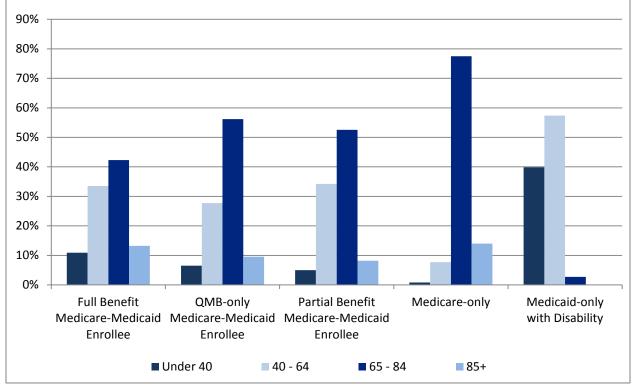
Source: CY 2008 MMLEADS data

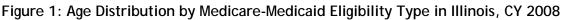
<u>Note</u>: While "QMB-only" Medicare-Medicaid enrollees are technically considered "Partial Benefit," in this Report QMBonly is presented separately from "Partial Benefit," with the latter referring only to all *other* types of Partial Benefit Medicare-Medicaid enrollees: Specified Low-income Medicare 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 the Medicare-Medicaid enrollees to Medicaid-only enrollees with disabilities and the Medicare-only enrollees.

B. Demographic Characteristics

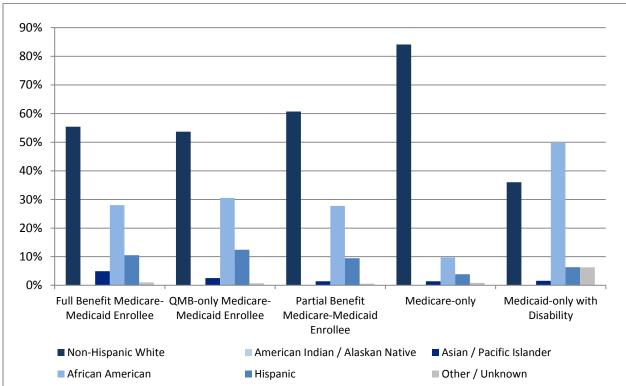
Age and race characteristics were examined within the study cohorts. An analysis of age patterns shows that Medicare-Medicaid enrollees are predominantly in the 40-64 and 65-84 age groups, (76% to 87% of the cohorts'), although we also find that the Full Benefit enrollee group has 11% in the under 40 segment. As expected, the majority of Medicare-only enrollees are 65 and over, while Medicaid-only enrollees with disabilities are almost all under 65. **Figure 1** shows the age distribution by the study groups.





Source: CY 2008 MMLEADS data

An analysis of ethnicity and race shows that White beneficiaries comprise the largest group across all Medicare-Medicaid enrollees (**Figure 2**) followed by African American beneficiaries. Across all Medicare-Medicaid dually enrolled groups, African American beneficiaries represent a larger percentage (approximately 28% to 31%) when compared to Medicare-only population where they represent less than 10%. African American beneficiaries represent almost 50% of the Medicaid-only with disability population.





Source: CY 2008 MMLEADS data

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.

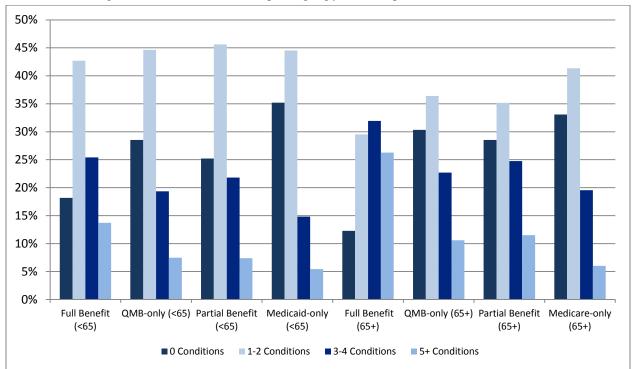
To determine the health status of the study population, we utilized the Chronic Conditions Data Warehouse (CCW) which includes a series of algorithms that generate indicators for select physical, mental and disability related conditions. **Appendix B** details the wider set of conditions that were examined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

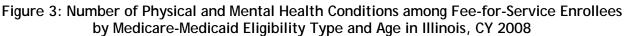
We analyzed the physical, mental and disability related conditions among the different cohorts to identify prevailing conditions as well as differences between the groups. We also looked at both the number of enrollees with specific conditions and the number of comorbidities.

As shown in **Figure 3**, our analysis indicates that a significant percentage of Medicare-Medicaid enrollees present with at least one condition, with rates ranging from 70% for QMB-only enrollees 65 and over to 88% for Full Benefit 65 and over. These are higher than the Medicare-only enrollees 65 and over, of which 67% of individuals have at least one condition. Among Medicaid–only with disability, 65% present with at least one condition.

Among Medicare-Medicaid enrollees that are under 65, Full Benefit enrollees have higher rates of co-morbidities with three or more conditions (39%) compared to QMB-only enrollees (27%) and Partial Benefit enrollees (29%). Full-Benefit enrollees under age 65 also have higher rates of having five or more conditions (14%) than do other Medicare-Medicaid enrollee in the under 65 cohort (approximately 7%). Medicaid-only enrollees with disabilities have lower rates of co-morbidities, with 20% having three or more conditions and 5% having five or more conditions.

Those who are Full Benefit and 65 or older have a very different pattern than the other cohorts with approximately 58% with three or more conditions and over 26% presenting with five or more conditions. Rates of five or more conditions are 2.3 to 2.4 times higher than any other Medicare-Medicaid enrollee 65 and over cohort (QMB-only enrollees 11% and Partial Benefit enrollees 12%) and over four times higher than Medicare-only. When considering three or more comorbidities, Full Benefit 65 and over have rates 1.6 to 1.8 higher than the other Medicare-Medicaid enrollee 65 and over cohorts and over two times those of Medicare-only.





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

Table 2 shows prevalence rates for a wider set of physical, 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 of Alzheimer's and physical health conditions among those age 65 and older.

Overall, hypertension is the most prevalent condition across cohorts, with important differences between the under 65 and 65 and older groups. This condition has significantly higher prevalence among Full Benefit enrollees 65 and older (71%) than any other age/enrollee cohort, though at least 59% 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 include diabetes and hyperlipidemia (all Medicare-Medicaid enrollee cohorts), ischemic heart disease and rheumatoid osteoarthritis (all 65 and over Medicare-Medicaid enrollee cohorts), and depression (all under 65 Medicare-Medicaid enrollee cohorts). Several conditions are particularly prevalent in the Full Benefit 65 and older cohort, including Alzheimer's and related disorders, anemia, chronic kidney disease, chronic obstructive pulmonary disease, depression, and heart failure.

Medicare-Medicaid Eligibility Type and Age in Illinois, 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	7.5%	5.6%	5.7%	3.4%	11.3%	7.6%	7.9%	8.4%
Acute myocardial infarction	0.6%	0.4%	0.6%	0.4%	1.8%	1.1%	1.2%	1.0%
Alzheimer's disease and Alzheimer's related disorders	4.8%	2.1%	2.1%	3.2%	34.0%	10.8%	10.5%	9.7%
Anemia	23.1%	17.1%	17.0%	14.0%	38.2%	23.7%	23.6%	20.8%
Anxiety	16.4%	13.2%	13.5%	6.2%	10.8%	6.3%	7.3%	5.2%
Asthma	10.5%	8.1%	8.3%	7.8%	7.3%	5.7%	5.7%	3.6%
Atrial fibrillation	1.7%	1.6%	1.8%	0.8%	8.8%	6.3%	6.9%	8.9%
Attention deficit hyperactivity disorder (ADHD)	3.5%	1.5%	1.6%	8.6%	0.8%	0.2%	0.1%	0.1%
Autism	1.0%	0.2%	0.2%	3.3%	0.1%	0.0%	0.0%	0.0%
Benign prostatic hyperplasia	1.6%	1.7%	1.3%	0.6%	5.2%	3.3%	3.9%	6.2%
Bipolar disorder	16.6%	12.0%	13.0%	11.2%	3.6%	1.0%	1.0%	0.6%
Brain injury	0.8%	0.3%	0.4%	0.8%	0.5%	0.2%	0.2%	0.3%
Breast cancer (Female)	0.4%	0.6%	0.9%	3.0%	0.7%	0.9%	1.3%	2.8%
Breast cancer (Male)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cataract	8.5%	4.6%	4.6%	5.5%	18.3%	14.4%	12.8%	22.9%
Cerebral palsy	3.0%	0.6%	0.5%	5.8%	0.4%	0.0%	0.0%	0.0%
Chronic kidney disease	12.1%	10.5%	10.3%	6.8%	21.1%	13.3%	15.3%	11.8%
Chronic obstructive pulmonary disease (COPD)	12.5%	10.0%	11.1%	7.1%	20.1%	13.6%	16.7%	10.3%
Colorectal cancer (Female)	0.1%	0.2%	0.2%	0.4%	0.3%	0.4%	0.5%	0.8%

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 Illinois, 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+)
Colorectal cancer (Male)	0.1%	0.1%	0.1%	0.3%	0.4%	0.3%	0.6%	0.9%
Cystic fibrosis	0.4%	0.4%	0.3%	0.4%	0.3%	0.2%	0.2%	0.2%
Deafness or hearing impairment	3.0%	1.7%	1.7%	2.6%	5.5%	2.6%	2.4%	2.8%
Depression	30.6%	25.0%	27.3%	11.0%	24.0%	10.0%	11.3%	8.7%
Diabetes	27.4%	25.7%	27.6%	16.2%	41.3%	30.9%	34.2%	24.6%
Endometrial cancer (Female)	0.0%	0.0%	0.1%	0.2%	0.1%	0.1%	0.1%	0.2%
Epilepsy	9.4%	4.7%	4.4%	9.8%	3.8%	1.5%	1.6%	1.0%
Glaucoma	4.4%	4.2%	3.6%	2.6%	9.7%	8.2%	7.4%	11.4%
Heart failure	15.1%	12.5%	12.0%	10.5%	37.6%	22.6%	24.9%	16.6%
Hip fracture	0.3%	0.1%	0.1%	0.2%	2.2%	0.6%	0.9%	1.0%
Hyperlipidemia	27.5%	27.0%	28.0%	9.0%	38.2%	37.7%	37.4%	45.5%
Hypertension	40.5%	39.0%	40.6%	20.1%	71.0%	59.1%	59.0%	59.0%
Intellectual disability	11.8%	2.0%	2.2%	14.4%	1.8%	0.1%	0.2%	0.0%
Ischemic heart disease	18.6%	18.1%	20.0%	8.8%	44.8%	33.4%	36.8%	32.6%
Learning disability	0.3%	0.1%	0.0%	5.0%	0.0%	0.0%	0.0%	0.0%
Lung cancer (Female)	0.1%	0.1%	0.2%	0.6%	0.2%	0.2%	0.5%	0.5%
Lung cancer (Male)	0.1%	0.1%	0.2%	0.4%	0.4%	0.5%	0.6%	0.7%
Mobility disability	5.8%	2.9%	2.4%	5.6%	7.4%	3.2%	3.2%	2.0%
Multiple sclerosis	1.8%	1.3%	1.3%	1.0%	0.4%	0.2%	0.2%	0.2%
Muscular dystrophy	0.2%	0.2%	0.1%	0.4%	0.0%	0.0%	0.0%	0.0%
Osteoporosis	2.6%	2.0%	1.8%	0.9%	9.8%	7.0%	5.8%	7.0%
Other developmental disorder	7.8%	0.8%	1.3%	15.8%	0.7%	0.0%	0.1%	0.0%
Personality disorder	3.4%	2.2%	2.3%	2.2%	0.6%	0.2%	0.1%	0.1%
Post-traumatic stress disorder (PTSD)	1.7%	1.4%	1.5%	0.9%	0.2%	0.1%	0.1%	0.0%
Prostate cancer (Male)	0.1%	0.2%	0.2%	0.3%	1.3%	1.3%	2.0%	4.6%
Rheumatoid osteo-arthritis	21.0%	20.2%	22.2%	7.1%	41.4%	33.0%	31.7%	29.2%
Schizophrenia	19.5%	11.6%	12.6%	15.8%	11.7%	2.2%	2.6%	1.7%
Spina bifida	0.7%	0.3%	0.3%	1.5%	0.1%	0.0%	0.0%	0.1%
Spinal injury	0.8%	0.2%	0.2%	0.9%	0.3%	0.2%	0.1%	0.2%
Stroke	3.3%	2.4%	2.5%	2.6%	9.7%	4.8%	4.8%	4.1%
Tobacco use	17.2%	15.2%	16.6%	8.2%	5.3%	4.8%	7.2%	2.9%
Visual impairment	1.5%	1.0%	1.0%	0.8%	2.8%	1.9%	2.1%	0.6%

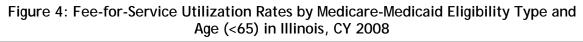
Source: CY 2008 MMLEADS data for FFS enrollees in Medicare and/or Medicaid

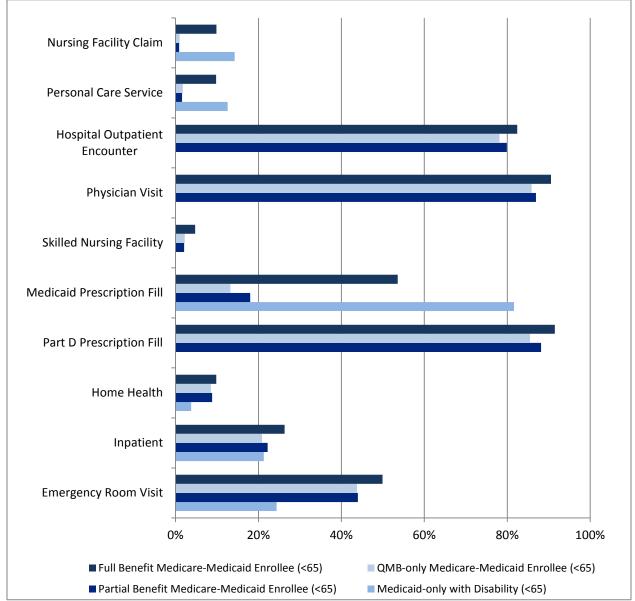
<u>Note</u>: While "QMB-only" Medicare-Medicaid enrollees are technically considered "Partial Benefit," in this Report QMBonly is presented separately from "Partial Benefit," with the latter referring only to all *other* types of Partial Benefit Medicare-Medicaid enrollees: Specified Low-income Medicare 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 beneficiaries under age 65 with disability. Among all eligibility types under age 65, Full Benefit enrollees under 65 utilize slightly more services than the other Medicare-Medicaid enrollee cohorts across all categories and also have higher rates than Medicaid-only enrollees with disability with the exception of Medicaid prescription fills.





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

As shown in **Figure 5**, Medicare-Medicaid enrollees 65 and over clearly utilize services at higher rates than Medicare-only, with the possible exception of physician visits, hospital outpatient encounters, and skilled nursing facilities where Medicare-only enrollees have similar utilization rates. Full Benefit enrollees 65 and over utilize more services than other Medicare-Medicaid enrollee cohorts for all categories except home health.

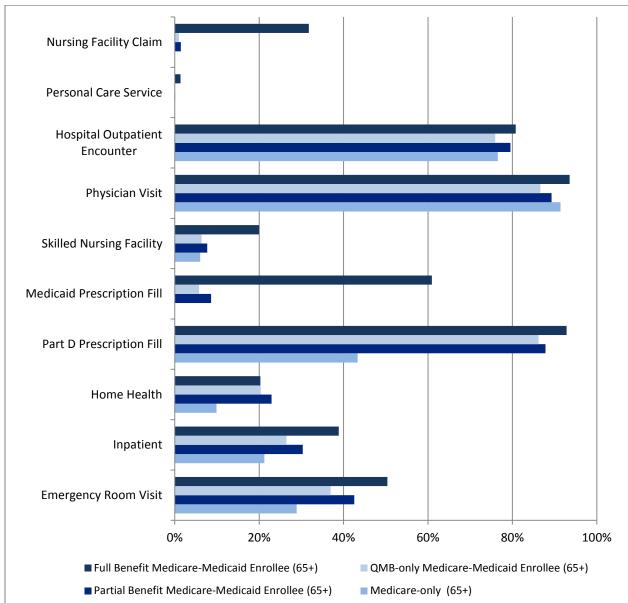


Figure 5: Fee-for-Service Utilization Rates by Medicare-Medicaid Eligibility Type and Age (65+) in Illinois, CY 2008

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

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

Table 3 and **Figure 6** show the per capita expenditures for each of the eligibility/age subgroups. Full-Benefit Medicare-Medicaid enrollees 65 and over incur close to \$32,000 in per capita expenditures, over twice the per capita expenditures of QMB-only enrollees 65 and over (\$13,000) and Partial Benefits beneficiaries 65 and over (approximately \$14,000) and 3.5 times more than Medicare-only beneficiaries (approximately \$9,000). Combined Medicare and Medicaid per capita expenditures for Full Benefit Medicare-Medicaid enrollees under 65 are also significantly higher (\$29,000) than the other groups under 65, over twice the per capita expenditures of QMBonly enrollees (\$13,000) and Partial Benefit enrollees (approximately \$14,000). Medicaid-only with disability enrollees have similar per capita expenditures (approximately \$28,000).

	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)	105,040	\$17,381	100,832	\$11,849	\$29,230
QMB-only (<65)	3,806	\$12,359	3,468	\$813	\$13,172
Partial Benefit (<65)	9,416	\$12,868	8,907	\$1,178	\$14,046
Medicaid-only with disability (<65)			54,149	\$27,688	\$27,688
Full Benefit (65+)	115,787	\$20,010	129,174	\$11,576	\$31,586
QMB-only (65+)	6,966	\$12,254	7,278	\$821	\$13,075
Partial Benefit (65+)	13,098	\$13,107	13,628	\$476	\$13,582
Medicare-only (65+)	1,111,360	\$8,844			\$8,844

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

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

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 enrollee cohorts with Medicare expenditures responsible for over 60% of the total. Medicaid spending on Medicaid-only enrollees with disability (under 65) is much higher than the Medicaid expenditure total for Full Benefit enrollees under 65.

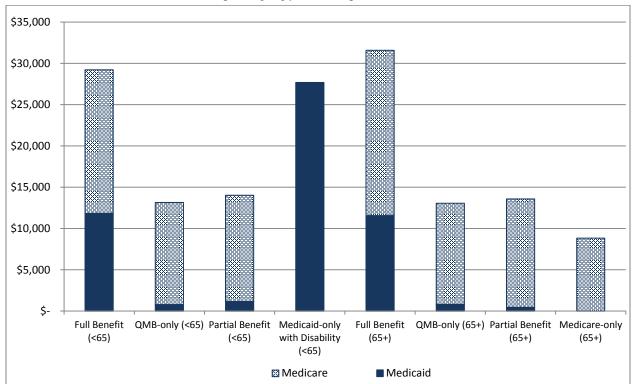


Figure 6: Per Capita Annual Expenditures among Fee-for-Service Enrollees by Medicare-Medicaid Eligibility Type and Age in Illinois, CY 2008

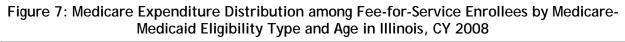
Source: CY 2008 MMLEADS data for FFS enrollees in Medicare and/or Medicaid

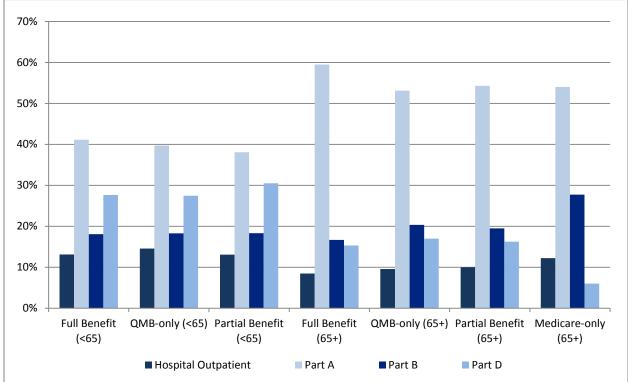
1. Medicare Expenditures

Total Medicare expenditures among FFS Medicare enrollees are 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 enrollee that are 65 and over have a higher percentage of their total Medicare expenditures that are comprised of Part A claims (53% to 60%) than those under 65 (38% to 41%). In the under 65 segment, Part D makes a higher proportion of Medicare expenditures (28% to 31%) compared to Medicare-Medicaid enrollees 65 and over (15% to 17%).

Among Medicare-Medicaid enrollees 65 and over, Medicare Part B comprise a smaller proportion of Medicare expenditures, particularly for Full Benefit enrollees 65 and over where they represent almost 17%, much lower than for Medicare-only beneficiaries (approximately 28%). By contrast, Part D expenditures comprise a higher proportion for Medicare-Medicaid enrollees 65 and over (between 15% and 17%) compared to Part D expenditures for Medicare-only beneficiaries which account for 6%.



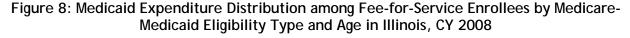


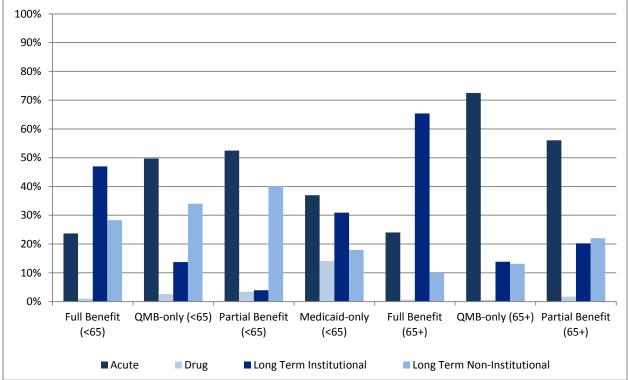
Source: CY 2008 MMLEADS data for FFS enrollees in Medicare

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 Full Benefit enrollees, the largest segment of Medicaid expenditures are attributed to long-term institutional care settings (47% among those under 65 and 65% for those 65 and over). Acute services accounted for the greatest proportion of Medicaid expenditures among QMB-only and Partial Benefit enrollees of all ages (from 73% among QMB-only enrollees 65 and over and up to 50% among QMB-only enrollees under 65). Medicaid-only enrollees with disabilities also have a high proportion of their spending attributed to acute services (37%) followed by long-term institutional services (31%).





Source: CY 2008 MMLEADS data for FFS enrollees in Medicaid

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
НН	Home Health
НМО	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	n, 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)	124,891	91.5%	84.1%	80.7%		
QMB-only (<65)	4,658	91.6%	81.7%	74.5%		
Partial Benefit (<65)	11,410	93.5%	82.5%	78.1%		
Medicaid-only with Disability (<65)	171,881	31.5%		31.5%		
Full Benefit (65+) 156,171		93.8%	74.1%	82.7%		
QMB-only (65+)	8,952	91.9%	77.8%	81.3%		
Partial Benefit (65+)	17,646	91.9%	74.2%	77.2%		
Medicare-only (65+)	1,414,279	78.6%	78.6%			

Source: CY 2008 MMLEADS data

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**.

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

 Table B-1: Description of Data Sources

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**.

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	

Table B-2: Inclusion of Conditions in Condition Count

Condition	Category used in Condition Count	Comments
Chronic kidney disease	Chronic kidney disease	
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	

Condition	Category used in Condition Count	Comments
Other developmental disorder	Intellectual & developmental disabilities	Counted as part of a condition including autism, learning disabilities, intellectual & related disabilities, and other developmental delays
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-three percent of the Illinois 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					
	Ambulatory Surgical Center					
Part B	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)					
	01 - Inpatient hospital					
	11 - Outpatient hospital					
	08 - Physician					
	15 - Lab X-ray					
	09 - Dental					
	10 - Other practitioners					
	12 - Clinic					
	19 - Other services					
Acute	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					
	02 - Mental hospital services for the aged					
	04 - Inpatient psychiatric facility for individuals under the age of 21					
Long Term Care Institutional	05 - Intermediate care facility (ICF) for individuals with intellectual disabilities					
	07 - Nursing facility services (NFS) - all other					
	33 - Rehabilitative services, waiver					
	13 - Home health					
	35 - Hospice benefits					
Long Term Care Non-Institutional	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, Illinois, CY 2008

	Medicare Managed Care		Medicare Fee-for-Service		Not all Months Alive Medicare Fee-for-Service		Total Medicare
	Number	Percent	Number	Percent	Number	Percent	Denominator
Full Benefit (<65)	7,018	5.6%	105,040	84.1%	12,833	10.3%	124,891
QMB-only (<65)	547	11.7%	3,806	81.7%	305	6.5%	4,658
Partial Benefit (<65)	1,387	12.2%	9,416	82.5%	607	5.3%	11,410
Full Benefit (65+)	12,439	8.0%	115,787	74.1%	27,945	17.9%	156,171
QMB-only (65+)	1,743	19.5%	6,966	77.8%	243	2.7%	8,952
Partial Benefit (65+)	4,188	23.7%	13,098	74.2%	360	2.0%	17,646
Medicare-only (65+)	142,902	10.1%	1,111,360	78.6%	160,017	11.3%	1,414,279

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

	Medicaid Managed Care		Medicaid Fee-for- Service		Not all Months Alive Medicaid Fee-for- Service		Total Medicaid
	Number	Percent	Number	Percent	Number	Percent	Denominator
Full Benefit (<65)	7,832	6.3%	100,832	80.7%	16,227	13.0%	124,891
QMB-only (<65)	150	3.2%	3,468	74.5%	1,040	22.3%	4,658
Partial Benefit (<65)	134	1.2%	8,907	78.1%	2,369	20.8%	11,410
Medicaid-only with disability (<65)	96,994	56.4%	54,149	31.5%	20,738	12.1%	171,881
Full Benefit (65+)	4,208	2.7%	129,174	82.7%	22,789	14.6%	156,171
QMB-only (65+)	45	0.5%	7,278	81.3%	1,629	18.2%	8,952
Partial Benefit (65+)	34	0.2%	13,628	77.2%	3,984	22.6%	17,646