Medicare-Medicaid Enrollee State Profile

Kentucky - 2008

Centers for Medicare & Medicaid Services

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I. Introduction

This report focuses on the State of Kentucky 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 eligibles) are the core of the overall study. This report provides basic counts and demographic information on the 174,535 Medicare-Medicaid enrollees in the State of Kentucky. In addition, for a smaller FFS sample of Medicare-Medicaid enrollees in Kentucky, 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 (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 Kentucky (61%), although they account for a smaller proportion than at the national level (77%). QMB-only and Partial Benefit enrollees make up a significantly larger proportion of the total Medicare-Medicaid enrollees in Kentucky (22% and 17%, respectively) than at the national level (11% and 12%, respectively).

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

	State	e of Kentucky	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	105,505	60.8%	6,984,789	76.8%
QMB-only Medicare-Medicaid Enrollee	38,365	22.0%	984,558	10.8%
Partial Benefit Medicare-Medicaid Enrollee	29,665	17.2%	1,126,647	12.4%
TOTAL Medicare-Medicaid Dual Enrollees	173,535	100%	9,095,994	100%

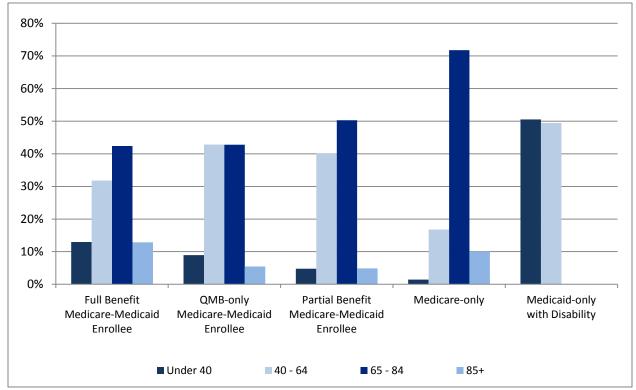
Source: CY 2008 MMLEADS data

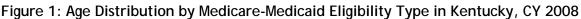
<u>Note</u>: While "QMB-only" Medicare-Medicaid enrollees are technically considered "Partial Benefit," in this Report QMBonly is presented separately from "Partial Benefit," with the latter referring only to all *other* types of Partial Benefit Medicare-Medicaid enrollees: Specified Low-income Medicare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

B. Demographic Characteristics

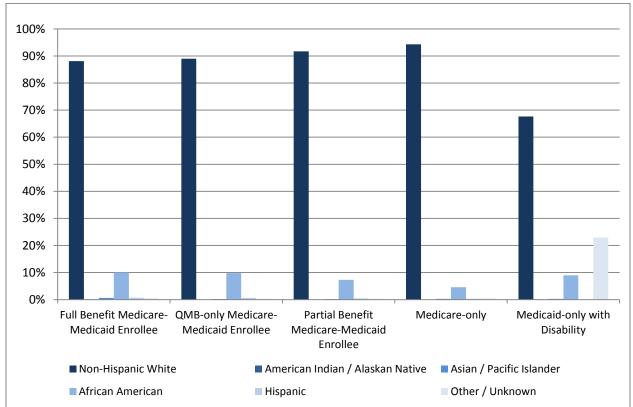
Age and race characteristics were examined within the study cohorts. An analysis of age patterns shows that Medicare-Medicaid enrollees are predominantly in the 40-64 and 65-84 age groups (74% to 90% of the cohorts' populations), although we also find that the Full Benefit group has 13% of its population in the under 40 segment. As expected, the majority of Medicare-only enrollees are 65 and over, while Medicaid-only enrollees with disabilities are 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 enrollee cohorts, at over 88% of each group (**Figure 2**). Across all Medicare-Medicaid dually enrolled groups, African American beneficiaries represent the next-largest group yet comprise no more than 10% of any cohort. African American beneficiaries make up 9% of the Medicaid-only with disabilities cohort. Over 94% of the Medicare-only cohort is comprised of White beneficiaries.





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 number of the Medicare-Medicaid enrollees present with at least one condition, with figures ranging from 76% for Partial Benefit enrollees under 65 to 90% for Full Benefit enrollees 65 and over. These rates are significantly higher than the Medicare-only 65 and over population, of which approximately 68% of individuals have at least one condition. Medicaid-only enrollees with disability have the lowest proportion of individuals with at least one condition, at 61%.

Among Medicare-Medicaid enrollees that are under 65, all three cohorts present with similar levels of comorbidities, ranging from 29% to 35% having three or more conditions. Full Benefit enrollees under age 65 have slightly higher rates with five or more conditions (over 11%) compared to the other Medicare-Medicaid enrollees in the under 65 cohorts (7% to 8%). Among Medicaid-only enrollees with disability 16% have three or more conditions, and 3% have five or more conditions.

Those who are Full Benefit and 65 and over have a different pattern than the other cohorts, with 27% presenting with five or more conditions and 60% with three or more conditions. Among enrollees 65 and over, Full Benefit rates of five or more conditions are approximately 2.4 and three times as high as QMB-only and Partial Benefit enrollees, respectively, and 4.5 times as high as Medicare-only (6%). When considering three or more comorbidities, Full Benefit enrollees 65 and over have a rate approximately 1.5 times as high as the other Medicare-Medicaid cohorts 65 and over and 2.3 times as high as Medicare-only enrollees.

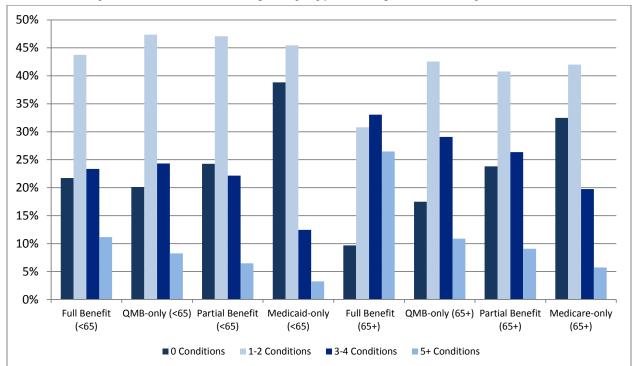


Figure 3: Number of Physical and Mental Health Conditions among Fee-for-Service Enrollees by Medicare-Medicaid Eligibility Type and Age in Kentucky, CY 2008

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

Table 2 shows prevalence rates for a wider set of physical health, mental health, and disabilityrelated 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 notable differences between the under 65 and 65 and over groups. This condition has higher prevalence among Full Benefit enrollees 65 and over (nearly 74%) than any other age/enrollee cohort, though hypertension prevalence exceeds 60% in every 65 and over cohort. Beyond hypertension, there are a number of conditions that affect at least 25% of individuals in certain cohorts. These conditions include diabetes and hyperlipidemia (across all cohorts except Medicaid-only); ischemic heart disease and rheumatoid osteo-arthritis (in all 65 and over cohorts); and depression (in all under 65 cohorts except Medicaid-only). Other conditions that are prevalent among Full Benefit enrollees 65 and over include Alzheimer's and related disorders (40%), anemia (42%), chronic obstructive pulmonary disease (32%), and heart failure (40%).

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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	7.7%	6.9%	5.7%	4.4%	15.0%	9.7%	8.5%	7.7%
Acute myocardial infarction	0.7%	0.7%	0.8%	0.0%	2.3%	1.6%	1.4%	1.2%
Alzheimer's disease and Alzheimer's related disorders	4.6%	1.8%	1.5%	1.0%	40.4%	9.0%	8.0%	9.1%
Anemia	17.5%	15.8%	14.0%	8.0%	41.5%	24.6%	22.7%	20.7%
Anxiety	29.0%	29.4%	23.3%	19.7%	21.7%	13.6%	12.1%	7.2%
Asthma	8.1%	8.4%	6.2%	6.1%	5.3%	5.4%	4.6%	3.7%
Atrial fibrillation	1.4%	1.6%	1.9%	0.6%	11.0%	8.1%	7.3%	8.2%
Attention deficit hyperactivity disorder (ADHD)	4.4%	1.8%	1.2%	13.8%	2.2%	0.2%	0.2%	0.2%
Autism	0.8%	0.2%	0.1%	2.6%	0.0%	0.0%	0.0%	0.0%
Benign prostatic hyperplasia	1.4%	1.5%	2.0%	0.3%	4.2%	3.2%	3.7%	6.2%
Bipolar disorder	13.0%	12.0%	9.2%	10.5%	3.5%	1.2%	0.9%	0.7%
Brain injury	1.0%	0.5%	0.4%	0.4%	0.5%	0.2%	0.2%	0.2%
Breast cancer (Female)	0.3%	0.5%	0.8%	1.2%	0.6%	1.0%	1.2%	2.4%
Breast cancer (Male)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cataract	5.4%	4.9%	4.6%	1.9%	14.7%	17.5%	14.6%	22.4%
Cerebral palsy	3.3%	0.4%	0.3%	3.0%	0.6%	0.1%	0.0%	0.0%
Chronic kidney disease	9.3%	8.7%	8.8%	3.9%	24.2%	15.4%	14.5%	12.3%
Chronic obstructive pulmonary disease (COPD)	18.6%	20.0%	18.4%	10.7%	31.6%	24.7%	22.2%	13.8%
Colorectal cancer (Female)	0.1%	0.1%	0.2%	0.4%	0.3%	0.4%	0.5%	0.7%
Colorectal cancer (Male)	0.1%	0.1%	0.2%	0.3%	0.4%	0.4%	0.5%	0.9%

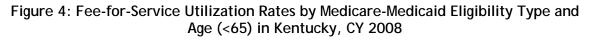
Table 2: Rate of Physical and Mental Health Conditions, and Conditions Related to Intellectual, Development and Physical Disabilities among Fee-for-Service Enrollees by Medicare-Medicaid Eligibility Type and Age in Kentucky, CY 2008

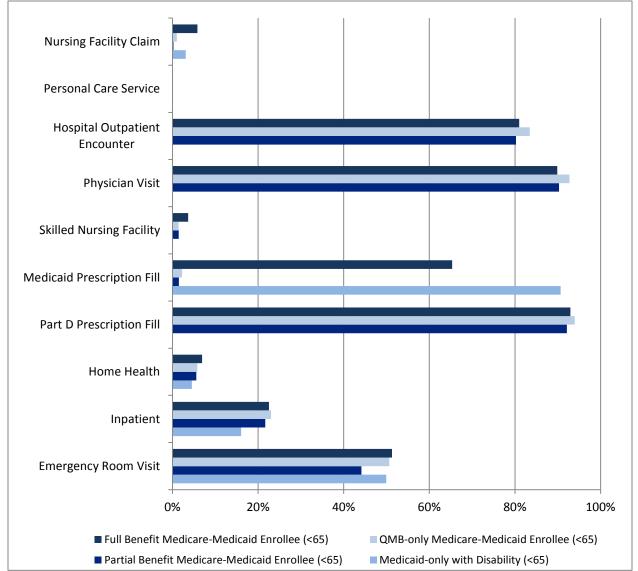
Condition	Full Benefit (<65)	QMB- only (<65)	Partial Benefit (<65)	Medicaid- only (<65)	Full Benefit (65+)	QMB- only (65+)	Partial Benefit (65+)	Medicare -only (65+)
Cystic fibrosis	0.6%	0.3%	0.3%	0.5%	0.4%	0.2%	0.2%	0.2%
Deafness or hearing impairment	1.6%	1.3%	1.1%	1.4%	2.8%	2.2%	1.6%	2.2%
Depression	30.6%	32.6%	27.4%	12.8%	26.2%	13.0%	11.6%	9.6%
Diabetes	26.2%	28.4%	29.7%	14.7%	40.7%	34.4%	33.2%	25.8%
Endometrial cancer (Female)	0.0%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.2%
Epilepsy	9.0%	4.2%	3.3%	6.0%	4.0%	1.3%	1.2%	0.9%
Glaucoma	3.2%	3.2%	2.4%	1.6%	5.8%	7.0%	5.3%	8.6%
Heart failure	11.7%	11.7%	12.4%	5.0%	40.0%	24.9%	22.6%	16.7%
Hip fracture	0.3%	0.2%	0.2%	0.1%	3.4%	1.1%	0.9%	1.0%
Hyperlipidemia	31.0%	36.3%	36.1%	14.3%	39.6%	46.9%	42.0%	46.6%
Hypertension	42.3%	48.3%	47.8%	21.5%	73.8%	68.0%	60.3%	61.2%
Intellectual disability	12.3%	1.5%	1.1%	6.2%	2.2%	0.2%	0.1%	0.0%
Ischemic heart disease	21.3%	25.5%	27.4%	11.0%	48.8%	41.5%	40.4%	34.6%
Learning disability	0.3%	0.0%	0.0%	7.7%	0.1%	0.0%	0.0%	0.0%
Lung cancer (Female)	0.2%	0.2%	0.2%	0.5%	0.3%	0.4%	0.5%	0.6%
Lung cancer (Male)	0.1%	0.2%	0.2%	0.4%	0.6%	0.7%	0.7%	0.9%
Mobility disability	4.6%	1.9%	1.8%	1.8%	7.0%	2.0%	1.7%	1.6%
Multiple sclerosis	1.3%	1.1%	1.0%	0.6%	0.3%	0.2%	0.1%	0.2%
Muscular dystrophy	0.3%	0.1%	0.2%	0.2%	0.1%	0.0%	0.0%	0.0%
Osteoporosis	2.8%	2.3%	1.8%	0.6%	10.7%	7.6%	5.6%	6.6%
Other developmental disorder	0.4%	0.1%	0.0%	3.1%	0.1%	0.0%	0.0%	0.0%
Personality disorder	4.2%	3.6%	2.6%	1.8%	0.9%	0.2%	0.1%	0.1%
Post-traumatic stress disorder (PTSD)	3.2%	3.3%	2.2%	2.5%	0.2%	0.2%	0.1%	0.1%
Prostate cancer (Male)	0.0%	0.1%	0.2%	0.2%	1.1%	1.4%	1.7%	3.8%
Rheumatoid osteo-arthritis	23.4%	29.5%	25.8%	10.2%	39.4%	33.5%	29.1%	29.2%
Schizophrenia	12.0%	7.6%	5.6%	5.6%	15.2%	2.8%	2.3%	2.1%
Spina bifida	0.8%	0.2%	0.2%	1.2%	0.2%	0.1%	0.1%	0.1%
Spinal injury	0.8%	0.3%	0.3%	0.3%	0.5%	0.2%	0.2%	0.2%
Stroke	3.1%	2.3%	2.1%	1.2%	10.2%	4.1%	4.0%	3.9%
Tobacco use	25.0%	28.2%	23.1%	15.7%	10.2%	11.6%	9.7%	4.8%
Visual impairment	1.1%	0.4%	0.4%	0.4%	2.2%	0.6%	0.7%	0.4%

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

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. Among all eligibility types under age 65, QMB-only enrollees utilize more services than the other Medicare-Medicaid enrollee cohorts for the most highly utilized services, while Full Benefit enrollees have the highest utilization rate for the remaining services. One exception is Medicaid prescription fills, for which Medicaid-only enrollees with disability have the highest utilization rate.





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: MAX data included no information on utilization of Personal Care Services for 2008.

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

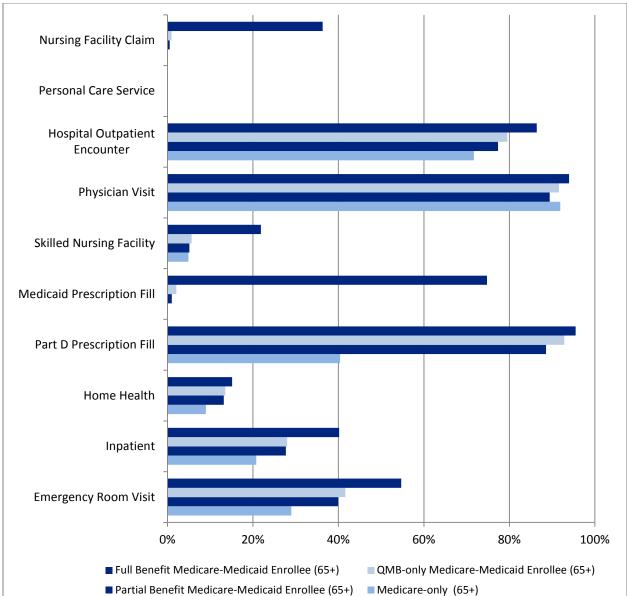


Figure 5: Fee-for-Service Utilization Rates by Medicare-Medicaid Eligibility Type and Age (65+) in Kentucky, CY 2008

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").

Note: MAX data included no information on utilization of Personal Care Services for 2008.

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 65 and over incur approximately \$38,000, approximately three times higher per capita expenditures than QMB-only and Partial Benefit enrollees 65 and over and over 4.6 times as high as per capita expenditures for Medicare-only enrollees.

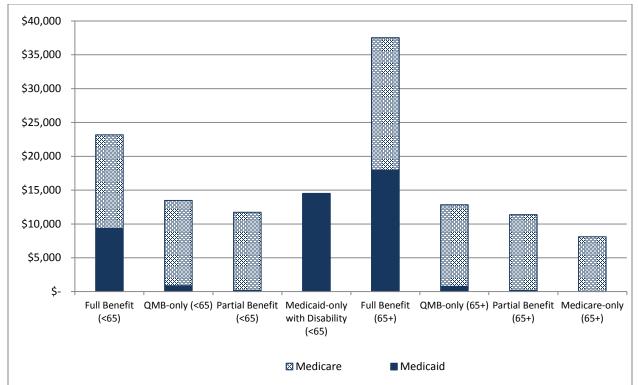
Among the under 65, Full Benefit enrollees spend just over \$23,000, just under two times the expenditures of QMB-only and Partial Benefit enrollees and 1.6 times those of Medicaid-only with disability.

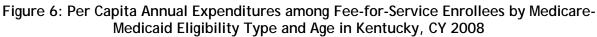
	Number of Medicare FFS Enrollees	Medicare Per Capita Expenditures	Number of Medicaid FFS Enrollees	Medicaid Per Capita Expenditures	Total Per Capita Expenditures
Full Benefit (<65)	36,480	\$13,834	32,672	\$9,337	\$23,170
QMB-only (<65)	17,415	\$12,619	13,443	\$859	\$13,478
Partial Benefit (<65)	10,981	\$11,565	9,789	\$141	\$11,706
Medicaid-only with disability (<65)			70,495	\$14,497	\$14,497
Full Benefit (65+)	44,516	\$19,587	43,717	\$17,941	\$37,528
QMB-only (65+)	16,493	\$12,051	14,999	\$769	\$12,820
Partial Benefit (65+)	13,271	\$11,218	13,188	\$154	\$11,372
Medicare-only (65+)	364,481	\$8,091			\$8,091

Table 3: Total Fee-for-Service Medicaid and Medicare Expenditures by Medicare-Medicaid Eligibility Type and Age Category in Kentucky, 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 65 and over have significantly higher expenditures than all other Medicare-Medicaid cohorts with Medicare expenditures responsible for over 50% of the total spend.





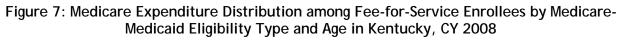
Source: CY 2008 MMLEADS data for FFS enrollees in Medicare and/or Medicaid

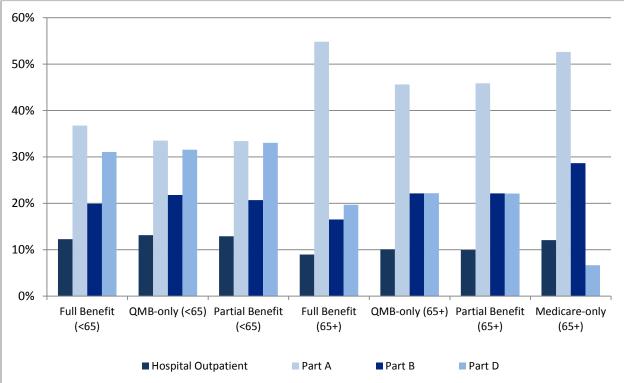
1. Medicare Expenditures

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 (46% to 55%) than do those under 65, which range from 33% to 37%. In the under 65 segment, Part D makes up a higher proportion of total Medicare expenditures (31% to 33%) compared to Medicare-Medicaid enrollees 65 and over (20% to 22%).

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 under 17% of total expenditures, much lower than Medicare-only enrollees (close to 29%). By contrast, Medicare Part D expenditures comprise a higher proportion of Medicare-Medicaid enrollee 65 and over expenditures (20% to 22%) compared to Part D expenditures for Medicare-only enrollees, which account for just 7%.



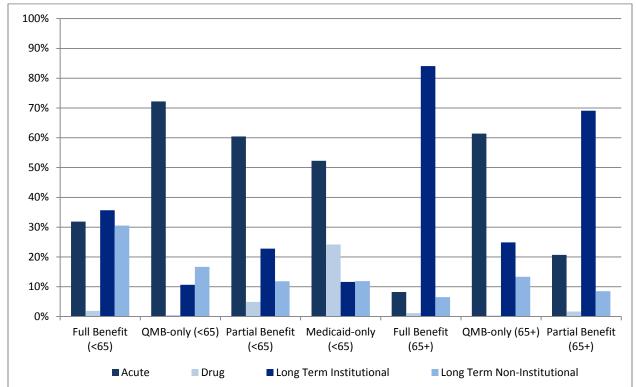


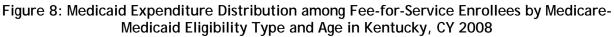
Source: CY 2008 MMLEADS data for FFS enrollees in Medicare

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**.

Expenditures among Medicare-Medicaid enrollees vary by age and eligibility type. Among Full Benefit enrollees, long term institutional services account for 84% of spending for those 65 and over, compared to 36% for those under 65. Conversely, acute care makes up 8% of expenditures for Full Benefit enrollees 65 and over and 32% for those under 65. Similarly, among Partial Benefit enrollees, 21% of expenditures are attributable to acute care for those 65 and over and 61% for those under 65, while long term institutional services make up 69% of expenditures for Partial Benefit enrollees 65 and over and 23% for those under 65. QMB-only enrollees are a more consistent group, with acute care comprising the largest area of expenditure for all ages (61% to 72%), although the next-highest group is long term non-institutional care for those under 65 and long term institutional care for those 65 and over. Among Medicaid-only with disability, acute services are responsible for over 50% of the total Medicaid expenditures.





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,	CY 2008
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		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 criteriaExcludes 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	n as Percent of all Enrollees b	y Enrollee Type	
Full Benefit (<65)	47,227	81.8%	77.2%	69.2%
QMB-only (<65)	19,860	90.9%	87.7%	67.7%
Partial Benefit (<65)	13,303	91.2%	82.5%	73.6%
Medicaid-only with Disability (<65)	144,254	48.9%		48.9%
Full Benefit (65+) 58,278 85.		85.9%	76.4%	75.0%
QMB-only (65+)	18,505	94.4%	89.1%	81.1%
Partial Benefit (65+)	16,362	93.9%	81.1%	80.6%
Medicare-only (65+)	483,560	75.4%	75.4%	

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	
Chronic kidney disease	Chronic kidney disease	

Table B-2: Inclusion of Conditions in Condition Count

	Cotogomy used in	
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
Personality disorder	Personality disorder	

Condition	Category used in Condition Count	Comments
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-seven percent of the Kentucky 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 Service	es
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Medicare Service Type	Included Services					
	Community Mental Health Center					
	End Stage Renal Disease					
	Other Hospital Outpatient					
Hospital Outpatient	Other Skilled Nursing Facility					
	Outpatient Clinic					
	Outpatient Prospective Payment Schedule					
	Outpatient Therapy					
	Home Health					
	Hospice					
Part A	Inpatient					
FaltA	Other Inpatient (Inpatient Psychiatric Facility)					
	Other Post Acture Care (Long Term Care, Inpatient Rehabilitation Facility)					
	Skilled Nursing Facility					
	Ambulatory Surgical Center					
	Durable Medical Equipment					
	Imaging					
Part B	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						
A A	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						
	51 - Durable medical equipment (DME) and supplies (including emergency response systems and home modifications						
Long Term Care Non-Institutional	30 - Personal care services						
-	52 - Residential care						
	54 - Adult day care						
	26 - Transportation services						
	31 - Targeted case management						
	38 - Private duty nursing						
	20 - Capitated payments to HMO or HIO plan						
Managed Care	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, Kentucky, CY 2008

	Medicare Managed Care			licare -Service	M	Months Alive edicare for-Service	Total Medicare
	Number	Percent	Number	Percent	Number	Percent	Denominator
Full Benefit (<65)	7,106	15.0%	36,480	77.2%	3,641	7.7%	47,227
QMB-only (<65)	1,107	5.6%	17,415	87.7%	1,338	6.7%	19,860
Partial Benefit (<65)	1,551	11.7%	10,981	82.5%	771	5.8%	13,303
Full Benefit (65+)	6,373	10.9%	44,516	76.4%	7,389	12.7%	58,278
QMB-only (65+)	1,488	8.0%	16,493	89.1%	524	2.8%	18,505
Partial Benefit (65+)	2,756	16.8%	13,271	81.1%	335	2.0%	16,362
Medicare-only (65+)	76,232	15.8%	364,481	75.4%	42,847	8.9%	483,560

Appendix F: Medicaid Fee-for-Service Enrollee Count by Medicare-Medicaid Eligibility Type Examined in the Medicaid Expenditure Analysis, Kentucky, 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)	9,648	20.4%	32,672	69.2%	4,907	10.4%	47,227
QMB-only (<65)	315	1.6%	13,443	67.7%	6,102	30.7%	19,860
Partial Benefit (<65)	149	1.1%	9,789	73.6%	3,365	25.3%	13,303
Medicaid-only with disability (<65)	55,782	38.7%	70,495	48.9%	17,977	12.5%	144,254
Full Benefit (65+)	8,308	14.3%	43,717	75.0%	6,253	10.7%	58,278
QMB-only (65+)	59	0.3%	14,999	81.1%	3,447	18.6%	18,505
Partial Benefit (65+)	19	0.1%	13,188	80.6%	3,155	19.3%	16,362