

**Analysis of Medical
Expenditures and Service Use
of Medicaid Buy-In
Participants, 2002 - 2005**

Final Report

October 29, 2009

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All statements and information presented in this report are the sole responsibility of the authors and should not be interpreted as representing the views or any federal or state agency.

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EXECUTIVE SUMMARY

Congress established the Medicaid Buy-In program when it passed the Balanced Budget Act (BBA) of 1997 and the Ticket to Work and Work Incentives Improvement Act (Ticket Act) of 1999. Under the program, so named because participants “buy into” Medicaid by paying monthly premiums or co-payments, states can offer Medicaid coverage to workers with disabilities whose income and assets would otherwise make them ineligible for Medicaid. To enroll in the program, individuals must have a disability as defined by the Social Security Administration (SSA) and meet certain work and financial eligibility requirements.

Since its inception, the Medicaid Buy-In program has offered state policymakers an important option for providing health care coverage to working adults with disabilities. More than 200,000 people have enrolled in the program at some point between 1997 and 2007, and as a result, have access to health services covered by their state Medicaid plans. Most Buy-In participants are also covered by Medicare because they receive Social Security Disability Insurance (SSDI) payments. Analyzing the Medicaid and Medicare expenditures of Buy-In participants offers useful information to policymakers and program administrators who are interested in monitoring spending trends for future budget and outreach planning. It can also foster a better understanding of how service needs vary among Buy-In participants. This information can help states to ensure their Buy-In programs will continue to meet the on-going needs of workers with disabilities.

In this report, we specifically examine the following questions:

- What were the annual and per member, per month (PMPM) expenditures of Buy-In participants enrolled between 2002 and 2005?
- How did expenditures and service use in 2005 vary by type of service and by participant characteristic—nationwide and by state?
- Among those first-time Buy-In participants who had prior Medicaid and/or Medicare coverage, how did their expenditures change around the time of Buy-In enrollment?

A. Summary of Key Findings

1. Expenditures of Buy-In Participants

Combined Medicaid and Medicare inflation-adjusted expenditures¹ for Buy-In participants nationwide increased from \$887 million to \$1.9 billion between 2002 and 2005, with nearly three quarters of services paid for by Medicaid. This growth in total expenditures reflects increasing Medicaid Buy-In program enrollment, which more than doubled over this same period—rising from 51,152 to 107,687 individuals.

¹ All expenditures were adjusted to 2005 dollars using the Consumer Price Index (CPI) for all goods and services.

Although total Medicaid expenditures rose as enrollment increased, Medicaid PMPM costs were relatively stable, varying between \$1,287 and \$1,161 depending on the year. Medicare PMPM costs reflect a somewhat different pattern. For dual Buy-In participants, their Medicare PMPM costs rose from \$493 in 2002 to \$608 in 2004, before falling back to \$597 in 2005.²

Dual Buy-In participants nationwide had higher PMPM Medicaid expenditures than non-duals in each year between 2002 and 2005. Duals represent 75 percent of Buy-In participants nationwide, and are more prevalent than in the broader population (41 percent) of all disabled Medicaid enrollees. This finding suggests that dual participants may have more severe conditions or different service needs than non-duals. However, in three-fourths of Buy-In states, Medicaid PMPM expenditures were lower among duals than non-duals. Duals can have lower Medicaid expenditures than non-duals because Medicare is the first payer for many services, such as inpatient hospital care.

We also compared Buy-In participants with other working-age disabled Medicaid enrollees and found that Buy-In participants in 2005 incurred lower annual Medicaid expenditures per enrollee than other adult disabled Medicaid enrollees. This difference was observed nationwide and in most states with a Buy-In program, and suggests that Buy-In participants who are working may require fewer services or a less expensive mix of services than other disabled Medicaid enrollees.

States varied considerably in their 2005 Medicaid PMPM expenditures from slightly more than \$600 to more than \$3,600 in 2005 (the national average was \$1,224). The three states with the highest PMPM expenditures were Wyoming (\$3,623), Indiana (\$2,163), and Minnesota (\$2,104). State differences in PMPM Medicaid expenditures may be due to variation in program eligibility criteria, participant mix of characteristics, and scope of covered services across states.

2. Variation in Expenditures by Type of Service and Participant Characteristic

Prescription drugs accounted for the largest share of total Medicaid spending (36 percent or \$436 in PMPM expenditures) and were used by more participants than any other service (91 percent). This finding is based on 2005 data, one year before Medicare Part D was implemented. Community long-term care (LTC) services, which include personal assistance services (PAS), represented the second largest share of total Medicaid spending (22 percent or \$270 PMPM Medicaid expenditures).

Inpatient hospital expenditures accounted for the largest share of Medicare spending (44 percent or \$264 PMPM expenditures) among dual Buy-In participants in 2005. The second largest category of Medicare spending was Part B carrier services, which include physician visits and lab tests (25 percent or \$151 PMPM expenditures).

Older Buy-In participants who were dual had higher Medicare service use rates and incurred higher Medicare PMPM expenditures than younger participants (\$785 for those 65 years or

² These trends could, in part, be a reflection of changes occurring among overall Medicare and Medicaid populations during the same time period.

older; \$731 for those 51-64 years, \$512 for those 31-50 years, and \$378 for those 30 years or younger). However, adults between 31 and 50 years of age had the highest level of Medicaid PMPM expenditures (\$1,304) in 2005. Participants who were at least 65 years of age had the lowest PMPM Medicaid expenditures and service use rate. This is expected because after turning 65, they became eligible for Medicare, which is the primary payer for inpatient and physician services.

SSDI only beneficiaries were the most likely to use any Medicaid (97 percent) or Medicare service (91 percent), suggesting that SSDI beneficiaries may have greater need for services than other groups of Buy-In participants. Among dual participants who are eligible for both Medicaid and Medicare services, SSDI-only beneficiaries had the second-highest level of PMPM Medicare expenditures (\$629) after persons with no prior history of receiving SSA benefits (\$691), who are mostly 65 years or older.

Individuals with mental retardation or developmental disabilities had the highest Medicaid PMPM expenditures (\$2,124) and service use rate (97 percent), but among duals, incurred the lowest Medicare PMPM expenditures (\$242) in 2005. This finding suggests that differences in the scope of covered services may affect expenditures by type of disabling condition. For example, intermediate care facilities for persons with mental retardation or developmental disabilities are included in Medicaid long-term care services but are not covered by Medicare.

3. Change in Expenditures of First-Time Participants

About one-third of first-time Buy-In participants in 2004 did not have Medicaid coverage in the year prior to enrollment. Average monthly Medicaid expenditures in 2005 for this group of participants were 30 percent lower than for participants with prior Medicaid coverage. This suggests that when states consider expanding Buy-In coverage to those who have not previously been covered by Medicaid, these new enrollees—though representing a new burden on state Medicaid budgets—would not be as costly as persons who migrate from another Medicaid eligibility category in the short term.

Among the remaining first-time participants who had Medicaid coverage in the year prior to Buy-In enrollment, average monthly Medicaid expenditures were 12 percent higher in the year after Buy-In enrollment than in the year before. Among first-time participants who were dually enrolled in the year before and after Buy-In enrollment, average monthly Medicare expenditures increased by 39 percent as well. These findings may reflect typical increases in expenditures as people age or expenditure differences associated with Buy-In enrollment and will require further investigation. Also, although expenditures were higher for these individuals overall, about forty percent of each group had lower Medicaid and Medicare expenditures in 2005 than in 2003, respectively.

Among first-time Buy-In participants who became newly dual in the year during or after Buy-In enrollment, average monthly Medicaid expenditures fell by more than 12 percent. We also found preliminary evidence that some shifting of expenditures from Medicaid to Medicare is occurring for new dual participants. This pattern of shifting expenditures is likely to have increased after 2006, when Medicare began covering prescription drugs under Part D.

B. Implications

Analyzing the Medicaid and Medicare expenditures of Buy-In participants offers a useful snapshot of trends that can help policymakers and program administrators plan future budgets, assess program performance, and improve access to Medicaid services so workers with disabilities can become or remain employed. Our findings have three key implications:

- Total Medicaid and Medicare expenditures will rise as enrollment in the Buy-In program continues to grow. Most of the increase can be attributed to growing enrollment of new participants; a portion of this increase may result from increased Medicaid expenditures for some participants as they age or change the type of services they need. Only a minority of Buy-In participants is new to Medicaid; these new enrollees would require additional budget funding.
- Buy-In participants are less expensive than other adult disabled Medicaid enrollees. Therefore, states without a Buy-In program should consider starting a new one. Also, state policymakers have considerable flexibility in designing or refining Medicaid Buy-In programs. Given the findings in this report, they may wish to consider focusing their programs and outreach toward younger workers with disabilities.
- For dual Buy-In participants, Medicaid PMPM expenditures have remained stable over time, but Medicare costs have steadily increased. Though this trend may not be unique to the Buy-In population, it is particularly consequential because the majority of Buy-In participants are SSDI beneficiaries. This pattern of increasing Medicare expenditures is likely to have continued after Part D was implemented in 2006.

This study is based on information integrated from multiple state and federal data sources including Buy-In participant files provided by the states, Medicaid eligibility and claims files, Medicare claims records, and administrative data from the Social Security Administration (SSA). We reviewed the completeness of all data and communicated with the states to resolve problems in the state finder files when possible. As a result, this study provides the most comprehensive information to date on patterns of Medicaid and Medicare spending among Buy-In participants.

This study also has built a foundation for examining other questions related to Buy-In participant health care use and expenditures. These questions include, for example: To what extent does the increase in Medicaid and Medicare expenditures over time reflect a worsening of health status that is unrelated to employment? What are the characteristics and employment outcomes of Buy-In participants who experience a decrease in expenditures? Answers to these questions may help to further our understanding of how Buy-In participants use the Buy-In program to maintain or increase earnings.

The Centers for Medicare & Medicaid Services (CMS) will continue to monitor participation in the Medicaid Buy-In program. The use of quantitative methods for tracking the medical expenditures, enrollment, and earnings of Buy-In participants and the capacity to integrate information from state and federal administrative data sources will provide CMS and other policymakers with valuable information to help shape programs that improve the employment and health outcomes of workers with disabilities.

I. INTRODUCTION

A. Policy Context

Some adults with disabilities who want to work may be deterred from doing so because their disabling condition makes private health insurance unavailable or unaffordable. Such individuals often turn to public programs, such as Medicaid and Medicare, to obtain coverage for their health care. By qualifying for Social Security Disability Insurance (SSDI) or Supplemental Security Income (SSI), these individuals can gain access to Medicare or Medicaid.³ Regardless of how they obtain public health insurance, many individuals with disabilities who want a job encounter an inherent, though unintended, disincentive to work because an increase in earnings may cause them to lose their health insurance, cash benefits, or both.

In response to this situation, Congress established the Medicaid Buy-In program—a part of the Balanced Budget Act (BBA) of 1997 and the Ticket to Work and Work Incentives Improvement Act (Ticket Act) of 1999. Under the program, so named because participants “buy into” Medicaid by paying monthly premiums or co-payments, states can offer Medicaid coverage to workers with disabilities whose income and assets would otherwise make them ineligible for Medicaid. To enroll in the program, individuals must have a disability as medically defined by the Social Security Administration (SSA) and meet certain work and financial eligibility requirements.

Both the BBA and Ticket Act seek to improve work incentives by allowing individuals with a medically certified physical or mental impairment to keep their Medicaid coverage even if they

³ SSDI beneficiaries can enroll in Medicare after a two-year waiting period; SSI beneficiaries are enrolled in Medicaid automatically in most states. SSDI and SSI beneficiaries receive cash payments. To qualify for these benefits, an individual must have a medically determined physical or mental impairment that has lasted or is expected to last one year or more and demonstrate the inability to engage in substantial gainful activity (SGA), which is a monthly limit on earned income (currently \$980 for non-blind persons or \$11,760 if annualized).

earn more than the established level of substantial gainful activity. But the two programs' criteria for eligibility, in terms of income level and age, are not the same. Under the BBA, states are restricted to a maximum earned income of 250 percent of the federal poverty level (after disregarding certain types of income), but the Ticket Act permits states to establish their own income and resource limits, including the option to have no income limits. And although the Ticket Act restricts participants to working adults between ages 18 and 64, the BBA does not have any such age restrictions (GAO 2003).

States have some flexibility to design their Buy-In programs according to their unique needs and priorities. First, they can decide whether to implement the Buy-In program under the BBA or the Ticket Act. Appendix A provides a list of states with Medicaid Buy-In programs, by authorizing legislation and year of program implementation. A detailed summary of program features by state may be found in a previous report (Gimm et al. 2008). Second, states can establish their own earned and unearned income limits as well as work verification requirements. State-level differences in eligibility criteria can lead to variation in Buy-In participant characteristics and medical expenditures.

Despite chronic strains on state Medicaid budgets, the Buy-In program has been widely adopted since Congress passed the authorizing legislation. In 2005, the latest year for which person-level Medicaid and Medicare expenditure data were available, 31 Medicaid Infrastructure Grant (MIG) states were operating a Medicaid Buy-In program.⁴ Although the expenditures of Buy-In participants represent a small fraction of overall Medicaid and Medicare spending,

⁴ Developing and implementing a new Medicaid Buy-In program is supported by the MIG program, which provides funding to states to develop the infrastructure necessary to promote competitive employment for people with disabilities. CMS administers the program, which Congress authorized as part of the Ticket Act of 1999. MIG states are required to provide information on Medicaid Buy-In participants to CMS.

federal and state policymakers are interested in monitoring trends among Buy-In participants for future budget and outreach planning. In addition, analyzing Medicaid and Medicare service use can provide information on which types of services can best meet the ongoing needs of workers with disabilities in existing and future Buy-In programs. Finally, tracking how service use and expenditures have changed after an individual was enrolled in the Buy-In program can improve our understanding of the association between employment and health among people with disabilities.

B. Purpose of Report

Congress authorized the Centers for Medicare and Medicaid Services (CMS) to oversee the Medicaid Buy-In program by (1) monitoring participation, (2) providing states with general program guidance, and (3) keeping federal and state policymakers informed about program trends. CMS has contracted with Mathematica Policy Research to assist in this effort by collecting and analyzing quantitative data from the states, tracking key trends in state Buy-In policies and program features, and disseminating research findings through annual reports and issue briefs.

The purpose of this report, the latest in a series of annual reports on participation in the Buy-In program, is to examine the following research questions:

- What were the annual and per-member, per-month (PMPM) Medicaid and Medicare expenditures of Buy-In participants enrolled between 2002 and 2005?
- How did PMPM Medicaid and Medicare expenditures and service use vary by type of service and by participant characteristics in 2005?
- Among those first-time Buy-In participants who had prior Medicaid and/or Medicare coverage, how did their expenditures change around the time of Buy-In enrollment?

C. Data Sources

States provided finder files that included demographic information and personal identifiers of all Medicaid Buy-In participants. Summary person-level information on Medicaid claims in

the Medicaid Analytic eXtract (MAX) files and Medicare claims data were obtained from CMS to conduct the main expenditure analysis. Information on federal disability program participation from SSA administrative data was obtained from the Ticket Research File. An overview of data sources and their limitations is presented in Appendix B. In conducting this analysis, Mathematica adhered to all confidentiality provisions specified in data sharing agreements.

These combined state and federal data sources provide the most comprehensive person-level information available on the characteristics and medical expenditures of Buy-In participants. The integrated database enables us to identify and analyze both Medicare and Medicaid expenditures of participants who are dually enrolled in both programs.

One limitation of using MAX data files is a three-year lag in data availability. For this report, we used data for calendar year 2005, which was the most recent year of MAX data available. Because the Medicaid and Medicare expenditure data were restricted to the period before the implementation of Medicare Part D in 2006, we could not examine the potential effects of Medicare Part D coverage on prescription drug spending among Buy-In participants.

D. Analytic Methods

We analyzed the total and PMPM Medicaid and Medicare expenditures from 2002–2005 among Buy-In participants enrolled in Medicaid for at least one month in each calendar year.

Because the majority of Buy-In participants (75 percent) are dually enrolled in Medicaid and Medicare, examining both types of expenditures provides a more complete picture of their total costs than looking at Medicaid spending alone.⁵ Total Medicaid expenditures include fee-for-service (FFS) expenditures and claim payments for persons enrolled in capitated plans. Medicare

⁵ Medicare Part A and B services are administered and financed mostly by the federal government. Medicaid services are financed jointly by the states and federal government, but administered primarily by the states.

spending was obtained from the total annual amount of paid FFS claims for Buy-In participants with at least one month of Medicaid and Medicare enrollment. In some cases, participants may have enrolled only in the Medicaid Buy-In program for part of the year but had prior or subsequent enrollment in an alternative Medicaid program. Because our Medicaid claims were aggregated at the person level, we included all Medicaid expenditures during a calendar year, regardless of whether a person was enrolled in the Buy-In program or an alternative Medicaid program. Although we cannot attribute all Medicaid expenditures to just the Buy-In program, this approach provides an overall snapshot of annual Medicaid expenditures and service use.

A key measure for monitoring trends over time is PMPM expenditures, defined as the sum of expenditures across a group of participants divided by the sum of enrollment months across the same group of participants (regardless of whether services were used). At the national level, increasing numbers of participants could lead to growth in total expenditures but may not imply that expenditures per person are growing. PMPM expenditures account for variation in the number of participants over time and how long each participant was enrolled within a calendar year. The PMPM measure provides an “apples to apples” comparison of monthly expenditures for Buy-In participants by year, by state, and by subgroup. We also used the consumer price index (CPI) to adjust expenditures for inflation.⁶ All national expenditures are reported in 2005 dollars.

Finally, some Buy-In participants change their state of residence within a calendar year. For the national total expenditures or national PMPM expenditures, we used a de-duplicated count of

⁶ We used the CPI for all goods and services to adjust national expenditures for inflation. However, state-level expenditures in the appendix tables are not adjusted for inflation because the national CPI may not be relevant for each state. Other studies sometimes use the medical care CPI instead, which in recent years has been higher than the broader CPI. While using the medical care CPI could have altered the magnitude of our estimates slightly, it would not have substantively affected our findings.

Buy-In participants that reflects only unique individuals. Throughout this report, we excluded Arizona and Maine from the analytic sample in all years due to data limitations in these two states. In Chapters 4 and 5, we also excluded managed care enrollees in our calculation of fee-for-service expenditures by service category because of data limitations. For additional information on these data sources and limitations, please refer to Appendix B.

E. Overview of Report

Chapter II provides an overview of enrollment trends and the characteristics of Buy-In participants. In Chapter III, we address the first research question by examining the total annual and PMPM expenditures of Buy-In participants in 2002–2005 for Medicaid and Medicare services. In Chapters IV and V, we focus on the second research question by analyzing how the share of total expenditures, PMPM expenditures, and the use of services varied by type of service and participant characteristics in 2005. In Chapter VI, we address the third research question by assessing changes in expenditures for first-time enrollees by comparing medical spending during the year before and after enrollment. In the final chapter, we summarize our key findings and policy implications that may influence the future growth of the Medicaid Buy-In program.

II. BUY-IN ENROLLMENT AND PARTICIPANT CHARACTERISTICS

Service use and medical expenditures can vary by age, disabling condition, and other individual characteristics. Therefore, examining the characteristics of Buy-In participants provides some context for understanding differences in total annual and PMPM expenditures. For example, if a group of participants with a specific characteristic has relatively high PMPM expenditures, and the Buy-In program has a large share of participants with that characteristic, total expenditures among all Buy-In participants are likely to be high as well. In this chapter, we present an overview of Buy-In participants, focusing on those characteristics that are likely to be associated with high medical expenditures, including dual enrollment in both Medicaid and Medicare.

A. Buy-In Enrollment

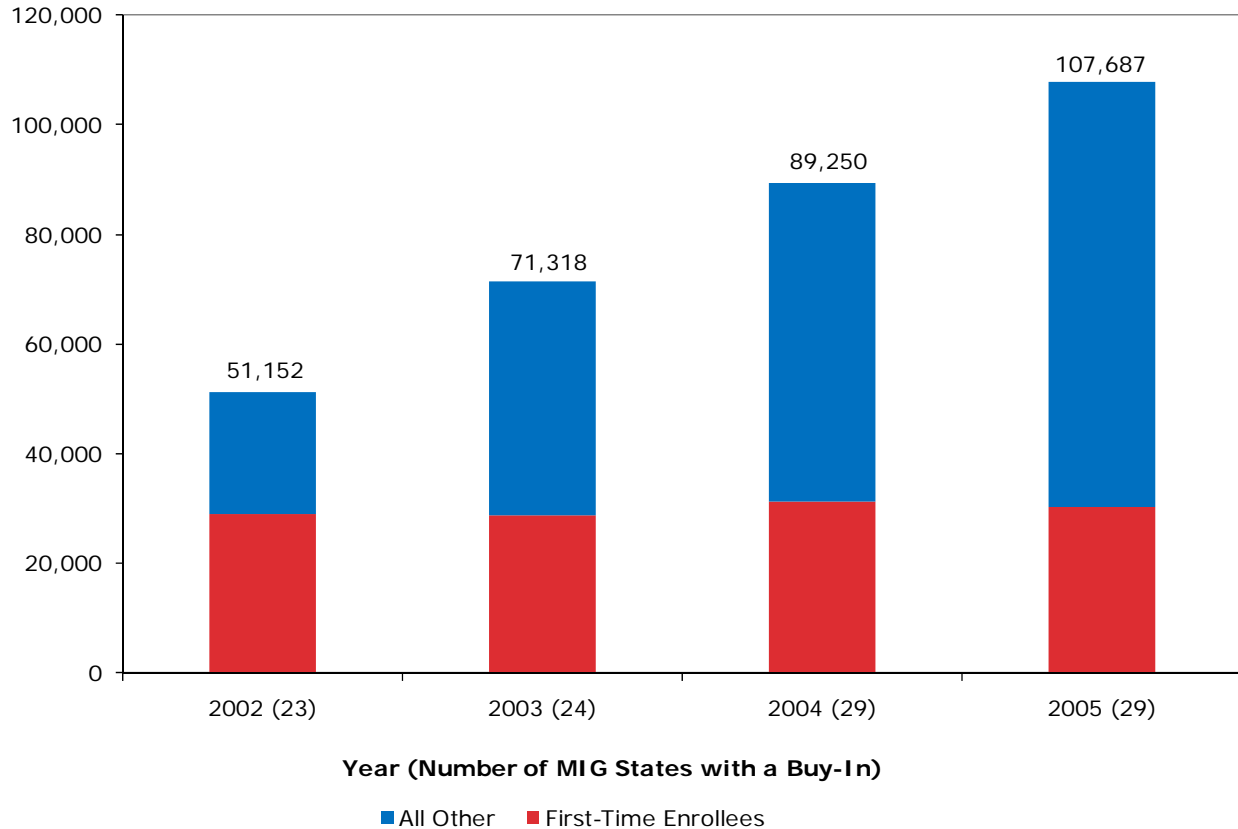
Between 2002 and 2005, the Buy-In program grew substantially (Figure II.1). The number of Buy-In participants identified in our Medicaid data files more than doubled between 2002 and 2005 (from 51,152 to 107,687 participants).⁷ This growth is attributed not only to an increase in the number of states with new Buy-In programs (from 23 in 2002 to 29 in 2005), but to enrollment growth within existing Buy-In programs as well. During this period, most Buy-In programs experienced an increase in the number of participants, but enrollment declined in four states (Arkansas, Minnesota, Nebraska, and South Carolina).

First-time Buy-In participants may have a different level of medical expenditures compared to existing participants. Nationwide, there were approximately 30,000 first-time Buy-In participants each year between 2002 and 2005. In 2002, these new enrollees made up over half (56 percent) of the total Buy-In enrollment, while in 2005, they made up about a quarter (27

⁷ This is the number of Buy-In participants with a matching record in the MAX dataset (see Appendix Table C.1).

percent). Buy-In participants nationwide were enrolled in Medicaid, on average, between 10 and 11 months per calendar year.

Figure II.1 Number of States with a Buy-In Program and Total Enrollment, 2002-2005



Source: Medicaid Buy-In finder files; 2002-2005 MAX data files.

Note: Figures represent the number of first-time or other Buy-In participants during a calendar year.

Buy-In enrollment varied widely by state (Appendix Table C.1). In 2005, Missouri had the largest Medicaid Buy-In program (20,502 people) followed by Massachusetts (13,372), Wisconsin (11,428), and Iowa (11,124). After implementing its first Buy-In program in 2002, Missouri ended its program in August 2005, effectively disenrolling almost 21,000 people.⁸ Massachusetts has the oldest Buy-In program, which was implemented in 1997. Together, the

⁸ Missouri authorized a new Buy-In program (section 208.146) in September 2007. For a description of the context that led the state to rescind its first Buy-In program, known as Medicaid Assistance for Workers with Disabilities (MAWD), see Ireys et al. (2007).

four largest programs accounted for more than half (51 percent) of total Buy-In enrollment nationwide in 2005.

B. Buy-In Participant Characteristics

Age. In 2005, nearly half of Medicaid Buy-In participants (48 percent) were ages 31 to 50. An additional 39 percent were ages 51 to 64, 10 percent were age 30 and under, and just 4 percent were over age 64 (Table II.1) Some Buy-In participants nationwide are older than 64, as allowed in the Balanced Budget Act (BBA) of 1997. For a given disabling condition, if health status decreases with increasing age, we may expect to see higher medical expenditures among older participants.

SSA Program Participation. In 2005, a majority of Buy-In participants were SSDI beneficiaries (Table II.1). Most received SSDI benefits only (70 percent) while a much smaller number (3 percent) received SSDI and SSI benefits concurrently. An additional 1 percent of Buy-In participants were eligible for SSI only, while the remaining participants (27 percent) were neither SSDI nor SSI beneficiaries. If SSA beneficiaries have worse health status than non-beneficiaries, medical expenditures may also be higher for SSA beneficiaries.

Primary Disabling Condition. Nearly one third of Buy-In participants (31 percent) in 2005 had severe mental illness or other mental disorders as their primary disabling condition, while about one-fourth of participants had mental retardation (13 percent) or musculoskeletal system disorders (11 percent). Just 2 percent had sensory impairments (Table II.2). Another 22 percent had other types of conditions. The remaining 21 percent of Buy-In participants had an unknown disabling condition.⁹ We are likely to observe some variation in expenditures and service use by

⁹ Primary disabling condition was unknown either because it was not recorded in the TRF (9 percent) or because the participant was not found in the TRF dataset (12 percent). Participants who have not received SSDI or SSI benefits for some time since 1996 are not included in the TRF data.

type of disabling condition. For example, personal care services and intermediate care facilities for persons with mental retardation are expensive and often covered in state Medicaid programs, but not by Medicare. Therefore, we might expect to observe relatively high Medicaid expenditures for this group of participants.

Table II.1 Percent of Buy-In Participants by Age Category and SSA Program Participation, Overall and by Dual Eligibility Status, 2005

	All Buy-In Participants (N=100,290)	Dual Participants (N=77,289)	Non-Dual Participants (N=23,001)
Age Category^a			
30 years or younger	9.8	7.5	17.4
31-50 years	47.7	49.9	40.2
51-64 years	38.7	37.7	42.0
65 years or older	3.9	4.9	0.4
SSA Program Participation^b			
SSDI only	69.5	84.4	19.4
SSI only	1.4	0.4	4.9
Both SSDI and SSI concurrently	2.6	2.4	3.4
Neither SSDI nor SSI	26.5	12.8	72.4

^aFrom Medicaid Buy-In finder files. Age is defined as of December 31, 2005.

^bFrom TRF; SSA program participation is defined as of December 2004.

Table II.2 Percent of Buy-In Participants by Primary Disabling Condition, Overall and by Dual Eligibility Status, 2005

Primary Disabling Condition ^a	All Buy-In Participants (N=100,290)	Dual Participants (N=77,289)	Non-Dual Participants (N=23,001)
Severe mental illness or other mental disorders	30.9	36.9	10.8
Mental retardation/developmental disability	12.8	15.7	3.3
Musculoskeletal system disorder	10.9	12.4	6.0
Sensory impairments	2.0	2.3	1.0
All other conditions	22.4	24.8	14.3
Unknown ^b	21.0	7.9	64.6

^aFrom TRF; primary disabling condition is defined as of December 2004.

^bUnknown includes participants with missing diagnoses and those not appearing in the TRF.

C. Dual Eligible Buy-In Participants

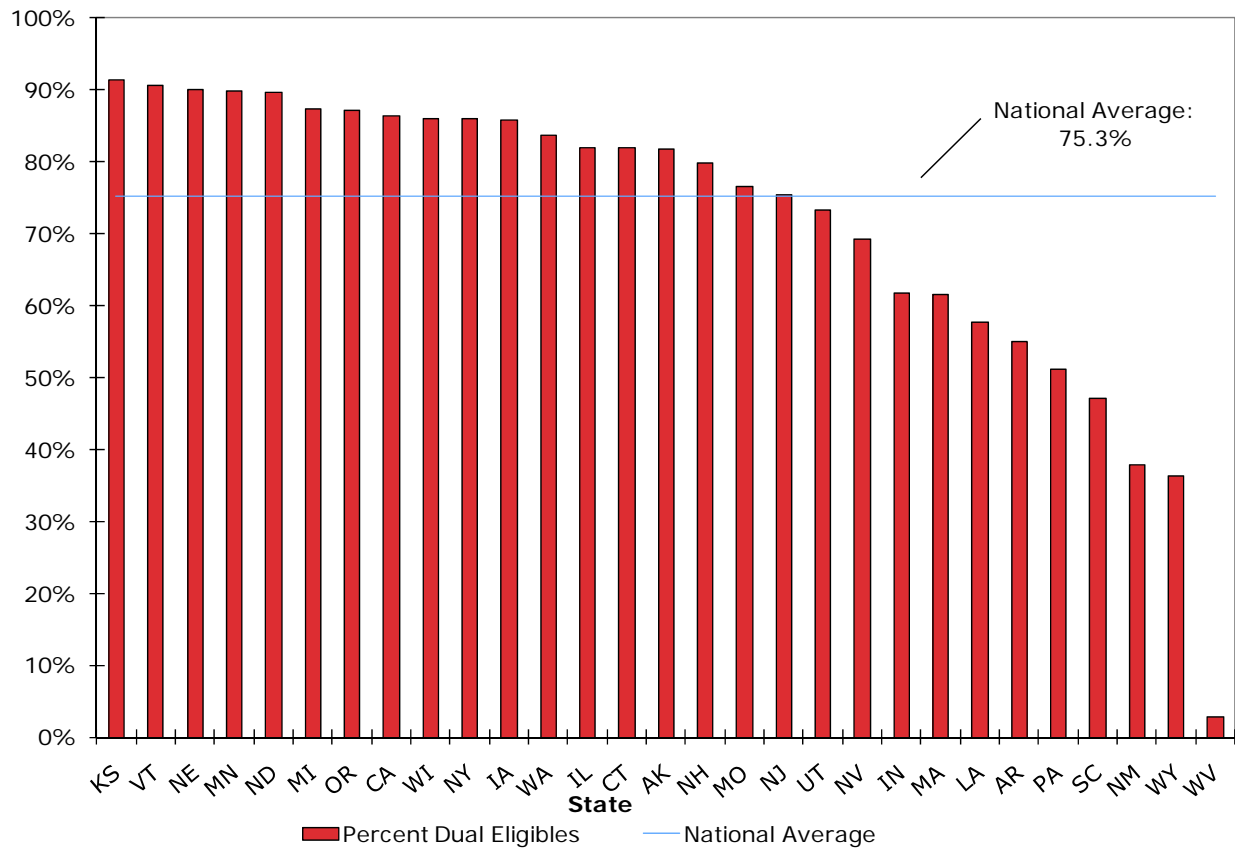
Nearly 9 million people in the United States are dual eligibles who enroll in both the Medicare and Medicaid programs. In this study, Buy-In participants with at least one month of simultaneous enrollment in Medicaid and Medicare are defined as dual eligible participants. In 2005, three-quarters (75 percent) of Buy-In participants were dual eligibles, compared with only 41 percent among all disabled Medicaid beneficiaries (Wenzlow et al. 2007).

In 2005, the percentage of Buy-In participants who were dual eligibles varied by state, from 91 percent in Kansas to 3 percent in West Virginia (Figure II.2). However, in all but four states, a majority of participants were enrolled in both Medicaid and Medicare during 2005. Between 2002 and 2005, the share of these dual participants nationwide remained constant at around 75 percent (Appendix Table C.2).

Medicaid Buy-In participants under 65 can become dually eligible by qualifying for SSDI benefits, which automatically qualifies them for Medicare coverage after a five-month period of receiving SSDI cash benefits and a further two-year waiting period (Dale and Verdier 2003;

Livermore 2009).¹⁰ Buy-In participants who are in the middle of their two-year Medicare waiting period are likely to rely on Medicaid for access to inpatient services. Therefore, we may see some payments shifting from Medicaid to Medicare for participants who become new dual eligibles. Buy-In participants can also qualify for Medicare by reaching age 65; this group represents a small proportion (4 percent) of such participants.

Figure II.2 Percent of Buy-In Participants Who Are Dual Eligibles, 2005



Source: Medicaid Buy-In finder files; 2005 MAX data files.

Among the broader population of Medicaid enrollees with disabilities, dual eligibles have somewhat different characteristics and incur more Medicaid spending compared to their

¹⁰ The five-month waiting period for SSDI cash benefits starts at the date of disability onset. There are two exceptions to the two-year waiting period; people with end-stage renal disease (ESRD) become eligible after three months and people with Lou Gehrig’s disease or amyotrophic lateral sclerosis have no waiting period (Dale and Verdier 2003).

Medicaid-only non-dual counterparts (Wenzlow et al. 2007). This is despite the fact that Medicare absorbs some of the costs of dual eligibles that are covered by Medicaid for non-duals. Earlier studies found that among all Medicaid enrollees, dual eligibles in 2002 incurred nearly four times the Medicaid expenditures of their non-dual counterparts, on average (Lied 2006). Dual eligibles also incur a disproportionate share of overall medical costs for state Medicaid programs—in 2003, dual eligibles represented only 14 percent of the Medicaid population, but accounted for about 40 percent of all Medicaid expenditures (Holahan and Ghosh 2005). There are also differences in medical expenditures within the dual-eligible population, between disabled duals (those who qualify for Medicare through SSDI) and aged duals (those who qualify for Medicare by reaching age 65). Existing research has shown that disabled duals have higher average annual Medicaid expenditures than aged duals (\$15,723 vs. \$14,550 in 2005) due to differences in medical needs (Holahan 2009).

As shown in Table II.1, dual eligible Buy-In participants were older than non-duals, on average—duals had a mean age of 47.8 compared with 45.4 for non-duals.¹¹ Dual eligibles were more likely to be age 31-50 or age 65+ while non-dual eligibles were more likely to be age 51-64 or under age 30. As expected, dual Buy-In participants are much more likely to be SSDI beneficiaries (84 percent) than non-dual eligibles (20 percent) because SSDI is the only pathway to Medicare enrollment for workers with disabilities under age 65. Conversely, non-dual eligibles are more likely to have neither SSDI nor SSI benefits (72 percent) compared with duals (13 percent).

¹¹ This difference is statistically significant ($p < 0.05$).

D. Summary of Findings

In this chapter, we provide several findings related to Buy-In enrollment and participant characteristics, including a descriptive analysis of dual eligible participants who enroll in both Medicaid and Medicare during a calendar year. Differences in participant characteristics are likely to be associated with different levels of service needs and expenditures.

- Between 2002 and 2005, the most recent year of Medicaid expenditure data available, national Buy-In enrollment more than doubled from 51,152 to 107,687 participants; therefore, we are likely to see growth in total expenditures associated with increased enrollment.
- Nearly half of Buy-In participants (48 percent) in 2005 were adults between 31 and 50; an additional 39 percent of participants were between 51 and 64. We are likely to observe higher expenditures for older participants if health status declines with age.
- A majority of Buy-In participants were SSDI beneficiaries in 2005; most received SSDI benefits only (70 percent) while a much smaller fraction of participants (3 percent) were receiving both SSI and SSDI benefits concurrently. We are likely to observe higher expenditures for SSA beneficiaries if their health status is worse than that of non-beneficiaries.
- About one-third of participants (31 percent) had a severe mental illness or other mental disorder; 13 percent had mental retardation or a developmental disability, and 11 percent had a musculoskeletal disorder. Differences in medical expenditures by type of disabling condition are likely to occur because of differences in service needs and coverage by Medicaid and Medicare.
- Dual eligible participants who enrolled in both Medicaid and Medicare represented three-fourths (77 percent) of Buy-In participants nationwide in 2005; this is higher than the percentage of all disabled Medicaid enrollees who are duals (41 percent). Higher Medicaid expenditures for dual Buy-In participants can occur if their health status is worse than that of non-duals. However, differences in expenditures among duals can also arise from differences in service coverage by Medicaid and Medicare.

III. TOTAL AND PMPM MEDICAL EXPENDITURES, 2002-2005

In this chapter, we examine aggregate trends in total Medicaid and Medicare expenditures between 2002 and 2005 for Buy-In participants nationwide and by state. This analysis explores how total and PMPM expenditures changed over time and provides information that may be useful to state policymakers interested in monitoring the growth of expenditures over time or for future budget planning.

A. Total Medicaid and Medicare Expenditures

From 2002 to 2005, the total inflation-adjusted Medicaid and Medicare expenditures of Buy-In participants more than doubled, growing from \$887 million to \$1.9 billion (Figure III.1). This growth in combined expenditures reflects an increase in Buy-In enrollment nationwide, which more than doubled over the same period. As shown in Chapter II, the national enrollment of Buy-In participants increased from 51,152 to 107,687 participants over the same period.

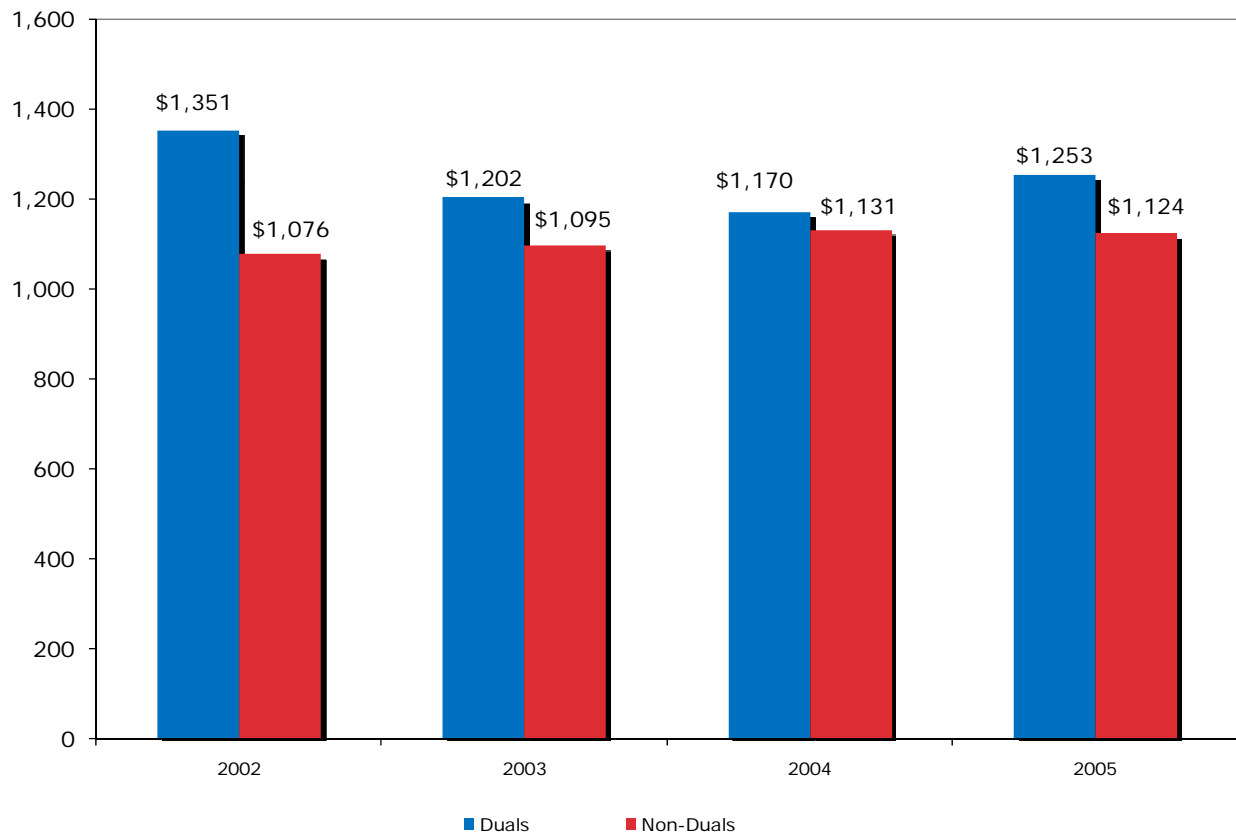
Total Medicaid expenditures among Buy-In participants, which accounted for three-quarters of their combined Medicare and Medicaid expenditures, increased from \$671 million in 2002 to \$1.4 billion in 2005. For the 57.4 million persons enrolled in Medicaid during 2005, total Medicaid spending by the states and federal government was \$289.3 billion, excluding SCHIP payments (CMS 2007).¹² Therefore, Buy-In participants constituted a small fraction (0.2 percent) of all Medicaid enrollees nationwide and accounted for 0.5 percent of total Medicaid expenditures.

Similarly, total Medicare expenditures among Buy-In participants who enrolled in Medicare also more than doubled during this period, from \$216 million to \$553 million. Between 2002 and

¹² The federal share of total Medicaid payments was 57 percent in calendar year 2005. Of the 57.4 million persons who enrolled in Medicaid, approximately 8.9 million were blind or disabled.

2005, the number of Buy-In participants who also enrolled in Medicare rose from 38,141 to 81,050 (Appendix C.2). For the 42.4 million beneficiaries eligible for Medicare Part A and/or Part B services in 2005, total Medicare spending by the federal government was \$331.4 billion (CMS, 2007).¹³ Thus, Buy-In participants represented 0.2 percent of Medicare beneficiaries and accounted for 0.2 percent of Medicare expenditures in that year.

Figure III.1 Total Inflation-Adjusted Medicaid and Medicare Expenditures (in \$ Millions) for Buy-In Participants Ever Enrolled, 2002-2005



Source: Medicaid Buy-In finder files; 2002-2005 MAX data files; 2002-2005 Medicare claims files.

Notes: Total Medicaid expenditures represent the annual inflation-adjusted expenditures of Buy-In participants ever enrolled in a calendar year; total Medicare expenditures are included for Buy-In participants who have at least one month of simultaneous Medicare and Medicaid enrollment.

¹³ Of the 42.4 million beneficiaries with Part A and/or Part B services in 2005, about 6.7 million were disabled.

Total Medicaid and Medicare expenditures varied markedly by state because of differences in enrollment and other factors. For example, in 2005, total Medicaid expenditures ranged from a low of \$180,320 in Nevada to a high of \$237 million in Missouri (Appendix Table D.1). In 2005, Nevada had one of the smallest Buy-In programs with only 26 participants, while Missouri had the largest with more than 20,000 people. Likewise, Medicare expenditures also varied across states, depending on the number of Buy-In participants and percent of this group who were dually eligible for Medicare and Medicaid. In 2005, total Medicare expenditures ranged from \$34,134 in Wyoming to \$135 million in Missouri (Appendix Table D.2). Missouri had the largest Buy-In enrollment and a large proportion (77 percent) of these participants were dual eligible; therefore, it is not surprising that Missouri had the highest amount of total Medicare expenditures among Buy-In states.

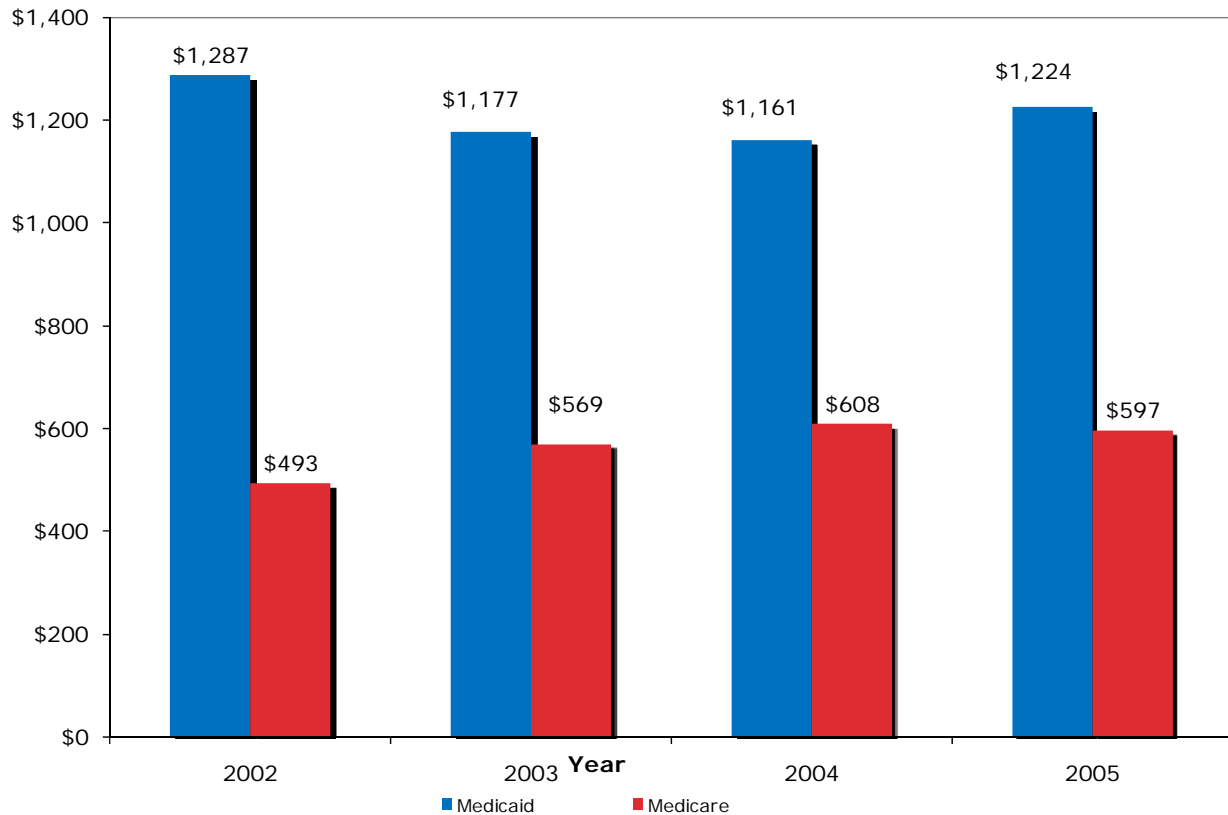
B. National PMPM Medicaid and Medicare Expenditures

Our analysis of PMPM expenditures produced several key findings. First, inflation-adjusted PMPM Medicaid expenditures were about twice as high as PMPM Medicare expenditures in each year 2002-2005 (Figure III.2). Second, unlike the rapid increase in total Medicaid expenditures from 2002-2005, PMPM Medicaid expenditures remained stable during this period. Specifically, inflation-adjusted PMPM Medicaid expenditures decreased slightly from \$1,287 to \$1,224 over this period. Conversely, PMPM Medicare expenditures increased from \$493 to \$597 between 2002 and 2005. While these findings suggest that Buy-In participants have not increased their monthly Medicaid spending, on average, it shows that PMPM Medicare expenditures have risen by more than 20 percent during this period and are likely to continue rising especially given the 2006 implementation of Medicare Part D.

We also compared Buy-In participants nationwide in 2005 with the general population of working-age disabled Medicaid enrollees to see if there were differences in Medicaid cost. We

found that participants in 2005 incurred lower annual Medicaid expenditures per enrollee (\$12,944) than other disabled Medicaid enrollees (\$14,057) nationwide (Appendix Table D.3). This difference was not only observed nationwide, but also in a majority of Buy-In states (24 out of 29), including Missouri and Massachusetts. This finding suggests that Buy-In participants who are working may require fewer services or a less expensive mix of services than other disabled Medicaid enrollees.

Figure III.2 Inflation-Adjusted PPM Medicaid and Medicare Expenditures Among Buy-In Participants Ever Enrolled, 2002-2005



Source: Medicaid Buy-In finder files; 2002-2005 MAX data files; 2002-2005 Medicare claims files.

Note: Figures are inflation adjusted to 2005 dollars.

C. PPM Medicaid and Medicare Expenditures by State, 2005

States have a great degree of flexibility in the design and administration of their Medicaid programs. Therefore, state-specific differences in program eligibility criteria, managed care enrollment, and scope of covered Medicaid services lead to substantial variations in Medicaid

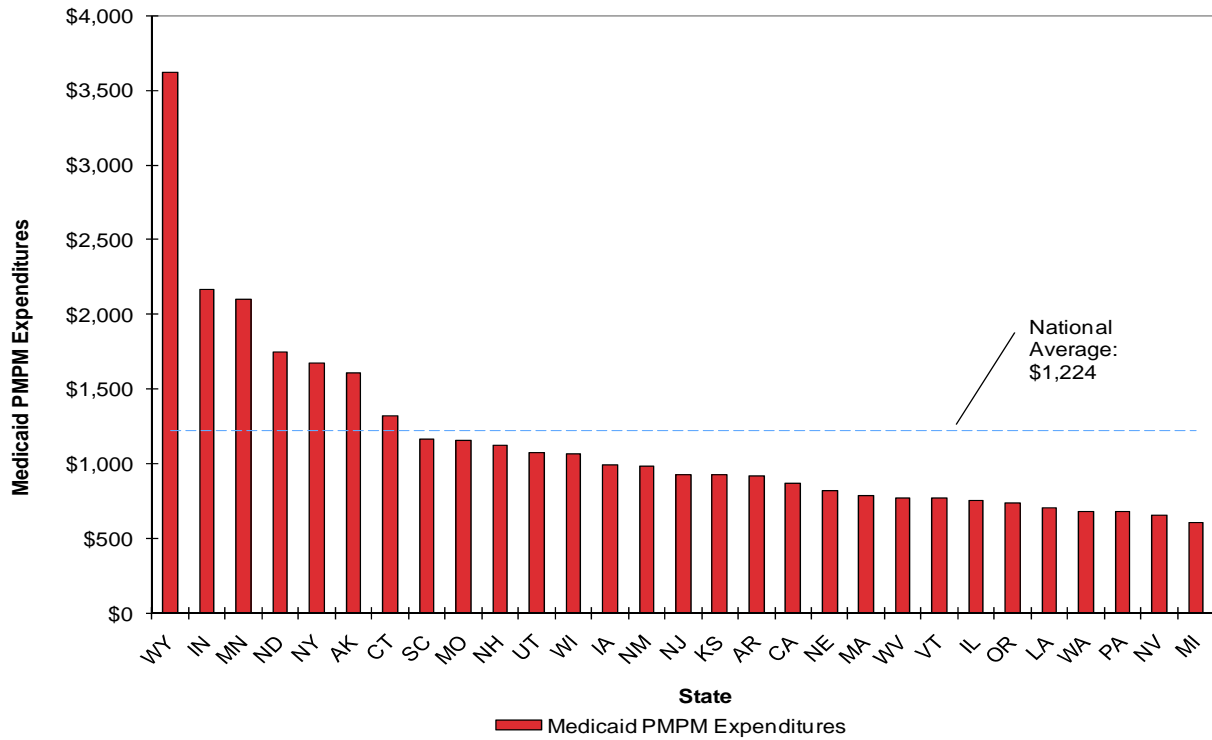
expenditures across states. In 2005, PMPM Medicaid expenditures ranged from a low of \$611 in Michigan to a high of \$3,623 in Wyoming, with a national average of \$1,224 (Figure III.3; Appendix Table D.4). States with the next two highest levels of Medicaid PMPM expenditures were in Indiana (\$2,163) and Minnesota (\$2,104). These findings are consistent with previous studies (Liu and Ireys 2006). One possible reason for the higher expenditures in these two states is the generosity of work stoppage provisions or grace periods (Gimm et al. 2008). For example, Indiana¹⁴ and Minnesota allow their Buy-In participants to continue to be enrolled in Medicaid for up to one year or four months, respectively, for a medical leave or involuntary job loss. Participants with deteriorating health status may need to stop working, which could be associated with higher expenditures.

We also examined PMPM Medicare expenditures among dual enrollees by state, which ranged from \$367 in Michigan to \$971 in West Virginia, with a national average of \$597 (Figure III.4, Appendix Table D.5). This somewhat more narrow distribution of Medicare PMPM expenditures across states compared to the range of Medicaid expenditures reflects the fact that Medicare covered services are consistently defined across states, whereas optional Medicaid covered services and methods of reimbursement can vary greatly across states.¹⁵ A discussion of differences in the scope of coverage for Medicaid and Medicare is included in Appendix E.

¹⁴ Indiana also has a very large share of Medicaid expenditures allocated to institutional long term care services (40 percent), which is well above the national average of eight percent across Buy-In states (Appendix Table F.1).

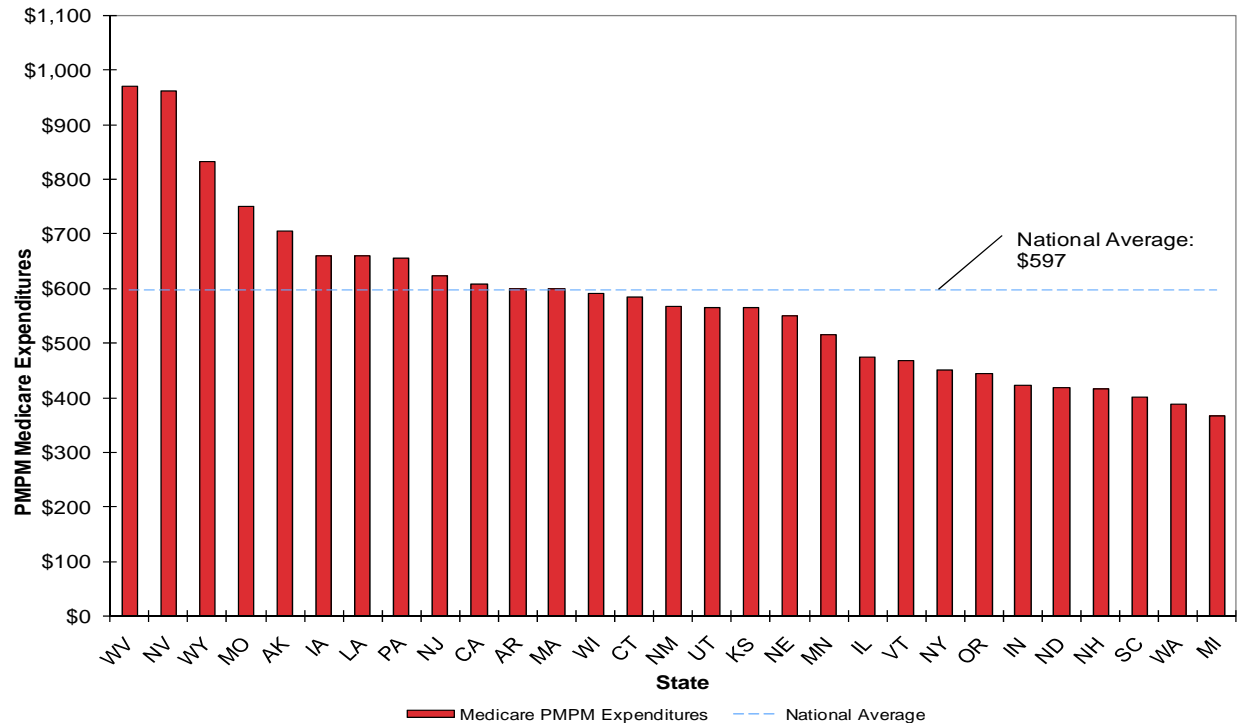
¹⁵ Broadly speaking, Medicaid covers personal assistance services, adaptive equipment for home use, and long term care services, while Medicare provides coverage for most hospital, physician, and acute care services. However, if both programs cover the same service, Medicare is usually the primary payer for that service. For participants with Medicaid coverage only, the Medicaid program covers inpatient and outpatient hospital services, physician visits, laboratory and x-ray services, and durable medical equipment (for those eligible for nursing home services).

Figure III.3 PMPM Medicaid Expenditures Among Buy-In Participants, by State, 2005



Source: Medicaid Buy-In finder files; 2005 MAX data files.

Figure III.4 PMPM Medicare Expenditures Among Dual Buy-In Participants, by State, 2005

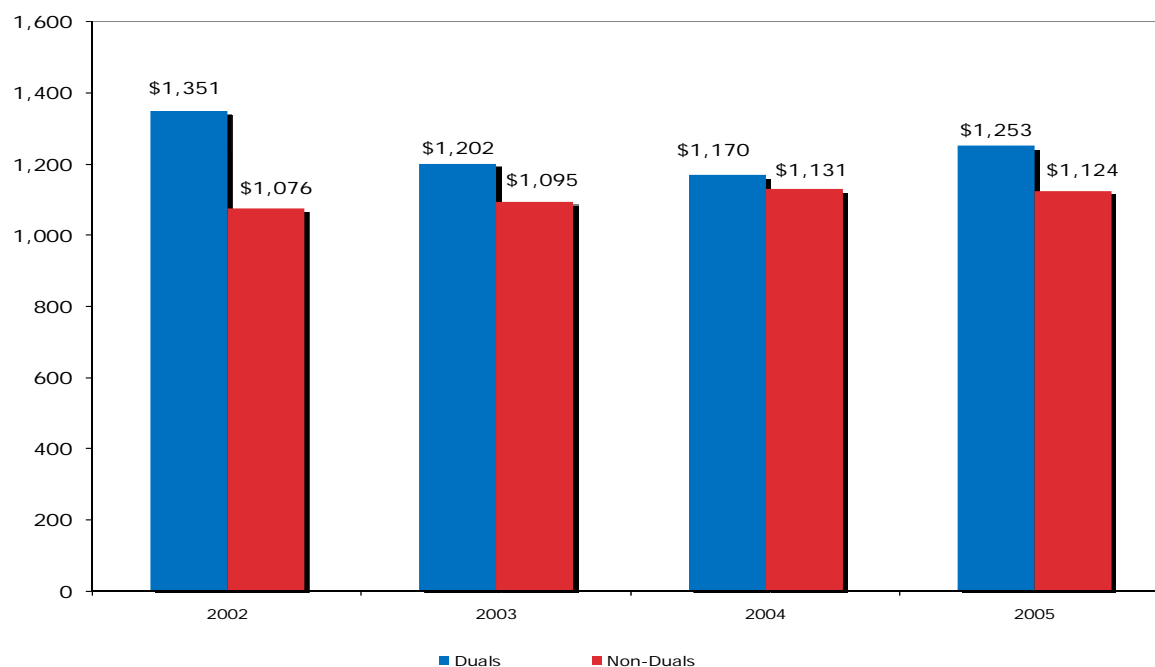


Source: Medicaid Buy-In finder files; 2005 MAX data files; 2005 Medicare claims files.

D. National PMPM Medicaid Expenditures by Dual Status, 2002-2005

In each year from 2002 to 2005, dual-eligible Buy-In participants had consistently higher PMPM Medicaid expenditures compared with non-duals (Figure III.5). In 2005, duals nationwide had PMPM Medicaid expenditures of \$1,253, about 11 percent higher than that of non-duals (\$1,124). However, there was substantial variation in the PMPM expenditure difference between duals and non-duals across states (Appendix Table D.6). In 22 Buy-In states (for example, Minnesota and Wisconsin), the PMPM Medicaid expenditures for non-duals actually exceeded those of duals. One possible reason is that dual participants may shift their expenditures for inpatient and outpatient services from Medicaid to Medicare in these states; for example, Medicaid would provide wraparound coverage for services excluded by Medicare, such as personal assistance services (PAS). However, results from 7 other states (for example, Missouri and Indiana) were consistent with overall national expenditures.

Figure III.5 Inflation-Adjusted PMPM Medicaid Expenditures: Duals Versus Non-Duals, 2002-2005



Source: Medicaid Buy-In finder files; 2002-2005 MAX data files; 2002-2005 Medicare claims files.

Note: Figures are inflation adjusted to 2005 dollars.

This finding that dual Buy-In participants have higher PMPM Medicaid expenditures than non-duals is consistent with other studies that have examined a broader population of Medicaid enrollees. In addition, our analysis shows that the PMPM Medicaid expenditures declined from \$1,351 to \$1,253 for dual Buy-In participants, yet remained stable for non-dual participants over this four-year period. One hypothesis for this finding is that dual participants shift expenditures from Medicaid to Medicare. For example, inpatient services are covered by Medicaid for non-duals, but Medicare becomes the primary payer for inpatient services when a person becomes dual eligible. In chapter IV, we will further explore the breakdown of Medicaid and Medicare expenditures, by service type, for all Buy-In participants and duals versus non-duals. In chapter V, we will further explore expenditures by subgroups of Buy-In participants.

E. Summary of Findings

In this chapter, we presented several key findings on trends in total Medicaid and Medicare expenditures, as well as PMPM Medicaid and Medicare expenditures among Buy-In participants between 2002 and 2005.

- Combined national expenditures among Buy-In participants in both Medicaid and Medicare programs more than doubled from \$887 million to \$1.9 billion between 2002 and 2005, closely reflecting enrollment growth in the Buy-In program from 51,152 to 107,687 participants over the same period.
- During 2005, nearly three-fourths of total expenditures were for Medicaid services. Specifically, participants in Medicaid Buy-In program nationwide spent \$1.4 billion for Medicaid services and \$0.5 billion for Medicare services.
- Between 2002 and 2005, PMPM Medicaid expenditures for all Buy-In participants were relatively stable at around \$1,200; however, PMPM Medicare expenditures among dual Buy-In participants increased steadily from \$493 to \$587 over the four-year period. This finding suggests that dual Buy-In participants may be shifting some costs from Medicaid to Medicare, which would lead to a rise in Medicare expenditures.
- Buy-In participants in 2005 incurred lower annual Medicaid costs per enrollee than other adult disabled Medicaid enrollees. This difference occurred nationwide and in a majority of states with a Buy-In program. Such a comparative finding suggests that Buy-In participants who are working may have better health status and therefore require fewer or less expensive services than do other disabled Medicaid enrollees.

IV. MEDICAL EXPENDITURES AND SERVICE USE BY TYPE OF SERVICE, 2005

In this chapter, we examine the 2005 distribution of PMPM Medicaid and Medicare fee-for-service (FFS) expenditures, by type of service. Because Buy-In participants may have a greater need for some types of medical services over others, these expenditure findings will show us where medical spending is most concentrated.¹⁶

A. Distribution of Total Medicaid and Medicare Expenditures, by Type of Service, 2005

In 2005, the single largest category of Medicaid spending among Buy-In participants was prescription drugs, which accounted for more than one-third (36 percent) of total Medicaid expenditures (Figure IV.1, see Appendix Table F.1 for state-level information).

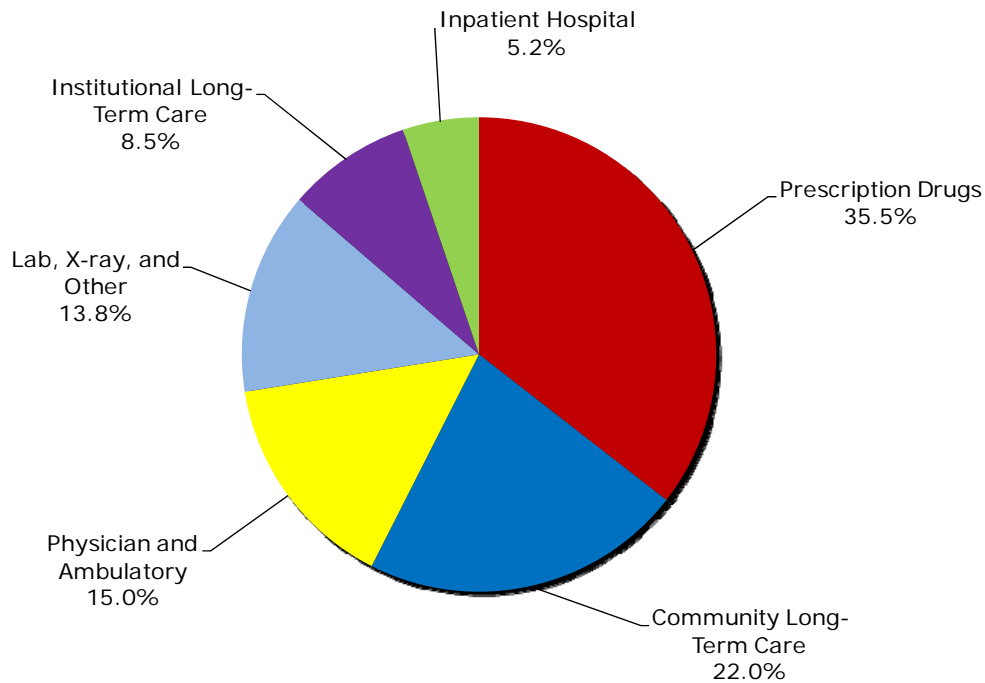
Community long term care (LTC) services, including home health, personal care services, private duty nursing, residential care, and adult day care, represented the second-largest category of expenditures with a share of nearly one-quarter of Medicaid spending (22 percent), followed by physician and ambulatory (15 percent), lab, X-ray, and other (14 percent), institutional long term care (9 percent), and inpatient hospital (5.2 percent) services. Appendix B includes a detailed description of services included in these four categories.

The scope of services covered under Medicaid and Medicare is likely to affect the relative distribution of Medicaid and Medicare expenditures. (See Appendix E for more information.) Because inpatient and ambulatory care are only covered by Medicaid for non-dual enrollees (25 percent of Buy-In participants), but by Medicare for all dual beneficiaries, we would expect

¹⁶Medicaid expenditures are restricted to FFS claims when analyzing type of service because the information needed to classify non-FFS payments by type of service is not available in MAX data. We also excluded all Medicaid managed care enrollees from the analysis of FFS expenditures.

inpatient and physician and ambulatory spending to account for a higher share of Medicare expenditures than Medicaid expenditures.

Figure IV.1 Distribution of Total Medicaid Expenditures for Buy-In Participants, by Type of Service, 2005



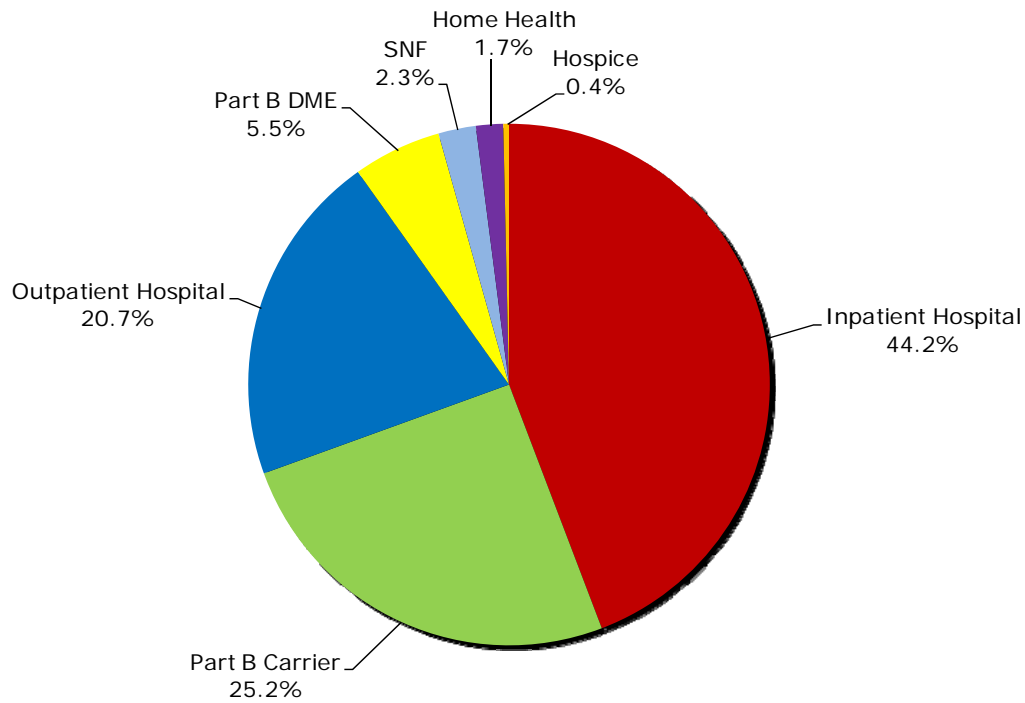
Source: Medicaid Buy-In finder files; 2005 MAX data files.

Inpatient hospital expenditures, which represented only a small fraction (5 percent) of Medicaid expenditures, were the largest category of Medicare spending (44 percent of Medicare expenditures) followed by Part B carrier¹⁷ (25 percent), outpatient hospital (21 percent), Part B durable medical equipment (DME) (5.5 percent), skilled nursing facilities (SNF) (2.3 percent),

¹⁷Medicare Part B carrier services include physician visits, lab services, ambulance, and procedures in free-standing ambulatory surgical centers. A detailed description of Medicare services is provided in Appendix E.

home health (1.7 percent), and hospice (0.4 percent) (Figure IV.2, see Appendix Table F.2 for state-level information).

Figure IV.2 Distribution of Total Medicare Expenditures for Buy-In Participants, by Type of Service, 2005



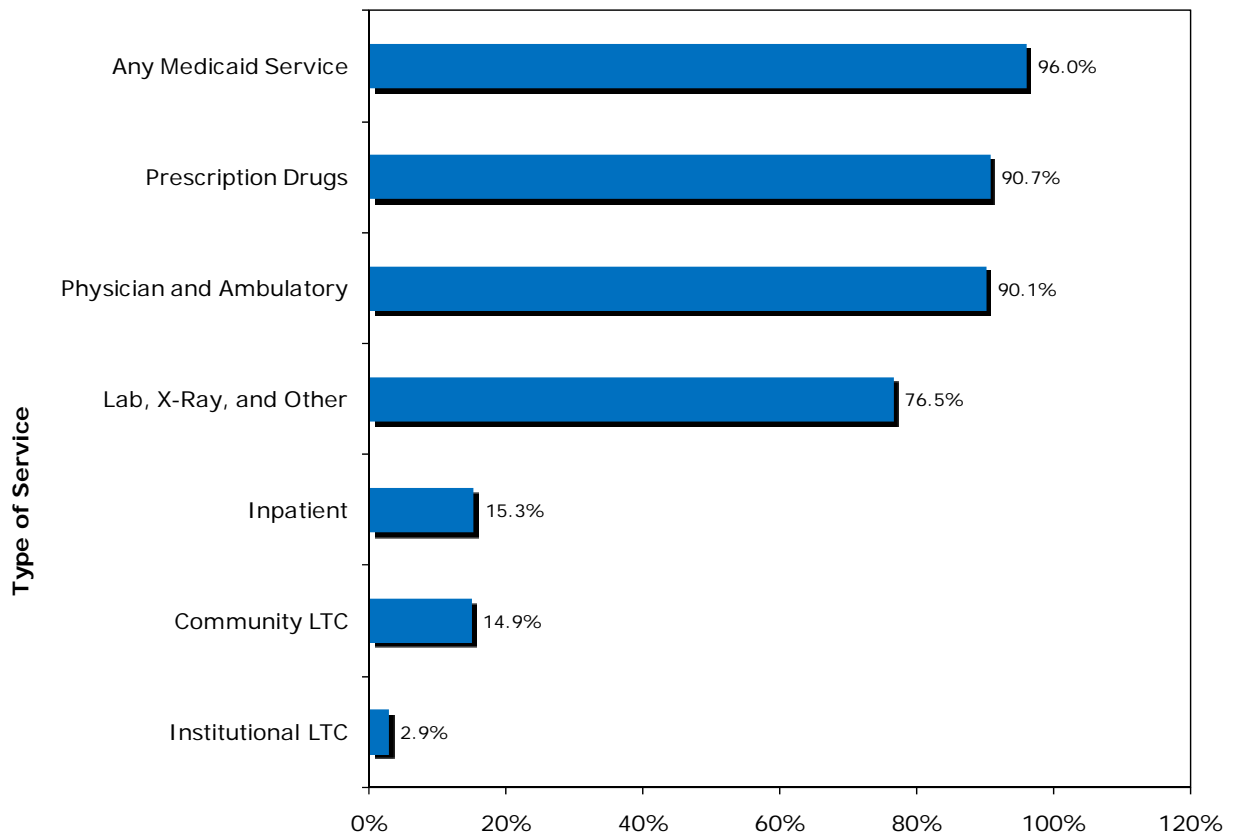
Source: Medicaid Buy-In finder files; 2005 MAX data files; 2005 Medicare claims files.

B. Medicaid Service Use and PMPM Expenditures, 2005

More than 96 percent of Buy-In participants had used at least one type of Medicaid service (Figure IV.3, see Appendix Table F.3 for state-level information). However, the use of services varied by category. Prescription drugs were used by 91 percent of Buy-In participants—the highest service use rate among Medicaid categories. This finding is consistent with the general Medicaid population of disabled enrollees (Wenzlow et al. 2007). Because this category represents both the largest share of Medicaid expenditures and highest service use rate, Buy-In participants have the greatest need for prescription drugs for the purpose of maintaining health

and continuing employment. In addition, 90 percent of participants used ambulatory services, which includes physician visits. However, only 15 percent of participants used community long-term care services, while 3 percent used institutional long-term care services. The low use rate for institutional long-term care services is expected because Buy-In participants are active members of the labor force. Community long-term care services, which include personal care services to assist with daily activities, home health, and private duty nursing, provide an essential source of support for some participants.¹⁸

Figure IV.3 Percent of Buy-In Participants Using Medicaid Services, by Service Type, 2005

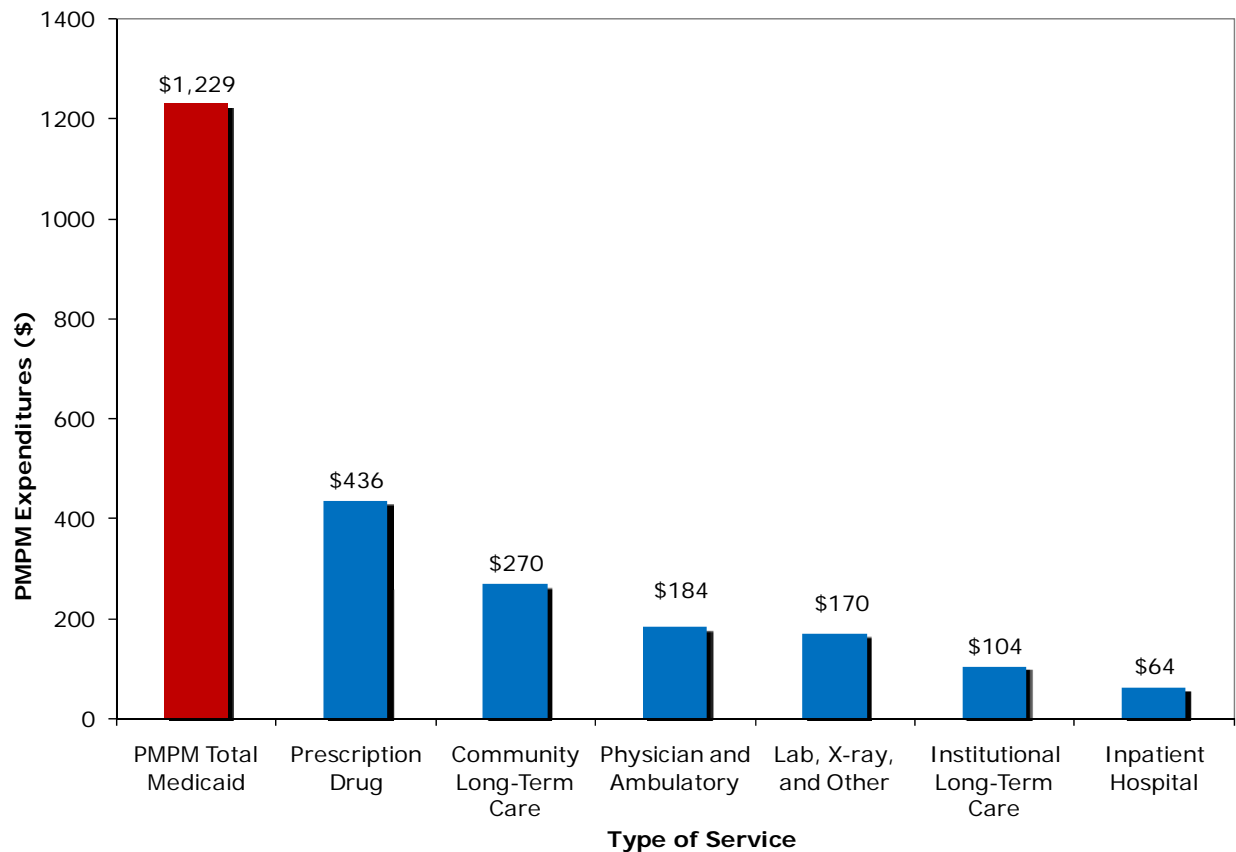


Source: Medicaid Buy-In finder files; 2005 MAX data files.

¹⁸Community long-term care (LTC) expenditures do not fully capture all LTC expenditures because we excluded some waiver expenditures, which are recorded in a separate MAX type of service category.

Looking at PMPM Medicaid and Medicare expenditures by service type provides a more detailed look at the distribution of expenditures and which services are more intensively used by participants. In 2005, PMPM Medicaid FFS expenditures were \$1,229 among Buy-In participants who were not managed care enrollees, including \$436 for prescription drugs; \$270 for community long-term care; \$184 for physician and ambulatory services; \$170 for lab, X-ray, and other services; \$104 for institutional long-term care; and \$64 for hospital inpatient services (Figure IV.4, see Appendix Table F.4 for state-level information). The relatively high level of spending for community long-term care and low level of spending for institutional long-term care again suggests that Buy-In participants are different from the general Medicaid population, for whom institutional long-term care services represent a large share of total Medicaid expenditures (Wenzlow et al. 2007).

Figure IV.4 PMPM Medicaid Expenditures, by Type of Service, 2005



Source: Medicaid Buy-In finder files; 2005 MAX data files.

Although community long-term care services were only used by 15 percent of Buy-In participants, it accounted for the second highest PMPM expenditures, which implies that personal care services or private duty nursing are very expensive services.

As discussed in Chapter II, duals generally have higher PMPM Medicaid expenditures compared with non-duals. Dual and non-dual Buy-In participants also differ in their PMPM Medicaid expenditures by service type. Although duals had higher overall PMPM expenditures than non-duals in 2005, they had lower PMPM inpatient hospital expenditures (\$163 versus \$1,176) and physician and ambulatory expenditures (\$182 versus \$268) (Appendix Table F.5). This is likely because Medicare, not Medicaid, covers these services for dual-eligible beneficiaries.

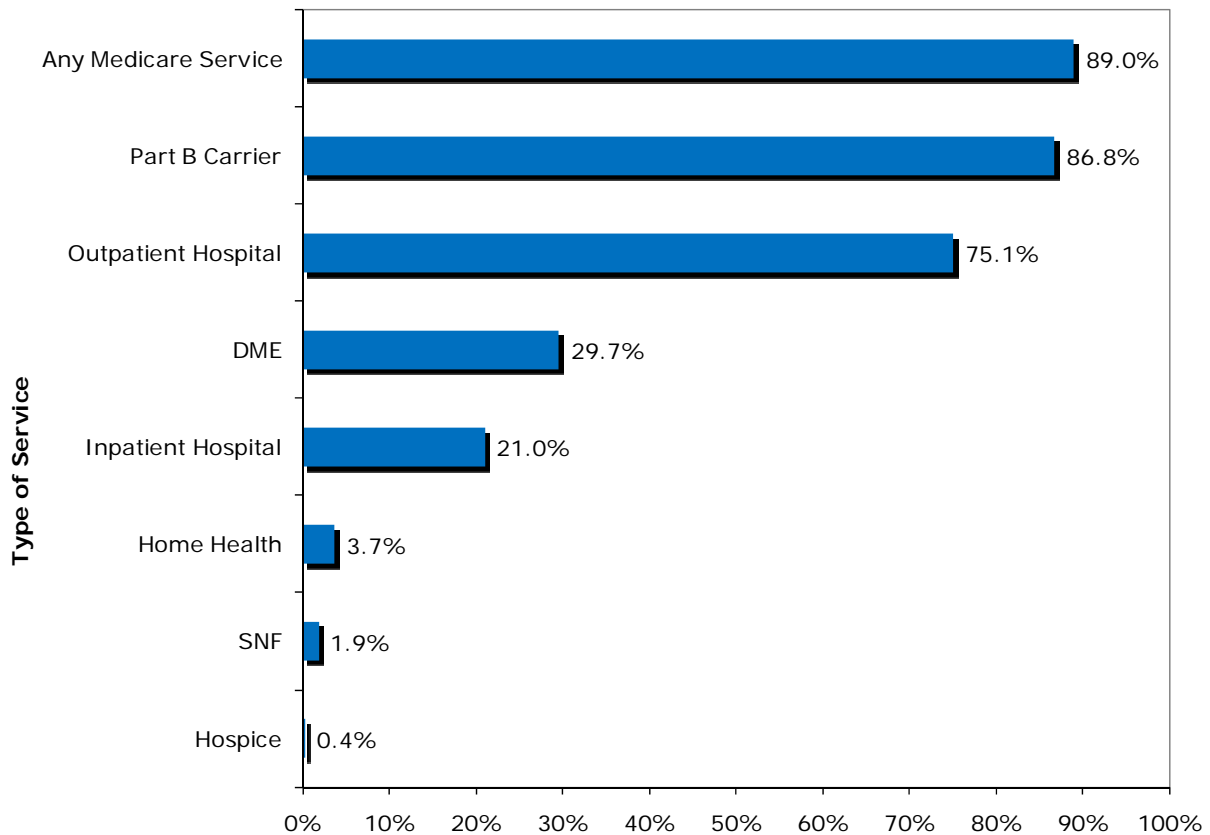
Dual Buy-In participants also had much lower PMPM Medicaid expenditures for some institutional and community long term care services (such as mental hospital services for the aged, inpatient psychiatric facility services for those under age 21, and private duty nursing). Duals, however, had slightly higher PMPM prescription drug expenditures compared with non-duals (\$479 versus \$432). This is not surprising because the year of analysis (2005) was before the advent of Medicare Part D in 2006.

C. Medicare Service Use and PMPM Expenditures, 2005

Part B carrier expenditures had the most widespread use, with 87 percent of dual Buy-In participants using these services (Figure IV.5, see Appendix Table F.6 for state-level information). Outpatient hospital services were used by 75.1 percent of dual participants. However, only 30 percent of dual participants used DME and 21 percent used inpatient hospital services. The remaining services were used by only a small fraction of dual participants: home health care (3.7 percent), SNFs (1.9 percent), and hospice care (0.4 percent). These low service use rates are not surprising given that Buy-In participants are working members of the labor

force. Conversely, we see relatively high use of Part B carrier services, which include physician visits and lab services, as well as minor procedures that require an outpatient hospital stay, among workers with disabilities.

Figure IV.5 Percent of Medicare-Eligible Buy-In Participants Using Medicare Services, by Service Type, 2005

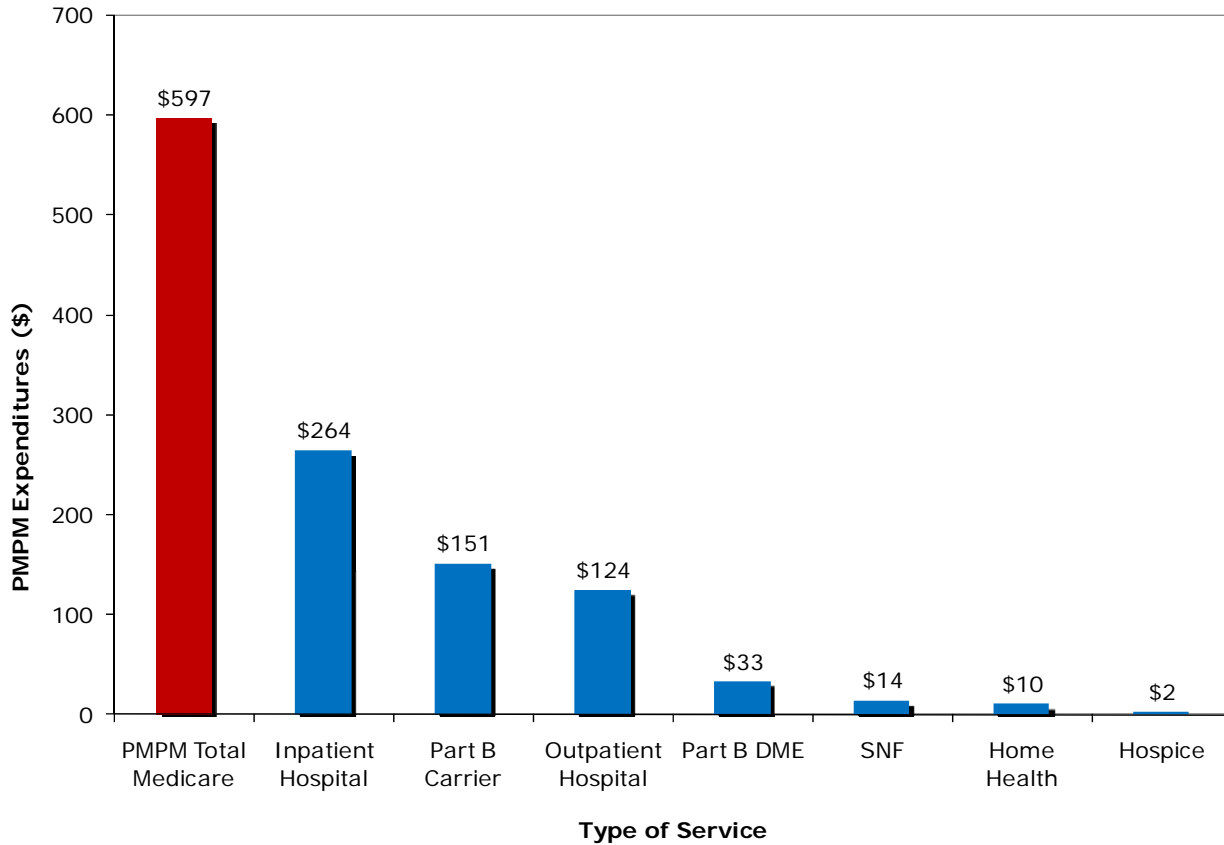


Source: Medicaid Buy-In finder files; 2005 MAX data files.

Medicare PMPM expenditures among dual Buy-In participants totaled \$597 in 2005, with \$264 spent on inpatient hospital expenditures, \$151 going to Part B carrier expenditures, and \$124 to outpatient hospital expenditures (Figure IV.6, see Appendix Table F.7 for state-level information). Just \$33 went to Part B DME, \$14 to SNF, \$10 went to home health, and \$2 to hospice. Although inpatient hospital services represented the highest total and PMPM Medicare expenditure category, only 21 percent of Medicare-eligible Buy-In participants used this service

in 2005. This finding shows that users of inpatient care services, which may include surgeries or major procedures, incurred high expenditures, which is expected for inpatient hospitalizations.

Figure IV.6 PMPM Medicare Expenditures, By Service Type, 2005



Source: Medicaid Buy-In finder files; 2005 MAX data files; 2005 Medicare claims files.

D. Summary of Findings

This chapter produced several key findings on the distribution of total expenditures, service use, and PMPM expenditures of Buy-In participants by type of service.

- Prescription drugs were the most frequently used services (91 percent) and accounted for the largest share of total Medicaid spending for Buy-In participants (36 percent). This finding indicates that Buy-In participants have the greatest need for prescription drugs to manage their disabling conditions and health.
- Although a relatively small percentage of Buy-In participants used community long-term care (LTC) services (16 percent), this service category accounted for the second largest share of total Medicaid spending of Buy-In participants (22 percent). As more participants use this service to support employment in the future, it may have greater financial implications for the Medicaid program.

- Inpatient hospital services were used by only one-fifth of dual Buy-In participants, but accounted for the largest share of Medicare spending (44 percent) among dual participants, followed by Part B carrier services, which include physician visits and lab tests (25 percent).

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V. SUBGROUP ANALYSIS OF EXPENDITURES AND SERVICE USE BY PARTICIPANT CHARACTERISTIC

This chapter focuses on the medical expenditures and service use of Buy-In subgroups nationwide in 2005. We present findings and descriptive information about PMPM Medicaid and Medicare expenditures by age, race or ethnicity, participation in SSDI or SSI programs, and primary disabling condition. We also examine the percentage of participants who used various types of services. These findings can inform policymakers and program administrators about how service needs and expenditures vary among subgroups within the Buy-In population.

A. Expenditures by Demographic Characteristic

Among all Buy-In participants nationwide in 2005, PMPM Medicaid expenditures were highest among adults ages 31 to 50 (\$1,304) and lowest for those age 65 or older (\$628) (Table V.1). Lower Medicaid expenditures among the relatively small group of older Buy-In participants is not surprising because participants age 65 or older are eligible for Medicare, and Medicare is the first payer for services covered by both programs. Enrollment in Medicare can therefore lead to a shift of expenditures from Medicaid to Medicare.

PMPM Medicaid expenditures also varied by gender and ethnicity. Male participants incurred higher expenditures (\$1,346) than female participants (\$1,116). Only 0.4 percent of Buy-In participants were American Indian or Alaska Native, but this group had the highest Medicaid expenditures of all race or ethnic groups (\$1,333), followed by whites (\$1,288). The lowest expenditures (\$776) were incurred by Hispanic participants.¹⁹

¹⁹ Some differences in expenditures by race or ethnic group may not be due to the demographic characteristics themselves but to program design variation in states (such as Alaska) that have a large proportion of Buy-In participants who are American Indian or Alaska Native.

Table V.1 PMPM Medicaid and Medicare Expenditures Among Buy-In Participants Nationwide, by Demographic Characteristic and Dual Eligibility Status, 2005

	All Enrollees		Medicaid Expenditures		Dual Enrollees		Medicare Expenditures	
			Non-Dual Enrollees		Dual Enrollees		Dual Enrollees	
	Number		Number	PMPM Medicaid Expenditures	Number	PMPM Medicaid Expenditures	Number	PMPM Medicare Expenditures
Age Category^a (Finder File)								
30 or younger	9,820	\$1,148	3,994	\$1,157	5,826	\$1,143	5,826	\$378
31–50	47,830	\$1,304	9,253	\$1,104	38,577	\$1,346	38,577	\$512
51–64	38,770	\$1,213	9,654	\$1,112	29,116	\$1,242	29,116	\$731
65 or older	3,870	\$628	100	\$848	3,770	\$625	3,770	\$785
Gender (Finder File)								
Male	49,430	\$1,346	10,128	\$1,282	39,302	\$1,360	39,302	\$570
Female	50,860	\$1,116	12,873	\$988	37,987	\$1,154	37,987	\$626
Race and Ethnicity (MAX)								
White	79,957	\$1,288	17,435	\$1,083	62,522	\$1,337	62,522	\$583
Black or African American	6,481	\$1,131	1,459	\$1,032	5,022	\$1,156	5,022	\$760
American Indian or Alaska Native	409	\$1,333	113	\$1,704	296	\$1,204	296	\$524
Asian	404	\$1,177	122	\$948	282	\$1,262	282	\$414
Hispanic or Latino	1,886	\$776	633	\$885	1,253	\$729	1,253	\$610
Other or More Than One Race	585	\$1,047	90	\$1,202	495	\$1,022	495	\$516
Unknown	10,568	\$913	3,149	\$1,372	7,419	\$749	7,419	\$621
National Total	100,290	\$1,229	23,001	\$1,116	77,289	\$1,258	77,289	\$597

Source: Medicaid Buy-In finder files; 2005 MAX data file.

^a Age as of December 31, 2005.

Although dual-eligible Buy-In participants had a higher overall level of Medicaid expenditures (\$1,258) than non-duals (\$1,116), there was considerable variation across subgroups. The youngest (age 30 or younger) and oldest (age 65 or older) dual-eligible participants had somewhat lower PMPM Medicaid expenditures than their non-dual counterparts. Also, dual-eligible Buy-In participants who were American Indian, Alaska Native, or Hispanic had lower Medicaid PMPM expenditures than their non-dual counterparts.

Among all Buy-In participants in 2005 who were eligible for Medicare coverage, PMPM Medicare expenditures were \$597 (Table V.1). Expenditures generally rose from \$378 for the youngest group (age 30 or younger) to \$785 for the oldest group (age 65 or older). Unlike Medicaid expenditures, Medicare expenditures for female participants (\$626) were higher than for male participants (\$570). There was also considerable variation by race or ethnicity. African American participants had the highest Medicare expenditures (\$760), while participants reporting more than one race incurred the lowest expenditures (\$516).

B. Service Use by Demographic Characteristic

As described in Chapter IV, most Buy-In participants used Medicaid services (see Figure IV.3). More than three-fourths of Buy-In participants used prescription drugs (91 percent); physician or ambulatory services (90 percent); and lab, x-ray, or other services (77 percent). However, only a few used the remaining three types of services: inpatient hospital care (15 percent), community long-term care (15 percent), or institutional long-term care (3 percent).

We also found that the percentage using any Medicaid service in 2005 increased with age until age 65 (94 percent to 97 percent) but was lowest among participants age 65 or older (86 percent), most of whom were enrolled in Medicare and likely used Medicare services (Appendix Table G.1). Female participants were slightly more likely to use any Medicaid service (97 percent) than male participants (95 percent), even though men incurred a higher PMPM

expenditure than women overall (\$1,346 vs. \$1,116). Consistent with their relatively low PMPM expenditures, Hispanic or Latino participants were the least likely of all racial or ethnic groups to use Medicaid services (91 percent); the percentage using services was substantially higher among whites (97 percent) and American Indian or Alaska Natives (96 percent).

Among dual Buy-In participants in 2005, most (89 percent) were users of any Medicare service (see Figure IV.5). As was the case with Medicaid service use, the percentage of Buy-In participants using Medicare services varied by type of service. Only two types of Medicare services were used by most participants. Three-fourths used outpatient hospital care (75 percent), while a larger share used Part B carrier services for physician visits or lab services (87 percent). The remaining five types of services were used by less than a third of participants: Part B durable medical equipment (30 percent), inpatient hospital care (21 percent), home health care (4 percent), skilled nursing facility services (2 percent), and hospice care (less than one percent).

Our subgroup analysis of Medicare service use yielded findings that were similar to those from our Medicaid service use analysis by demographic characteristics (Appendix Table G.2). First, the prevalence of using any Medicare service increased with age (77 percent to 92 percent) until participants reach age 65, at which point Medicare service use stabilized at 92 percent. Second, female participants (91 percent) were more likely to use any Medicare service than male participants (88 percent). Third, Hispanic participants (83 percent) and Asian participants (83 percent) were the least likely to use Medicare services among racial or ethnic groups.

C. Expenditures by SSA Program Participation and Primary Disabling Condition

With regard to SSA program participation, Buy-In participants who received SSI but not SSDI benefits, as well as those receiving neither SSDI nor SSI in the previous year, had the

highest Medicaid PMPM expenditures (\$1,450 and \$1,441, respectively) (Table V.2).²⁰ The lowest PMPM expenditures (\$832) were incurred by participants who did not appear in the TRF and had no history of receiving SSDI or SSI benefits since 1996.²¹ Although dual participants generally had higher expenditures than non-duals overall, duals had lower expenditures than non-duals among SSDI only recipients, among people receiving both SSI and SSDI, and among people who were not in the TRF.

Participant expenditures also varied by type of disabling condition. Buy-In participants with mental retardation or developmental disabilities had the highest PMPM Medicaid expenditures (\$2,124), while monthly costs were lowest among those with musculoskeletal system disorders (\$704). This finding is consistent with differences in PMPM expenditures identified between these two groups in earlier reports (Liu and Ireys 2006). Similarly, PMPM expenditures for those with severe mental illness (\$1,007) and other mental disorders (\$934) were consistent with the estimated \$984 PMPM Medicaid expenditures incurred by Buy-In participants with psychiatric conditions in 2000 (Schimmel et al. 2007). Within most groups categorized by disabling condition, dual Buy-In participants incurred lower Medicaid expenditures than non-duals because Medicare is the primary payer for many services, such as inpatient hospital care. However, the national pattern of higher PMPM Medicaid expenditures for duals than non-duals was evident among persons with mental retardation or developmental disorders (\$2,179 for duals and \$1,191 for non-duals) and for participants with sensory impairments (\$837 for duals and \$703 for non-duals).

²⁰ SSI participants are people receiving SSI cash benefits; SSDI participants include people receiving SSDI benefits who may be in a nine-month trial work period (TWP) but not in an extended period of eligibility (EPE). SSA program participation was defined as having benefits in December 2004.

²¹ The “Unknown (not in TRF)” subgroup in Table V.2” includes participants who did not have a history of receiving SSI or SSDI benefits between 1996 and 2007 and therefore were excluded from the Ticket Research File.

Table V.2 PMPM Medicaid and Medicare Expenditures Among Buy-In Participants Nationwide, by SSA Program Participation, Primary Disabling Condition, and Dual Eligibility Status, 2005

	All Enrollees		Non-Dual Enrollees		Dual Enrollees		Dual Enrollees	
	Number	PMPM Medicaid Expenditures	Number	PMPM Medicaid Expenditures	Number	PMPM Medicaid Expenditures	Number	PMPM Medicare Expenditures
SSA Program Participation (TRF)								
SSDI only	69,666	\$1,242	4,451	\$1,338	65,215	\$1,236	65,215	\$629
SSI only	1,451	\$1,450	1,122	\$1,419	329	\$1,554	329	\$568
Both SSDI and SSI	2,601	\$1,209	781	\$1,314	1,820	\$1,168	1,820	\$433
Neither SSDI nor SSI	14,627	\$1,441	6,349	\$1,293	8,278	\$1,537	8,278	\$363
Unknown (not in TRF) ^a	11,945	\$832	10,298	\$852	1,647	\$721	1,647	\$691
Primary Disabling Condition (TRF)								
Severe mental illness	26,086	\$1,007	1,796	\$1,078	22,290	\$1,001	22,290	\$518
Other mental disorders	6,953	\$934	693	\$972	6,260	\$930	6,260	\$399
Mental retardation	12,879	\$2,124	765	\$1,191	12,114	\$2,179	12,114	\$242
Musculoskeletal system	10,967	\$704	1,386	\$948	9,581	\$672	9,581	\$638
Sensory impairments	1,986	\$823	234	\$703	1,752	\$837	1,752	\$474
All other conditions	22,442	\$1,209	3,287	\$1,819	19,155	\$1,115	19,155	\$1,020
Unknown (in TRF)	9,032	\$1,958	4,542	\$1,288	4,490	\$2,498	4,490	\$424
Unknown (not in TRF)	11,945	\$832	10,298	\$852	1,647	\$721	1,647	\$691
National Total	100,290	\$1,229	23,001	\$1,116	77,289	\$1,258	77,289	\$597

Source: Medicaid Buy-In finder files; 2005 MAX data file; Ticket Research File.

Note: SSA program participation and primary disabling condition as of December 2004.

^a Participants who were not in the TRF did not receive SSDI or SSI benefits between 1996 and 2007.

The highest Medicare PMPM expenditures were incurred by dual participants who were not in the TRF (\$691) and those who were SSDI only recipients (\$629) (Table V.2). The lowest Medicare expenditures were among participants with neither SSDI nor SSI (\$363) as of December 2004. With respect to primary disabling condition, dual participants with “other” conditions, including cancer and diabetes, had the highest Medicare expenditures (\$1,020); in contrast, dual participants with mental retardation or developmental disabilities had the lowest Medicare expenditures (\$242).

D. Service Use by SSA Program Participation and Primary Disabling Condition

Patterns of service use by SSA program participation and primary disabling condition generally followed the patterns of expenditures across the subgroups in 2005 (Appendix Table G.3). Of the five SSA program participation subgroups, the percentage using any Medicaid service was highest among SSDI only beneficiaries (97 percent) and lowest among persons with a no history of receiving SSA benefits (90 percent). SSDI only beneficiaries had the highest rate of prescription drug use (93 percent) across the five subgroups.

The disabling condition subgroup with the highest PMPM Medicaid expenditures—people with mental retardation or developmental disabilities—also were the second most likely to use Medicaid services (97 percent). Service use among people with mental retardation exceeded service use by other subgroups for institutional long-term care; community long-term care; and lab, x-ray, and other services. Institutional long-term care includes intermediate care facility services for the mentally retarded, which are very expensive because 8 percent of total Medicaid spending was incurred by only one percent of Buy-In participants who used this service (results not shown).

Similar to the use of Medicaid services, SSDI beneficiaries were also the most likely group (91 percent) to use any Medicare services in 2005 (Appendix Table G.4). Across different types

of services, SSDI beneficiaries were most likely to use inpatient hospital care (22 percent); outpatient hospital care (77 percent); Part B carrier services, which include physician visits (89 percent); and Part B durable medical equipment (31 percent). Persons with neither SSDI nor SSI were least likely (77 percent) to use any Medicare services.

We also found several important differences in Medicare service use rates by primary disabling condition. For example, persons with severe mental illness and musculoskeletal system disorders had the highest likelihood of using any Medicare service (91 percent). These two groups were also more likely to use Part B carrier services (89 percent and 88 percent, respectively).

E. Summary of Findings

We analyzed the Medicaid and Medicare PMPM expenditures and service use rates in 2005 among Buy-In participants overall and by select participant characteristics, including demographics, SSA program participation, and primary disabling condition. The analysis yielded several key findings.

- **Age.** Older participants had higher Medicare service use rates and incurred higher PMPM Medicare expenditures (among duals) than younger participants. However, adults age 31 to 50 had the highest level of PMPM Medicaid expenditures in 2005. Participants who were at least 65 years old had the lowest PMPM Medicaid expenditures and Medicaid service use rate.
- **Gender.** Female participants were more likely to use Medicaid services and, among duals, were more likely to use Medicare services than male participants. Among duals, women also incurred somewhat higher PMPM Medicare expenditures than men. However, women incurred *lower* PMPM Medicaid expenditures than men.
- **Race and Ethnicity.** Hispanic or Latino participants were the least likely of six ethnic groups to use any Medicaid service and also incurred the lowest Medicaid PMPM expenditures. Whites, American Indians, and Alaska Natives had the highest Medicaid PMPM expenditures among racial and ethnic groups.
- **SSA Program Participation.** SSDI only beneficiaries were the most likely to use any Medicaid or Medicare services. However, SSI only recipients incurred the highest level of PMPM Medicaid expenditures. Participants with no history of receiving SSDI or SSI benefits incurred the lowest PMPM Medicaid expenditures.

- **Primary Disabling Condition.** Individuals with mental retardation or developmental disabilities had the highest Medicaid PMPM expenditures and service use rate, but among duals, they incurred the lowest Medicare PMPM expenditures in 2005. Participants with musculoskeletal system disorders had the lowest Medicaid PMPM expenditures but also had the second-highest Medicare PMPM expenditures after persons with all “other” conditions (including cancer and diabetes).

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VI. CHANGES IN THE MEDICAL EXPENDITURES OF FIRST-TIME BUY-IN PARTICIPANTS

In the prior analyses, we examined overall trends in aggregate medical expenditures and service use among Buy-In participants. Although these analyses provide useful findings at the aggregate level, the question of how expenditures may have changed at the individual level after one's enrollment in the Medicaid Buy-In program is yet to be addressed. In this chapter, we provide answers to that question by following a cohort of individuals who were newly enrolled in the Buy-In program during 2004, and examining how their Medicaid and Medicare expenditures evolved from the year before enrollment to the year after. Specifically, we conducted analyses to address the following research questions:

1. How did average post-enrollment Medicaid expenditures differ between Buy-In participants with no prior Medicaid coverage and those who migrated from an alternative Medicaid program (hereinafter comparative analysis)?
2. Among first-time Buy-In participants with prior Medicaid coverage, how did average expenditures change between the calendar year before and the calendar year after enrollment (hereinafter change analysis)?
3. Was the same pattern in Medicaid expenditure changes evident among all new Buy-In participants with prior Medicaid coverage, regardless of their dual status or primary disabling condition in the years around enrollment (second part of the change analysis)?

Findings from these analyses can help state policymakers assess the potential cost of changing or expanding their Medicaid Buy-In programs, and may also offer insight into the *association* between first-time Buy-In participation and medical expenditures. Although no causal relationship can be determined here, the current analyses may help develop hypotheses concerning how changes in service use (and inferred health status) are associated with employment among people with disabilities. We will explore this issue in the next section. Unlike the previous chapters, in this chapter we use an individual-level analysis design.

Therefore, we provide a detailed description of methods and study population, followed by preliminary results. We also present implications and caveats at the end of the chapter.

A. How Might Work be Related to Changes in Health Expenditures in the Context of the Medicaid Buy-In Program?

The interrelationship between health and work in general is a complex issue. Under the authorizing legislation, the Medicaid Buy-In program is designed to attract persons with disabilities who are working.²² Health status affects the ability to work, therefore, individuals who enroll in the Buy-In program may be healthier than individuals with disabilities who are otherwise similar to the enrollees but choose to not enroll in the program. The inability to control for health status at the time of entry into the Buy-In program makes it difficult to fully understand the relationship between work and health among participants. That is, improvements in health status prior to Buy-In participation may have motivated a participant to enroll, but we cannot measure how health status would have evolved without the Buy-In program.

Without a randomized design to study the impact of work on health status, in this chapter we explore how expenditures evolve around the time of enrollment in the Medicaid Buy-In program, because work effort changes fairly substantially around that time. One study of Massachusetts' Buy-In program has shown that new participants with previous Medicaid coverage worked more hours in the year following Buy-In enrollment compared with the year prior; 70 hours per month compared with 28 hours (Ellison et al. 2008). Another study in Washington State found that new participants worked 54 hours per month in the year after enrollment, compared with only 38 hours per month among a matched comparison sample (Shah et al. 2009). Therefore, studying

²² The definition of work is not explicitly specified under the Balanced Budget Act (BBA) of 1997 or the Ticket to Work and Work Incentives Improvement Act (TWWIIA) of 1999. However, individuals enrolled in the "medical improvement group" in Ticket Act states must work 40 hours per month and be employed at a wage above or equal to the minimum wage (Gimm et al. 2008).

first-time Buy-In participants implies observing individuals with disabilities as they increase their work effort.

This increased work effort among Buy-In participants could be associated with, but not necessarily caused by or lead to, changes in health status, which can be measured by increases or decreases in medical service use.²³ If a participant decided to enroll in the Buy-In program because improvements in health status made work possible, this trend could be continued after enrollment, regardless of work. This type of participant may show declining service use, at least for the short term. On the other hand, people with disabilities often experience a decline in health status over time and with age, so health status could decline after enrollment for reasons unrelated to working. In addition, one's pattern of changes in health status and health care utilization may also be affected by the types of medical conditions they have.

Employment may also directly cause changes in the level and type of medical services used. Sustained employment has stressors and strains that might diminish one's health status, but productive employment could improve overall health and functioning; either could lead to changes in medical care utilization. Moreover, changes in the type of services needed may also occur; the use of institutional long-term care might be relatively low among people with disabilities who are working, whereas the use of physician and personal assistance services may be relatively high. Therefore, working may affect the share of medical expenditures paid by Medicaid and Medicare among people enrolled in both programs.

²³ Service use and expenditures can vary without change in health status as well. For example, participants who were previously lacking any health insurance coverage may alter their use patterns simply because of pent-up demand. Also, work may require participants to stay relatively healthy and more functional, which may in turn lead to use of additional service that is not related to deteriorating health. At the same time, a person who is working may find it difficult to schedule medical appointments and therefore experience declines in use, even without any change in health status.

B. Methodological Approach and Study Population

Questions about the evolution of expenditures of first-time Buy-In participants are best addressed by studying *individual-level* changes in expenditures around the time of enrollment. PMPM expenditures, the measure presented in all previous chapters, are frequently used to provide a succinct representation of monthly program costs per enrollee, but they summarize *group-level* changes over time.²⁴ To assess trends at the individual level in Medicaid and Medicare expenditures, we move away from PMPM measures in this chapter. Instead, we identify those Buy-In participants who experience increases in expenditures around the time of enrollment, other participants who experience decreases, and the average dollar value of these expenditure changes.²⁵

To calculate individual Medicaid expenditures, a person's total annual Medicaid expenditures are divided by the number of months during which a person was covered by Medicaid during that year to develop monthly Medicaid expenditures. A similar procedure is used to calculate monthly Medicare expenditures among dual eligible participants. The change in expenditures is calculated by subtracting a person's monthly expenditures in one year from their expenditures in another.²⁶

Our comparative analysis assesses differences in average monthly Medicaid expenditures in 2005 between those with and without Medicaid in 2003, the year prior to Buy-In enrollment. For our change analysis, the study population is necessarily restricted to first-time participants who

²⁴ Appendix Tables H.1 and H.2 show the national and state-level PMPM Medicaid and Medicare expenditures of first-time Buy-In participants from 2002 to 2005.

²⁵ Individual-level expenditures are more subject to outlier values than PMPM expenditures; this issue is discussed in further detail in the results section.

²⁶ Because we look at average monthly expenditures and do not control for number of enrollment months, the average of the change in individual expenditures is equal to the change in average expenditures.

had data available both before and after Buy-In enrollment. We chose to focus on the most recent data available, and limit to first-time Buy-In participants in 2004 with at least one month of Medicaid eligibility in both 2003 and 2005. To examine changes in Medicare expenditures, we must further restrict our sample to the subset of individuals who were dually eligible for Medicaid and Medicare for at least one month in both 2003 and 2005. The remainder of this section details the study population for each analysis.

1. First-Time Medicaid Enrollee Population for the Comparative and Change Analyses

In 2004, 31,198 individuals, or approximately 35 percent of the 89,250 Buy-In participants in that year were first-time enrollees in the program.²⁷ Figure VI.1 shows the fraction of first-time enrollees in 2004 that were covered by Medicaid in both 2003 and 2005, in only one of the years, or in neither year. Approximately one-third (32.2 percent) of first-time enrollees, or 10,040 individuals, were not enrolled in Medicaid in 2003, but were enrolled in 2005. This group of first-time enrollees without prior Medicaid coverage comprised one-ninth of all Buy-In participants during that year. While this group could not be included in a change analysis, we included them in the comparative analysis of expenditures of enrollees with and those without prior Medicaid coverage.

Nearly two-thirds (62.6 percent) of first-time Buy-In participants (19,517 individuals) were used in the comparative analysis, and also included in the change analysis.²⁸ This sample includes individuals who were enrolled in Medicaid in the calendar year before, the year of, and

²⁷ More than 95 percent of the first-time enrollees identified in the 2004 finder files were successfully matched to Medicaid claims records for that year. As noted elsewhere in this report, Buy-In participants in Arizona and Maine were excluded from these analyses.

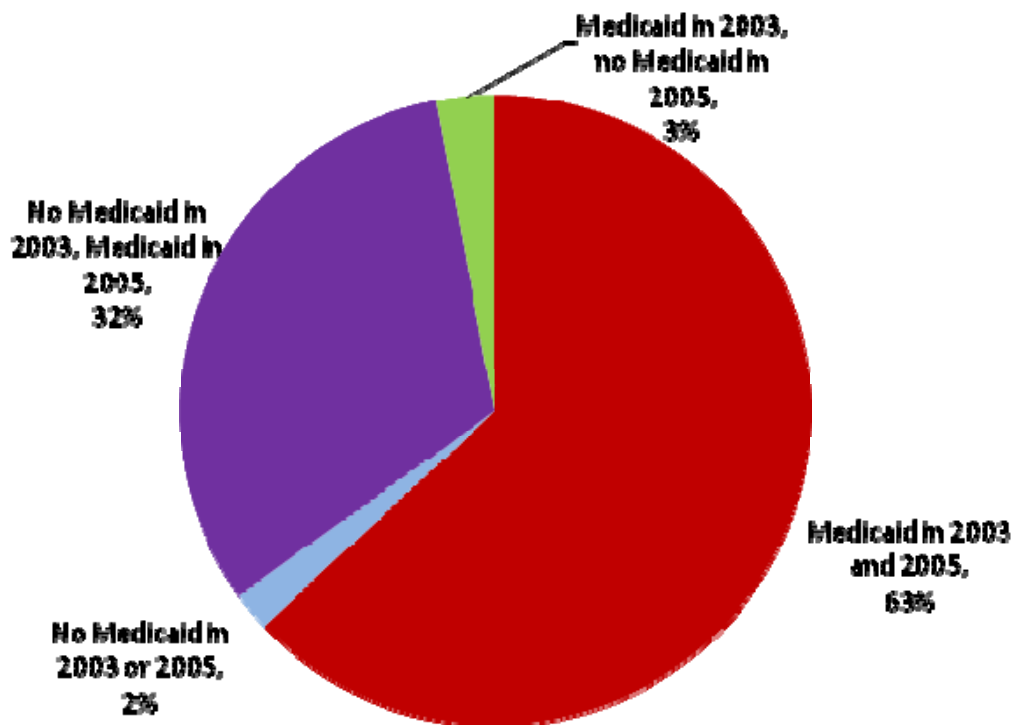
²⁸ An additional 1,045 individuals, or 3.2 percent of enrollees, had Medicaid coverage in 2003 but not in 2005, and only 1.9 percent, or 596 enrollees, were not covered by Medicaid in 2003 or 2005. Because these latter two groups are so small, they are not included in subsequent analyses.

the year after Buy-In enrollment (2003-2005). Overall, these 19,517 first-time enrollees comprised 22 percent of all Buy-In participants in 2004.

2. Dual Medicaid and Medicare Enrollee Population for the Change Analysis

While roughly seven in ten participants in the Medicaid Buy-In program are SSDI beneficiaries, not all first-time Buy-In participants with SSDI have Medicare coverage because some people may have recently become eligible for SSDI and are still within the two-year waiting period for Medicare coverage (Livermore 2009). As time passes, more first-time enrollees become eligible for Medicare.

Figure VI.1 Distribution of 2003 and 2005 Medicaid Coverage Among 2004 First-Time Buy-In Participants



Source: Medicaid Buy-In finder files; 2003-2005 MAX data files

Notes: Percentages are calculated based on the full sample of 2004 first-time enrollees with available 2004 Medicaid expenditure data (n=31,379).

In 2004, 67.8 percent of the 19,517 first-time Buy-In participants in 2004 with Medicaid coverage in both 2003 and 2005 were dual eligible in Medicaid and Medicare (data not shown), whereas only 58.0 percent were dually eligible in 2003 and 77.6 percent were dually eligible in

2005. However, for an analysis of the change in Medicare expenditures, only individuals with both Medicaid and Medicare coverage before and after Buy-In enrollment could be included.²⁹

Overall, 57.6 percent of first-time Buy-In participants in 2004 who had prior Medicaid coverage were duals in both 2003 and 2005, while 20.0 percent had Medicaid only in 2003 but were duals in 2005, and 22.0 percent had Medicaid only in both years (Table VI.1). Less than one-half of one percent of these individuals were duals in 2003 but were not in 2005.³⁰ All of these groups were included in the Medicaid expenditure change analysis, but the change analysis of Medicare expenditures considered only the 57.8 percent (11,235 individuals) with Medicare coverage in both the calendar year before and after Buy-In enrollment. Thus, even though eight in ten Buy-In participants were enrolled in Medicare in the year following enrollment, slightly fewer than 60 percent could be included in the change analysis.

Table VI.1 Number and Percent of First-Time Buy-In Participants with Prior Medicaid Coverage by Dual Eligibility Status in 2003 and 2005

	Dual Eligible in 2005	Not Dual Eligible in 2005	Total
Dual eligible in 2003	11,235 (57.6%)	88 (<1.0%)	11,323 (58.0%)
Not dual eligible in 2003	3,901 (20.0%)	4,293 (22.0%)	8,194 (42.0%)
Total	15,136 (77.6%)	4,381 (22.4%)	19,517 (100.0%)

Source: Medicaid Buy-In finder files; 2003-2005 MAX data files

Note: Only includes the 19,517 first-time Buy-In participants in 2004 who had Medicaid coverage in both 2003 and 2005. Percentages may not sum to 100 due to rounding.

²⁹ Some first-time Buy-In participants had Medicare but not Medicaid coverage in either 2003 or 2005; because we limit our sample first to those with Medicaid coverage, we do not consider these cases in our analysis.

³⁰ Because this group is so small, we do not focus on the findings for this group and suggest that the reader interpret the statistics for that group with caution.

C. Results: Medicaid and Medicare Expenditures Among First-Time Buy-In Participants

This section addresses each of the three research questions about patterns of Medicaid and Medicare expenditures around the time of enrollment in the Buy-In program. We first compare expenditures in 2005 (the year after Buy-In enrollment) of the 10,040 first-time participants in 2004 who were not covered by Medicaid in 2003 to the 19,517 individuals who were previously covered by Medicaid. We then describe the average change in monthly Medicaid expenditures between 2003 and 2005 among the 19,517 first-time Buy-In participants in 2004 with prior Medicaid coverage and the average change in monthly Medicare expenditures among the 10,934 first-time enrollees with prior Medicare and Medicaid coverage.³¹ Finally, we explore differences in Medicaid expenditure changes by dual enrollment status in 2003 and 2005.

1. Comparison of 2005 Average Monthly Medicaid Expenditures by Previous Medicaid Coverage

In 2005, average monthly Medicaid expenditures were approximately 29 percent lower among those who were new to Medicaid in 2004 than those who had Medicaid coverage in 2003, prior to enrolling in the Buy-In (results not shown). Average monthly expenditures of those new to Medicaid were \$888 in 2005, compared with \$1,245 among those with previous Medicaid coverage. Expenditures of first-time participants new to Medicaid were lower than those with prior Medicaid coverage, regardless of dual enrollment status. This suggests that those without Medicaid coverage in the year prior to Buy-In enrollment may be healthier than those who previously were covered by Medicaid. It is also possible that those without prior Medicaid

³¹ Of the 11,235 individuals classified as dual eligible in 2003 and 2005 based on their Medicare enrollment status in both years, 301 individuals were missing Medicare claims records in both years. These cases are omitted from our Medicare expenditure analysis, reducing that analytic sample size to 10,934.

coverage are using Buy-In coverage as a wrap-around policy to coverage they have from a private, employer-sponsored health insurance plan.

2. Overall Changes in Average Monthly Medicaid and Medicare Expenditures, 2003-2005

Average monthly Medicaid expenditures among the 19,517 first-time participants in 2004 with prior Medicaid coverage rose from \$1,113 in 2003 to \$1,245 in 2005—a 11.9 percent increase (Table VI.2).³² Between 2003 and 2005, 60.1 percent of first-time Buy-In participants in 2004 with prior Medicaid coverage experienced an increase in monthly Medicaid expenditures; the rest experienced a decrease or no change (Table VI.2).

Table VI.2 Average Monthly Medicaid Expenditures in 2003 and 2005 Among First-Time Buy-In Participants Who Were Eligible for Medicaid in 2003 and 2005

2003 average monthly Medicaid expenditures	1,113
2005 average monthly Medicaid expenditures	1,245
Average change in monthly Medicaid expenditures	132
Percent experiencing increase in Medicaid expenditures, 2003-2005	60.1%

Source: Medicaid Buy-In finder files; 2003-2005 MAX data files; 2003-2005 Medicare claims files.

Notes: Analysis restricted to 19,517 first-time Buy-In participants in 2004 who had Medicaid coverage in both 2003 and 2005. A total of 123 cases had no change in expenditures between 2003 and 2005, so these individuals were included in the group with a decrease in spending. Individual monthly Medicaid expenditures are calculated by dividing individual annual expenditures by the number of months enrolled in Medicaid during the corresponding year, then averaged across all individuals. Change in individual monthly expenditures is calculated by subtracting 2003 expenditures from 2005 expenditures at the individual level, then averaging across participants. All expenditures are reported in 2005 dollars.

Average monthly Medicare expenditures among the 10,934 first-time enrollees in 2004 who were enrolled in both Medicaid and Medicare during 2003 and 2005 (a subset of the Medicaid

³² Medical expenditures are known to be skewed due to outliers. To deal with this, we first omitted the top one percent of observations and recalculated mean average monthly Medicaid expenditures. We also considered median monthly expenditures, because medians are less sensitive to outlier values. In both cases, the overall pattern remained the same.

sample above)³³ rose at a much faster rate than did the average monthly Medicaid expenditures for this group (Table VI.3). In 2003, average monthly Medicare expenditures among this group were \$481, and by 2005, they had risen to \$666, representing a 38.7 percent increase.³⁴ Despite this, the proportion experiencing an increase in monthly Medicare expenditures was lower than the proportion with increased Medicaid expenditures—56.4 percent had increased monthly Medicare expenditures from 2003 to 2005, compared with 60.1 percent with an increase in monthly Medicaid expenditures during the same time.

Table VI.3 Average Monthly Medicare Expenditures in 2003 and 2005 Among First-Time Buy-In Participants Who Were Dual Eligible in 2003 and 2005

2003 average monthly Medicare expenditures	481
2005 average monthly Medicare expenditures	666
Average change in monthly Medicare expenditures	186
Percent experiencing increase in Medicare expenditures, 2003-2005	56.4%

Source: Medicaid Buy-In finder files; 2003-2005 MAX data files; 2003-2005 Medicare claims files.

Notes: Analysis restricted to 10,934 first-time Buy-In participants in 2004 who had Medicaid coverage in both 2003 and 2005 and had at least one month of simultaneous Medicaid and Medicare coverage in each year. A total of 425 individuals had no change in Medicare expenditures from 2003 to 2005; this group is included with those who experienced a decrease. Individual monthly Medicaid expenditures are calculated by dividing individual annual expenditures by the number of months enrolled in Medicaid during the corresponding year, then averaged across all individuals. Change in individual monthly expenditures is calculated by subtracting 2003 expenditures from 2005 expenditures at the individual level, then averaging across participants. All expenditures are reported in 2005 dollars.

³³ The change in Medicaid spending among this group during the same period was close to the overall change; results stratified by dual enrollment are discussed in the next section.

³⁴ Average monthly Medicare expenditures were \$396 in 2003 and \$537 in 2005, for a change of \$141 (35.6 percent), when the top one percent of values were omitted. When using median monthly expenditures, expenditures were \$102 in 2003 to \$147 in 2005, for a change of \$45, or 44.1 percent.

3. Changes in Average Monthly Medicaid Expenditures, 2003-2005, by Dual Status in 2003 and 2005

Similar to results elsewhere in this report, the analysis of individual monthly expenditures indicated important differences in the level of Medicaid expenditures in 2003 and 2005 by dual status, as well as the magnitude of the change in expenditures between the two years.

Excluding the small number of cases that lost their dual eligibility between the two years, the group that newly became dual eligible between 2003 and 2005 was the least likely to experience an increase in Medicaid expenditures during that time; 52.4 percent of new duals had increased Medicaid expenditures, compared with 61.6 percent of continuous duals and 63.1 percent of continuous non-duals (Table VI.4).

Table VI.4 Percent Experiencing an Increase in Monthly Medicaid Expenditures between 2003 and 2005, by Dual Eligible Status

	Dual Eligible in 2005	Not Dual Eligible in 2005	Overall
Dual eligible in 2003	61.6	54.5	61.5
Not dual eligible in 2003	52.4	63.1	58.0
Overall	59.2	63.0	60.1

Source: Medicaid Buy-In finder files; 2003-2005 MAX data files

Notes: Analysis restricted to 19,517 first-time Buy-In participants in 2004 who had Medicaid coverage in both 2003 and 2005. A total of 123 individuals had no change in monthly Medicaid expenditures between 2003 and 2005. Individual monthly Medicaid expenditures are calculated by dividing individual annual expenditures by the number of months enrolled in Medicaid during the corresponding year, then averaged across all individuals. Change in individual monthly expenditures is calculated by subtracting 2003 expenditures from 2005 expenditures at the individual level, then averaging across participants. All expenditures are reported in 2005 dollars.

As shown in Table VI.5, average monthly Medicaid expenditures were \$329 (or 35.1 percent) higher in 2005 than 2003 among those who were not duals in either year (\$1,271 in 2005 compared with \$942 in 2003), the highest increase among all groups. Individuals who were duals in both 2003 and 2005 had a \$154 (13.2 percent) increase in average monthly Medicaid expenditures (\$1,320 in 2005 compared with \$1,014 in 2003). Contrary to increases in average

monthly expenditures among the consistently dual eligible and consistently non-dual eligible, Medicaid expenditures decreased among those who became dual eligible during that period by \$147, from \$1,161 to \$1,014, or 12.7 percent.³⁵ It is likely that part or all of the decrease in Medicaid expenditures for this group was offset by increases in Medicare spending.

Table VI.5 Average Monthly Medicaid Expenditures and Average Change in Monthly Expenditures from 2003 to 2005, by Dual Eligible Status

	Dual Eligible in 2005	Not Dual Eligible in 2005	Overall
2003			
Dual eligible in 2003	1,166	526	1,161
Not dual eligible in 2003	1,161	942	1,047
Overall	1,165	934	1,113
2005			
Dual eligible in 2003	1,320	670	1,315
Not dual eligible in 2003	1,016	1,271	1,149
Overall	1,210	1,259	1,245
Average Change			
Dual eligible in 2003	154	144	154
Not dual eligible in 2003	-147	329	102
Overall	76	325	132

Source: Medicaid Buy-In finder files; 2003-2005 MAX data files

Notes: Analysis restricted to 19,517 first-time Buy-In participants in 2004 who had Medicaid coverage in both 2003 and 2005. Individual monthly Medicaid expenditures are calculated by dividing individual annual expenditures by the number of months enrolled in Medicaid during the corresponding year, then averaged across all individuals. Change in individual monthly expenditures is calculated by subtracting 2003 expenditures from 2005 expenditures at the individual level, then averaging across participants. All expenditures are reported in 2005 dollars.

4. Changes in Average Monthly Medicaid and Medicare Expenditures, 2003-2005, by Primary Disabling Condition

In this section, we explore changes in medical expenditures around the time of Buy-In enrollment in 2004, looking closely at each individual's primary disabling condition in the month

³⁵ The pattern of results by dual enrollment status was generally the same regardless of whether the top one percent of observations was omitted or if median monthly expenditures were used; though in the latter, the new duals did not experience a decrease in expenditures. When the top one percent of observations was omitted, the consistent duals had an increase in expenditures of \$146, the consistent non-duals had an increase of \$179, and the new duals had a decrease of \$104. When considering medians, the consistent duals had an increase of \$74, the consistent non-duals of \$119, and the new duals an increase of \$23.

of Buy-In enrollment, as reported in the TRF. As shown previously, we found that certain disabling conditions are associated with higher average expenditures. However, we did not find that the disabling conditions with the highest average monthly expenditures are the same ones with the largest percentage changes in expenditures around the time of Buy-In enrollment.

Changes in Medicaid and Medicare expenditures from 2003 to 2005 varied by the type of disabling condition, but almost every group experienced an increase in expenditures (Table VI.6). Those with an unknown condition, either because they had no history of receiving SSDI or SSI benefits since 1996 (therefore were not included in TRF) or because they had missing disabling condition in the TRF, had the largest percentage increase in both Medicaid and Medicare expenditures; 30.3 percent and 100.3 percent, respectively.³⁶ Two groups, those with a non-severe mental illness and those with a condition not otherwise categorized for this analysis, experienced essentially no change in Medicaid expenditures between the two years. Participants with these conditions also had average or below average changes in Medicare expenditures. Those with mental retardation had Medicaid and Medicare expenditure changes very similar to the overall averages. Participants with musculoskeletal and sensory conditions experienced changes that were above average for both Medicaid and Medicare.

Despite the range in dollar and percentage changes by primary disabling condition, there was little difference by subgroup in the percentage experiencing an increase in spending. The percent of first-time enrollees experiencing an increase in Medicaid expenditures from 2003 to 2005 ranged from 53.8 to 63.2 percent. Between 53.5 to 59.5 percent of first-time enrollees experienced an increase in Medicare expenditures during the same period. Thus, it does not

³⁶ Overall in 2005, about 43 percent of cases with unknown conditions had missing primary disabling condition in TRF, and the rest (57 percent) did not have a record in TRF due to not receiving SSDI or SSI.

appear that some disabling condition groups are more likely to experience increased expenditures than other groups.

Table VI.6 Average Medicaid and Medicare Expenditures, Change in Expenditures, and Percent Experiencing an Increase in Monthly Medicaid Expenditures Between 2003 and 2005, by Primary Disabling Condition

	2003 Average Monthly Expenditures (\$)	2005 Average Monthly Expenditures (\$)	Change in Average Monthly Expenditures, 2003-2005 (%)	Percent of Participants Experiencing an Increase, 2003- 2005
Medicaid Expenditures				
Overall	1,113	1,245	11.9	60.1
Severe Mental Illness (n=4,893)	887	981	10.6	59.0
Other Mental Illness (n=1,470)	920	925	0.4	53.8
Mental Retardation (n=2,607)	1,915	2,168	13.2	63.0
Musculoskeletal Disorder (n=2,087)	587	703	19.7	60.5
Sensory Disorder (n=398)	735	863	17.5	61.3
All Other Conditions (n=4,535)	1,232	1,227	-0.5	58.8
Unknown (n=3,527)	1,114	1,451	30.3	63.2
Medicare Expenditures				
Overall	481	666	38.7	56.3
Severe Mental Illness (n=3,299)	453	569	25.6	55.4
Other Mental Illness (n=906)	352	462	31.4	53.5
Mental Retardation (n=2,104)	187	256	36.6	55.8
Musculoskeletal Disorder (n=1,125)	445	647	45.5	58.5
Sensory Disorder (n=269)	348	566	62.7	58.0
All Other Conditions (n=2,450)	895	1,235	38.0	56.9
Unknown (n=781)	350	701	100.3	59.5

Source: Medicaid Buy-In finder files; 2003-2005 MAX data files, Ticket Research File.

Notes: Medicaid analysis restricted to 19,517 first-time Buy-In participants in 2004 who had Medicaid coverage in both 2003 and 2005. Medicare analysis limited to 10,934 first-time Buy-In participants in 2004 who had Medicaid coverage and were dual eligible in both 2003 and 2005. Individual monthly Medicaid expenditures are calculated by dividing individual annual expenditures by the number of months enrolled in Medicaid during the corresponding year, then averaged across all individuals. Change in individual monthly expenditures is calculated by subtracting 2003 expenditures from 2005 expenditures at the individual level, then averaging across participants. All expenditures are reported in 2005 dollars.

D. Discussion of Findings and Limitations

In this chapter, we examined average individual-level changes in Medicaid and Medicare expenditures among first-time enrollees. In recent years, new enrollees have comprised about one-third of total Buy-In participants (Gimm et al. 2008). Because first-time enrollees may reflect successful outreach efforts by state and new participants may lead to increased state expenditures, this is a group of considerable interest to policymakers. However, as we point out later, it is important to realize that the results presented for this population may not generalize to the broader group of Buy-In participants. Nonetheless, our analysis of the expenditures of first-time enrollees produced several key findings.

1. Summary of Findings

Of first-time participants in 2004, about one-third did not have Medicaid coverage in the year prior to enrollment. Thus, about one in nine participants in the Buy-In program in 2004 was new to Medicaid entirely in that year. Average monthly expenditures in 2005 among this group were 29 percent lower than among those with prior Medicaid coverage. This suggests that when states consider expanding Buy-In coverage to those who have not previously been covered by Medicaid, these new enrollees—though representing new burden to state Medicaid budgets—wouldn't be as costly as the migrants from another Medicaid eligibility category, at least in the short term.

Two in three first-time Buy-In participants in 2004 had Medicaid coverage in the calendar year before enrollment. Comparing average monthly Medicaid expenditures in 2003 and 2005 for this group showed that Medicaid spending increased by about 12 percent, or \$132 per month. However, four in ten participants experienced a decrease in Medicaid expenditures during that same time. While there were some differences in the magnitude of Medicaid expenditure changes by primary disabling condition, almost every group experienced an increase in

expenditures. Dual enrollment status also played an important role explaining change in average monthly Medicaid expenditures. Those who were consistent dual eligible had average monthly expenditure increases of about 13 percent, while those who were never dual had expenditure increases of approximately 35 percent. First-time participants who became duals in the year during or after Buy-In enrollment saw average monthly Medicaid expenditures fall by more than 12 percent, even though Medicare Part D had not yet been implemented. The decline in expenditures among new duals is expected to be even larger in 2006 and later, as prescription drug coverage for duals shifts from Medicaid to Medicare. Thus, for this group, states would likely experience a lower burden than during the study period, while federal expenditures would rise.³⁷

About one in three first-time Buy-In participants in 2004 were dual eligible in Medicare and Medicaid in 2003 and 2005; their average monthly Medicare spending rose by approximately 39 percent between 2003 and 2005. But, about four in ten of these participants experienced a decrease in monthly Medicare expenditures during the same time. There was very little variation in Medicare expenditure changes by disabling condition. These findings suggest that around the time of Buy-In enrollment, most participants use services covered by Medicare, such as physician visits and outpatient hospital procedures, more intensively.

2. Limitations of Analysis

We caution that the above results indicate only how expenditures change from 2003 to 2005 for those 2004 first-time Buy-In participants. In addition to the scenarios we discussed at the beginning of this chapter, they could also be a reflection of a general time trend between 2003

³⁷ This is only focusing on how claims would be billed and ignores the effect of the “clawback” provision, whereby states may be required to reimburse the federal government for some drug expenditures incurred by duals.

and 2005. Most importantly, our findings do not imply that these changes are *caused* by Buy-In enrollment. Participation in the Buy-In program is not random; therefore, we cannot observe the counterfactual of trends in participants' expenditures in the absence of the Buy-In. Furthermore, the data used for analysis in this chapter, as elsewhere in this report, are for the calendar year, while Buy-In participation can vary on a monthly basis. As a result, we are unable to attribute expenditures to only the months a person is enrolled in the Buy-In.

There are several other caveats to consider when interpreting the findings in this chapter. First, we only considered expenditure changes at a national level using first-time participants in 2004. If state experiences in 2004 were different from each other or from other years due to program maturity or other programmatic reasons, these differences would not be detected in our analysis.

Second, expenditure patterns in the year before and after Buy-In enrollment may vary depending on how long one remains in the Buy-In, if one's length of enrollment is correlated with their health status or health care use. Our analysis sample consisted of all first-time enrollees with one month or more of Buy-In enrollment, meaning that we are unable to distinguish differences in expenditure trends by length of enrollment in the Buy-In.³⁸

Third, work effort increases significantly around the time of enrollment, and may stabilize afterwards. To the extent that the observed increases in expenditures reported for first-time participants are correlated with this increase in employment, such large changes in expenditures might not be expected to sustain as individuals continue their enrollment in the Buy-In. On the

³⁸ More than 95 percent of first-time enrollees in 2004 had at least one month of Medicaid coverage in 2005. The majority of first-time enrollees included in our analysis was likely still enrolled in the Buy-In throughout much of 2005. On average, first-time enrollees between 2000 and 2006 stayed enrolled in the Buy-In for 21.5 months (results not shown). During that same time, 30 percent of participants left the program within 12 months, and another 22.6 percent left by the end of 24 months (results not shown).³⁸ Therefore, in most cases, Medicaid and Medicare expenditures in 2005 were accrued while the person was enrolled in the Buy-In.

other hand, if there are effects of work on service use and those effects are cumulative, longer-term participants may have larger changes in expenditures than first-time enrollees. We are not able to draw conclusions on the larger Buy-In population using this analysis.

Finally, by using annual data, we could not capture changes in expenditures that occur in the months immediately surrounding Buy-In enrollment, especially for those who enrolled during the middle of the year.³⁹ This could be important if expenditure patterns right around enrollment are significantly different than they are several months later.

While this analysis provides a first look at the evolution of expenditures among Buy-In participants, it suggests additional research questions for future exploration. How do Medicaid and Medicare expenditures change after multiple years in the Buy-In program—do expenditures continue to increase, or do they begin to decrease? What individual characteristics are associated with increases or decreases in expenditures over time? How do expenditures vary with the length of time that one is enrolled in the Buy-In program, and do they vary with the amount of work performed while enrolled in the Buy-In? Does the composition of spending between Medicaid and Medicare among dual eligibles change with length of Buy-In enrollment? Are expenditures higher or lower for individuals who quickly disenroll from the program as opposed to those who remain in the Buy-In for many months or years? Additional research could explore these types of questions to paint a more complete picture of the association between Buy-In participation and Medicaid and Medicare expenditures.

³⁹ Analysis of 2004 participants indicated that enrollment was roughly evenly distributed across the 12-month period (results not shown).

VII. SUMMARY AND IMPLICATIONS

Since its inception in 1997, the Medicaid Buy-In program has offered state policymakers an important option for providing health care coverage to working adults with disabilities. More than 200,000 people have been enrolled in the program at some point between 1997 and 2007. Analyzing the Medicaid and Medicare expenditures of Buy-In participants offers useful information to policymakers and program administrators who are interested in monitoring spending trends for future budget and outreach planning. It also can foster a better understanding of how service needs vary among Buy-In participants. This information can help states improve their provision of services to ensure their program will continue to meet the ongoing needs of workers with disabilities.

In this report, we used a comprehensive dataset that linked state Buy-In enrollment files with Medicaid claims, Medicare claims, and SSA administrative data. These data were available from 2002-2005, when most states had already implemented their Buy-In programs. The purpose of this report was to examine the following three research questions:

- What were the annual and PMPM Medicaid and Medicare expenditures of Buy-In participants enrolled between 2002 and 2005?
- How did Medicaid and Medicare expenditures and service use in 2005 vary by type of service and by participant characteristic—nationwide and by state?
- Among those first-time Buy-In participants, who had prior Medicaid and/or Medicare coverage and how did their expenditures change around the time of Buy-In enrollment?

A. Summary of Key Findings

1. Medicaid and Medicare Expenditures of Buy-In Participants

Between 2002 and 2005, the combined inflation-adjusted Medicaid and Medicare expenditures of Buy-In participants nationwide more than doubled from \$887 million to \$1.9 billion. A total of 74 percent of combined expenditures in 2005 were for Medicaid services (\$1.4 billion) with the remaining 26 percent for Medicare services (\$0.5 billion). In large part, this

growth in expenditures is not surprising because national Buy-In enrollment more than doubled from 51,152 to 107,687 participants over the same time period, reflecting successful implementation of the Medicaid Buy-In program in a majority of states.

Although total Medicaid expenditures rose as enrollment increased, Medicaid PMPM costs were relatively stable, varying between \$1,287 and \$1,161, depending on the year. However, Medicare PMPM costs for dual Buy-In participants reflect a somewhat different pattern. For dual participants, their Medicare PMPM costs rose from \$493 in 2002 to \$608 in 2004, before falling back to \$597 in 2005.

Dual Buy-In participants nationwide had higher PMPM Medicaid expenditures than non-duals in each year between 2002 and 2005. Duals represent 75 percent of Buy-In participants nationwide, and are more prevalent than in the broader population (41 percent) of all disabled Medicaid enrollees. This finding suggests that dual participants may have more severe conditions or different service needs than non-duals. However, in three-fourths of Buy-In states, Medicaid PMPM expenditures were lower among duals than non-duals. Duals can have lower Medicaid expenditures than non-duals because Medicare is the first payer for many services, such as inpatient hospital care.

Buy-In participants nationwide in 2005 incurred lower annual Medicaid costs per enrollee than the broader population of adult disabled Medicaid enrollees. This difference occurred nationwide and in most states with a Buy-In program. This comparative finding suggests that Buy-In participants who are working may require fewer services or use a different mix of services that are less expensive, compared with other disabled Medicaid enrollees. It is also possible that they are simply healthier.

States varied considerably in their PMPM Medicaid expenditures with 7 out of 29 states that exceeded the national average of \$1,224 in 2005. The three states with the highest PMPM

expenditures were Wyoming (\$3,623), Indiana (\$2,163), and Minnesota (\$2,104). These findings are consistent with prior studies. State differences in PMPM Medicaid expenditures may be due to variation in program eligibility criteria, participant mix of characteristics, scope of covered services, and managed care enrollment by state.

PMPM Medicare expenditures among duals had a more narrow distribution of values across states than Medicaid expenditures with 12 out of 29 states exceeding the national average of \$597 in 2005. The three states with the highest Medicare expenditures were West Virginia (\$971), Nevada (\$961), and Wyoming (\$833). This more narrow distribution of PMPM expenditures reflects the fact that Medicare covered services are defined consistently across states, whereas optional Medicaid covered services can vary by state.

2. Variation in Expenditures by Type of Service and Participant Characteristic

Prescription drugs accounted for the largest share of total Medicaid spending (36 percent or \$436 in PMPM expenditures) and were used by more participants than any other service (91 percent). This finding is based on 2005 data, one year before Medicare Part D was implemented. Community long-term care (LTC) services, which include personal assistance services (PAS), represented the second largest share of total Medicaid spending (22 percent or \$270 PMPM Medicaid expenditures).

Inpatient hospital expenditures accounted for the largest share of Medicare spending (44 percent or \$264 PMPM expenditures) among dual Buy-In participants in 2005. The second largest category of Medicare spending was Part B carrier services, which include physician visits and lab tests (25 percent or \$151 PMPM expenditures).

Older dual Buy-In participants had higher Medicare service use rates and incurred higher Medicare PMPM expenditures than younger dual participants (\$785 for those 65 years or older; \$731 for those 51-64 years, \$512 for those 31-50 years, and \$378 for those 30 years or younger).

However, adults between 31 and 50 years of age had the highest level of Medicaid PMPM expenditures (\$1,304) in 2005. Participants who were at least 65 years of age had the lowest PMPM Medicaid expenditures and service use rate. This is expected because after turning 65, they became eligible for Medicare, which is the primary payer for inpatient and physician services.

SSDI only beneficiaries were the most likely to use any Medicaid (97 percent) or Medicare service (91 percent), suggesting that SSDI beneficiaries may have greater need for services than other groups of Buy-In participants. Among dual participants who are eligible for both Medicaid and Medicare services, SSDI-only beneficiaries had the second-highest level of PMPM Medicare expenditures (\$629) after persons with no prior history of receiving SSA benefits (\$691), who are mostly 65 years or older.

Individuals with mental retardation or developmental disabilities had the highest Medicaid PMPM expenditures (\$2,124) and service use rate (97 percent), but among duals, incurred the lowest Medicare PMPM expenditures (\$242) in 2005. This finding suggests that differences in the scope of covered services may affect expenditures by type of disabling condition. For example, intermediate care facilities for persons with mental retardation or developmental disabilities are included in Medicaid long-term care services but are not covered by Medicare.

3. Change in Expenditures of First-Time Participants Around the Time of Enrollment

About one-third of first-time Buy-In participants in 2004 did not have Medicaid coverage in the year prior to enrollment. Average monthly expenditures in 2005 for this group of participants were 30 percent lower than for the two-thirds of participants with prior Medicaid coverage. This suggests that when states consider expanding Buy-In coverage to those who have not previously been covered by Medicaid, these new enrollees—though representing a new burden on state

Medicaid budgets—would not be as costly as persons migrating from another Medicaid eligibility category in the short term.

Among first-time participants with Medicaid coverage in the year prior to Buy-In enrollment (about two-thirds of new participants in 2004), average monthly Medicaid expenditures were 12 percent higher in the year after first-time Buy-In enrollment than in the year before. Among first-time participants who were dually enrolled in the year before and after Buy-In enrollment, their average monthly Medicare expenditures increased by 39 percent. Nevertheless, about 4 in 10 participants experienced a decrease in Medicaid or Medicare expenditures, respectively, during that same time. This preliminary finding varies little by disabling condition, and suggests a growing need for medical services among new Buy-In participants with a history of enrolling in Medicaid and Medicare; but other factors, such as the increasing health care needs of people as they age, may also explain this trend.

Among first-time participants who became newly dual enrolled in the year during or after Buy-In enrollment (about 12 percent of first-time participants in 2004), average monthly Medicaid expenditures fell by more than 12 percent. This preliminary finding suggests that some shifting of expenditures from Medicaid to Medicare is occurring for participants who become newly eligible for Medicare. However, overall PMPM Medicaid expenditures remain higher for dual participants than for non-duals, partly because prescription drugs represent the largest share of Medicaid expenditures and highest service use rate. Unlike inpatient acute care services, prescription drugs were not covered by Medicare before 2006, when Medicare Part D was implemented.

B. Study Limitations

The integration of state and federal data sources provides the most detailed and comprehensive information available on Medicare and Medicaid expenditures at the individual

level. Unlike aggregate data sources, the MAX data files and Medicare claims files allow for both group-level and individual-level analysis of service use and expenditures among Buy-In participants by demographic characteristic or dual eligibility status. This is a key strength of the integrated person-level data used in this report. However, this study also had several limitations.

The study was limited by potential errors in the state finder files and administrative data used. We reviewed the accuracy and completeness of the state finder files and communicated with the states to correct errors when possible. Also, some changes in Medicaid eligibility codes led to the exclusion of some Buy-In participants from the MAX files. This problem resulted in slightly lower matching rates for Indiana in 2003 and 2004. However, this lower matching rate did not have a significant impact on the national PMPM expenditure calculations.

We also had to exclude Arizona and Maine from our analytic sample because of data limitations. Some Medicaid claims appeared to be missing in all years for Buy-In participants in Arizona, and only prescription drug claims were reported in MAX 2005 data for Maine. As a result, data for these two states were excluded from the results we presented.

For much of this report, we analyzed PMPM expenditures for a group or sub-group of Buy-In participants, regardless of service use. In chapter VI, however, we analyzed changes in individual monthly expenditures, which could produce distorted estimates due to the presence of extreme outlier values (for example, a one-month hospitalization for a Buy-In participant who enrolled for only three months of a calendar year). We conducted a sensitivity analysis to look at the impact of removing the top one percent of individual expenditure values and found there was no substantial change in our results.

Finally, the trends in expenditures may be a reflection of the unique experience of Buy-In participants, but could also be related to broader changes in utilization among all Medicaid and Medicare enrollees during the same time period. Our results can suggest a potential association

but cannot attribute causality between Buy-In participation and expenditures. This limitation occurs for two primary reasons. First, even though the Medicaid and Medicare data we used are for the calendar year, Buy-In enrollment can be for less than a full year. Therefore, we cannot attribute Medicaid or Medicare expenditures only for the months a person is enrolled in the Buy-In program. Second, because participants were not randomly assigned to enroll in the program and a comparison group could not be identified, we do not know what PMPM or average medical expenditures would have been in the absence of the Buy-In program. Therefore, it is not possible to attribute causality to the program itself.

C. Implications for Future Research

Despite these limitations, this study provides many new insights about participants in the Buy-In program, which in turn can shed light on directions for future research and program development. For example, we found that growth in total inflation-adjusted Medicaid expenditures was largely driven by increases in enrollment, and much of this spending was already committed because two-thirds of new Buy-In participants migrated from another Medicaid eligibility category. It is encouraging that costs covering the same individuals are now being used for the Medicaid Buy-In program, which provides a work incentive for adults with disabilities.

We also found preliminary evidence indicating that age may be a proxy for health status because Medicare expenditures rise for older workers with disabilities. Younger adults with disabilities may be motivated to work because it provides not only monetary benefits but also a sense of purpose and belonging to the community. For older adults with disabilities, especially those receiving SSDI payments, access to health care and predictable benefit payments may be more important than the social benefits of a job.

The use of quantitative methods for tracking the expenditures, enrollment, and earnings of participants in the Medicaid Buy-In program and the capacity to link and integrate information from state and federal administrative data sources will continue to provide CMS and state policymakers with valuable information to monitor future trends and program outcomes. The integrated data we used in this report have provided some of the most comprehensive information to date on the outcomes and characteristics of Buy-In participants nationwide. Nevertheless, a wide range of research questions can be further addressed by using future administrative data combined with survey as well as other data sources and methods. For example:

- Did Medicare Part D in 2006 lead to a uniform shift in Buy-In participant expenditures from Medicaid to Medicare in every state?
- To what extent does the increase in Medicaid and Medicare expenditures over time reflect a change in health status that is unrelated to employment? Does it vary between younger and older adults with disabilities?
- What are the characteristics and employment outcomes of Buy-In participants who experience a decrease in medical expenditures?

Answers to these questions will help improve our understanding of how well the Medicaid Buy-In program is meeting the needs of participants and fulfilling the goal of improving the employment of workers with disabilities. Some states have already initiated well-designed studies to address similar questions, though many, like this one, are constrained by the fundamental design of the Buy-In program. In planning and implementing future work-incentive programs, policymakers may want to consider demonstrations using random assignment, which would greatly enhance the rigor of program evaluation.

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APPENDIX A
LIST OF MIG STATES

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Table A.1. List of Buy-In States, Implementation Dates, and Authorizing Legislation, 1997–2008

State ^a	Implementation Date	Authorizing Legislation and Groups
Massachusetts	July 1997	Section 1115 Waiver
South Carolina	October 1998	BBA
Oregon	February 1999	BBA
Alaska	July 1999	BBA
Minnesota	July 1999	BBA (before October 2000), Ticket Act Basic (since October 2000)
Nebraska	July 1999	BBA
Maine	August 1999	BBA
Vermont	January 2000	BBA
New Jersey	February 2000	Ticket Act Basic
Iowa	March 2000	BBA
Wisconsin	March 2000	BBA
California	April 2000	BBA
Connecticut	October 2000	Ticket Act Basic & Medical Improvement
New Mexico	January 2001	BBA
Arkansas	February 2001	Ticket Act Basic
Utah	June 2001	BBA
Pennsylvania	January 2002	Ticket Act Basic & Medical Improvement
Washington	January 2002	Ticket Act Basic & Medical Improvement
Illinois	January 2002	Ticket Act Basic
New Hampshire	February 2002	Ticket Act Basic
Indiana	July 2002	Ticket Act Basic
Kansas	July 2002	Ticket Act Basic & Medical Improvement
Missouri ^b	July 2002	Ticket Act Basic
Wyoming	July 2002	Ticket Act Basic
Arizona	January 2003	Ticket Act Basic & Medical Improvement
New York	July 2003	Ticket Act Basic & Medical Improvement
Louisiana	January 2004	Ticket Act Basic
Michigan	January 2004	Ticket Act Basic
North Dakota	May 2004	Ticket Act Basic
West Virginia	May 2004	Ticket Act Basic & Medical Improvement
Nevada	July 2004	Ticket Act Basic
Rhode Island	January 2006	BBA
Maryland	April 2006	Section 1115 Waiver
South Dakota	October 2006	BBA
Virginia	January 2007	Ticket Act Basic
Missouri (new) ^b	August 2007	Ticket Act Basic & Medical Improvement
Ohio	April 2008	Ticket Act Basic & Medical Improvement
North Carolina	November 2008	Ticket Act Basic & Medical Improvement

Source: Gimm et al. 2008; Mathematica communication with states.

^a States with both a MIG and Buy-In program are included. For more information on other Buy-In states, see the MIGRATS website at www.migrats.org.

^b Missouri discontinued its first Buy-In program in August 2005 and implemented a new Buy-In program in August 2007

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APPENDIX B
DATA SOURCES

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DATA SOURCES AND STUDY POPULATION

A. Data Sources

1. Medicaid Buy-In Finder Files

As a requirement of their 2008 MIG, states with a Buy-In program in 2007 were required to submit a Medicaid Buy-In finder file. This file included information—such as Social Security number (SSN), date of birth, gender, race/ethnicity, state of residence, and program enrollment and disenrollment dates—for all Buy-In participants who had enrolled between 1997 and 2007.

We verified the SSNs of Buy-In participants from the state finder files by matching them against SSA's Numident files. Identifiers that did not match due to errors or missing information were excluded from the analytic sample. Only individuals with valid SSNs were included in the analyses of this report and used to integrate information from the state finder files with federal administrative data sources.⁴⁰ We used program enrollment dates to identify all Buy-In participants ever enrolled during a calendar year (2002-2005).

2. Medicaid Analytic eXtract (MAX) Data Files

The MAX file and its source data, the Medicaid Statistical Information System (MSIS), provide extensive information on the Medicaid expenditures of more than 50 million persons who are enrolled in Medicaid each year, along with characteristics of Medicaid enrollees and claims for the services they use during a calendar year.⁴¹ In creating our analytic sample, we used the personal identifiers (SSNs) of all Buy-In participants from the state finder files to

⁴⁰ More information on the state Buy-In finder files, validation process, and linking procedures can be found in a prior report (Liu and Ireys 2006) available at www.mathematica-mpr.com/disability/medicaidbuy-in.asp.

⁴¹ MSIS data have been collected from each state since 1999 and contain eligibility information and Medicaid claims paid in each quarter of the federal fiscal year. To construct the MAX data files, MSIS claims are merged with person-level enrollment information to reflect services used by each enrollee during a calendar year. Unlike aggregated Medicaid expenditure data reported in CMS Form-64, the MAX files allow a researcher to examine Medicaid service use and expenditures at the individual level. The MAX data files are based on verified MSIS data and are therefore considered to be more accurate than MSIS files (Wenzlow et al. 2008).

identify matching records in the MAX data. The MAX file matching rate was 94 to 99 percent across the MAX years (2002-2005). Similarly, matching rates by state were very high (Table B.1). Buy-In participants having at least one month of Medicaid eligibility were included in the sample.

For this report, we used the MAX person summary (PS) files, which include individual-level monthly indicators of Medicaid enrollment status and a summary of annual expenditures for Medicaid claims by service type for each state and the District of Columbia. Medicaid services were aggregated into six categories, as defined below.

The following six categories of Medicaid services are based on definitions in the MAX data chartbook (Wenzlow et al. 2007). Long-term care services were classified into two stand-alone categories: institutional long-term care and community long-term care. Since most Buy-In participants are working in the community, this distinction is helpful for monitoring support services (for example, personal care services) used at home or in a workplace setting.

- “Inpatient hospital” includes all acute care services provided in a hospital, such as diagnostic lab tests and surgical procedures.
- “Prescription drugs” includes all Medicaid prescriptions filled, except those bundled with inpatient, nursing home, or other services. Examples include medications obtained at a pharmacy or through a mail-order service.
- “Institutional long-term care” includes mental hospital services for the aged, inpatient psychiatric services for those under age 21, intermediate care facility services for the mentally retarded (ICF/MR), and nursing facility services.
- “Community long-term care” includes long-term care services provided in a non-institutional setting, such as personal care services to assist with daily activities, home health care, and private duty nursing.
- The “physician and ambulatory” category includes physician services, dental care, other practitioner services, outpatient hospital services, clinic services, rehabilitation, physical therapy, occupational therapy, speech or hearing services, and psychiatric services.
- The “lab, x-ray, and other” category includes lab tests, x-rays, transportation, targeted case management, hospice benefits, midwife services, nurse practitioner services, durable medical equipment, and all other services.

3. Medicare Claims Files

Medicare claims files containing information on the types, dates, and costs of services used by Medicare beneficiaries were also merged with finder file records from 2002-2005. These data come from several administrative files, including the National Claims History Files (NCH) and the Standard Analytic Files (SAFs). Since these data are organized at the claims level, we used SSNs and health insurance claim account numbers (HICANs) to identify and aggregate claim payments per individual across a calendar year.⁴² This process was replicated for the seven types of Medicare claim files: (1) inpatient hospital, (2) outpatient hospital, (3) SNF, (4) home health, (5) hospice, (6) Part B carriers, and (7) durable medical equipment (DME). Buy-In participants having at least one month of simultaneous Medicare and Medicaid eligibility in a calendar year were included in the analytic sample.

The following seven categories of Medicare services are based on the seven types of claims in the Medicare SAFs. Medicare Part A claims were classified into five broad categories of services based on the provider. Part B claims include only two categories of services: (1) durable medical equipment and (2) all other carrier claims, which include physician visits, lab tests, and other outpatient services.

- “Inpatient hospital” includes all claims submitted by hospitals for the reimbursement of acute care services, such as diagnostic tests and procedures.
- “Outpatient hospital” includes all claims submitted by institutional outpatient providers, such as hospital outpatient departments, rural health clinics, renal dialysis facilities, outpatient rehabilitation facilities, and community mental health centers.
- “Skilled nursing facility (SNF)” includes claims submitted by SNFs, which are inpatient facilities (either freestanding or part of a hospital) that accept patients who

⁴² The Medicare SAF data contain final action claims submitted by providers for reimbursement. Technical documentation for each file may be found here: www.resdac.umn.edu/Medicare/file_descriptions.asp#inpatient.

need care that is less intensive than that received in a hospital. SNFs do not include nursing homes or facilities for the aged that primarily provide custodial care.

- “Hospice” includes claims submitted by hospital providers, including routine care and inpatient respite care services.
- “Home health” includes all claims submitted by home health agency providers. Examples of services include home visits by personal aides, physical therapy, speech therapy, occupational therapy, and medical social services.
- Medicare Part B “carrier” is a broad category of services provided in non-institutional settings. Examples of such services include physician visits, lab services, ambulance services, and minor procedures in free-standing ambulatory surgical centers.
- Medicare Part B “durable medical equipment (DME)” includes claims from DME suppliers and may include wheelchairs, nebulizers, and oxygen tents.

4. SSA Ticket Research Files (TRF)

The TRF is an annually updated SSA data set with information on individuals age 18 to 64 who received SSDI or SSI benefits at any time. The most recent file, produced in 2008, contains information on beneficiaries from March 1996 through December 2007. These data, covered under the CMS-SSA interagency data use agreement, were culled from other SSA administrative files and include information on primary disabling condition, SSDI/SSI program participation, and SSA benefit payments. The TRF data were merged to the finder files using verified SSNs.

The TRF data set does not include Medicaid Buy-In participants who never received SSDI/SSI benefits between March 1996 and December 2007. For Buy-In participants who are not in the TRF, we could not identify their primary disabling condition. Nevertheless, more than 70 percent of Buy-In participants were SSDI or SSI beneficiaries between 1996 and 2007 and are likely to be included in the TRF (Gimm et al. 2008).

B. Data Limitations

The integration of state and federal data sources provides the most detailed and accurate information available on Medicare and Medicaid expenditures at the individual level. Unlike aggregate data sources, the state finder files, MAX data files, Medicare claims files, and the TRF

allow for the individual-level analysis of service use and expenditures among Buy-In participants and subgroups of participants by demographic characteristic, dual-eligibility status, and primary disabling condition. This is a key strength of the integrated person-level data set used in this report.

However, there are a few data limitations that affect the interpretation of the results presented in this report. First, some Medicaid expenditures are not captured in MAX, such as bulk payments for a group of enrollees, which are distributed as lump-sum payments. Second, managed care payments for enrollees in prepaid plans are included in MAX but cannot be identified by type of service because they are not submitted as individual claims, unlike FFS claims. Therefore, we removed managed care enrollees from our analysis of FFS expenditures.

Third, we excluded two states from our sample because of Medicaid data anomalies. Maine only reported prescription drug claims in 2005, while Arizona had an unusually low amount of Medicaid expenditures among Buy-In participants in all years. We therefore excluded both states from our analytic sample for 2002-2005. Finally, Medicare FFS claims only included Part A and Part B services but excluded managed care payments (Part C).

C. Study Population

For this report, we limited the study population to develop analytic samples that would best address each research question. Table B.1 provides a breakdown of the study population for the year 2005 after we applied various restrictions and exclusions needed to address the three research questions.

First, we reviewed the state finder files and verified SSNs for a total of 110,563 participants. The national and state counts appear in the far left column. Second, we developed an analytic sample of participants with Medicaid expenditures by matching these verified SSNs with the MAX data files. This process yielded 107,687 participants after excluding Maine and Arizona.

This analytic sample, which appears in the next column to the right, was used to examine patterns in total Medicaid expenditures. We restricted the sample of Buy-In participants with a matching MAX record to those who had at least one simultaneous month of Medicare and Medicaid enrollment. This step yielded 81,050 “dual” Buy-In participants. These analytic samples were used to address the first research question in this report.

For the analysis of FFS expenditures by type of service, we restricted the study population further by excluding all managed care enrollees. This step was needed because it is not possible to classify managed care payments by type of service due to limitations of the MAX and Medicare claims data. The exclusion of managed care enrollees yielded an analytic sample of 100,290 participants. This sample was used to address the second research question on how expenditures varied by type of service and participant characteristic.

To address the third research question, we examined first-time participants who enrolled in 2004 and studied changes in average monthly Medicaid and Medicare expenditures between 2003 and 2005. We restricted the study sample to first-time participants in 2004 who had Medicaid expenditures in both 2003 and 2005. The resulting analytic sample included 19,517 participants. Among these participants, 11,235 had Medicare expenditures in both 2003 and 2005.

Table B.1 Number of Buy-In Participants in the State Finder Files and Integrated Data Set, 2005

	Buy-In Participants in 2005 State Finder Files ^a	Participants with a Matching Record in 2005 MAX ^b	Non-Managed Care Participants with a Matching Record in 2005 MAX ^c	Dual Participants with a Matching Record in 2005 MAX ^d
Alaska	358	358	358	293
Arizona	1,015	****	****	****
Arkansas	70	60	60	33
California	2,499	2,499	2,216	2,160
Connecticut	5,050	5,025	4,989	4,115
Illinois	1,036	1,035	1,035	849
Indiana	9,877	9,870	9,712	6,097
Iowa	11,206	11,124	11,122	9,541
Kansas	1,226	1,226	1,225	1,120
Louisiana	950	950	950	549
Maine	1,181	****	****	****
Massachusetts	13,463	13,372	12,466	8,223
Michigan	629	629	517	549
Minnesota	8,113	8,109	7,901	7,279
Missouri	20,835	20,502	20,436	15,688
Nebraska	141	141	137	127
Nevada	26	26	26	18
New Hampshire	2,188	2,188	2,188	1,747
New Jersey	2,230	2,172	1,920	1,638
New Mexico	1,273	1,273	502	482
New York	4,551	4,547	4,362	3,906
North Dakota	397	397	397	356
Oregon	786	786	305	685
Pennsylvania	7,094	7,085	3,273	3,620
South Carolina	71	70	69	33
Utah	788	788	788	577
Vermont	898	897	897	813
Washington	949	934	930	782
West Virginia	273	273	268	8
Wisconsin	11,442	11,428	11,316	9,832
Wyoming	11	11	11	4
National Total	110,563	107,687	100,290	81,050

Source: Medicaid Buy-In finder files; 2005 MAX data files.

^a Ever-enrolled in 2005 with a verified SSN.

^b Matching SSN with at least one month enrolled in Medicaid.

^c Person with no months of prepaid plan enrollment.

^d Persons with at least one month of simultaneous enrollment in Medicare and Medicaid.

**** Arizona and Maine were excluded from the analyses because of data limitations.

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APPENDIX C

STATE ENROLLMENT TABLES FOR CHAPTER II

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Table C.1 Number and Percent of Buy-In Participants with a Matching MAX Record, by State and Year, 2002–2005

State	Year							
	2002		2003		2004		2005	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Alaska	251	99.6	303	98.7	345	98.9	358	100.0
Arkansas	188	94.0	76	95.0	55	94.8	60	85.7
California	931	99.9	1,177	99.8	1,612	100.0	2,499	100.0
Connecticut	3,467	99.9	3,798	100.0	4,269	99.9	5,025	99.5
Illinois	375	98.9	698	100.0	889	100.0	1,035	99.9
Indiana	3,631	85.2	4,105	52.3	4,570	48.7	9,870	99.9
Iowa	5,863	99.5	7,475	99.2	9,234	98.2	11,124	99.3
Kansas	511	99.8	832	100.0	1,023	100.0	1,226	100.0
Louisiana	–	–	–	–	518	100.0	950	100.0
Massachusetts	9,629	98.6	10,921	99.1	11,880	99.2	13,372	99.3
Michigan	–	–	–	–	41	100.0	629	100.0
Minnesota	8,132	99.8	8,417	99.9	8,046	99.9	8,109	100.0
Missouri	7,779	87.8	17,176	98.2	22,663	98.3	20,502	98.4
Nebraska	151	100.0	148	100.0	180	100.0	141	100.0
Nevada	–	–	–	–	7	100.0	26	100.0
New Hampshire	1,117	99.6	1,535	99.4	1,990	99.8	2,188	100.0
New Jersey	687	93.2	1,132	94.9	1,603	94.6	2,172	97.4
New Mexico	598	99.8	797	99.7	780	99.7	1,273	100.0
New York	–	–	944	99.5	2,889	100.0	4,547	99.9
North Dakota	–	–	–	–	273	99.3	397	100.0
Oregon	782	100.0	976	100.0	781	100.0	786	100.0
Pennsylvania	1,193	99.8	2,535	99.9	4,463	99.7	7,085	99.9
South Carolina	103	98.1	80	96.4	70	100.0	70	98.6
Utah	553	99.8	586	100.0	663	100.0	788	100.0
Vermont	681	100.0	755	99.9	848	99.8	897	99.9
Washington	154	99.4	282	98.9	544	99.1	934	98.4
West Virginia	–	–	–	–	86	100.0	273	100.0
Wisconsin	4,406	99.9	6,621	99.9	8,993	99.7	11,428	99.9
Wyoming	3	100.0	9	100.0	7	100.0	11	100.0
National Total	51,152	94.3	71,318	92.3	89,250	92.3	107,687	97.4

Source: Medicaid Buy-In finder files; 2002–2005 MAX data files.

Notes: Cells with “–” denote years in which the state did not have a Buy-In program. Individuals who are enrolled in Buy-In programs in more than one state during the same year are reported only once in the national total. As a result, the sum of participants across states will not equal the national total. Arizona and Maine were excluded from the analysis because of data limitations.

Table C.2 Number and Percent of Buy-In Participants Dually Enrolled in Medicare and Medicaid, by State and Year, 2002–2005

State	Year							
	2002		2003		2004		2005	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Alaska	189	75.3	231	76.2	273	79.1	293	81.8
Arkansas	145	77.1	50	65.8	34	61.8	33	55.0
California	794	85.3	1,007	85.6	1,409	87.4	2,160	86.4
Connecticut	2,733	78.8	3,059	80.5	3,473	81.4	4,115	81.9
Illinois	314	83.7	586	84.0	714	80.3	849	82.0
Indiana	2,605	71.7	2,361	57.5	2,306	50.5	6,097	61.8
Iowa	4,872	83.1	6,366	85.2	7,904	85.6	9,541	85.8
Kansas	456	89.2	747	89.8	929	90.8	1,120	91.4
Louisiana	–	–	–	–	274	52.9	549	57.8
Massachusetts	5,059	52.5	6,038	55.3	6,806	57.3	8,223	61.5
Michigan	–	–	–	–	39	95.1	549	87.3
Minnesota	7,142	87.8	7,334	87.1	7,183	89.3	7,279	89.8
Missouri	5,898	75.8	11,995	69.8	16,042	70.8	15,688	76.5
Nebraska	137	90.7	139	93.9	168	93.3	127	90.1
Nevada	–	–	–	–	5	71.4	18	69.2
New Hampshire	943	84.4	1,295	84.4	1,614	81.1	1,747	79.8
New Jersey	588	85.6	903	79.8	1,230	76.7	1,638	75.4
New Mexico	169	28.3	436	54.7	422	54.1	482	37.9
New York	–	–	781	82.7	2,437	84.4	3,906	85.9
North Dakota	–	–	–	–	249	91.2	356	89.7
Oregon	635	81.2	835	85.6	676	86.6	685	87.2
Pennsylvania	732	61.4	1,573	62.1	2,464	55.2	3,620	51.1
South Carolina	51	49.5	35	43.8	30	42.9	33	47.1
Utah	371	67.1	429	73.2	495	74.7	577	73.2
Vermont	613	90.0	678	89.8	764	90.1	813	90.6
Washington	138	89.6	247	87.6	454	83.5	782	83.7
West Virginia	–	–	–	–	4	4.7	8	2.9
Wisconsin	3,594	81.6	5,384	81.3	7,573	84.2	9,832	86.0
Wyoming	2	66.7	4	44.4	3	42.9	4	36.4
National Total	38,148	74.6	52,459	73.6	65,913	73.9	81,050	75.3

Source: Medicaid Buy-In finder files; 2002–2005 MAX data files.

Notes: Cells with “–” denote years in which the state did not have a Buy-In program. Individuals who are enrolled in Buy-In programs in more than one state during the same year are reported only once in the national total. As a result, the sum of participants across states will not equal the national total. Arizona and Maine were excluded from the analysis because of data limitations.

APPENDIX D

STATE EXPENDITURE TABLES FOR CHAPTER III

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Table D.1 Total Annual Medicaid Expenditures (in \$) Among Buy-In Participants, by Year and State, 2002–2005

	Total Medicaid Expenditures (\$)			
	2002	2003	2004	2005
Alaska	\$2,126,265	\$3,849,236	\$4,233,370	\$5,473,040
Arkansas	1,017,151	389,267	391,914	569,117
California	6,136,158	9,112,950	13,088,935	22,266,593
Connecticut	42,840,438	44,287,477	55,355,213	73,532,642
Illinois	1,880,370	4,616,200	6,700,774	8,280,565
Indiana	102,823,287	90,319,898	92,547,537	235,634,479
Iowa	48,276,183	67,952,460	90,309,262	117,438,954
Kansas	3,152,517	6,606,145	9,782,501	12,556,204
Louisiana	–	–	2,858,698	6,729,251
Massachusetts	69,829,776	79,957,258	90,355,397	109,759,487
Michigan	–	–	307,745	4,266,589
Minnesota	131,979,774	150,888,313	170,183,001	192,369,633
Missouri	110,742,937	196,412,569	259,755,431	237,221,098
Nebraska	1,225,069	1,113,814	1,470,261	1,260,542
Nevada	–	–	81,426	180,320
New Hampshire	20,298,657	28,267,960	30,974,605	26,380,133
New Jersey	5,142,978	8,330,047	13,970,361	21,279,739
New Mexico	5,883,486	7,541,594	6,720,957	13,048,780
New York	–	15,470,130	48,511,324	85,523,033
North Dakota	–	–	5,330,820	7,695,555
Oregon	6,167,010	8,245,481	5,970,518	6,526,907
Pennsylvania	5,775,168	14,725,890	27,846,263	48,065,612
South Carolina	1,050,870	855,445	758,199	852,072
Utah	5,842,054	5,879,363	6,826,633	8,398,979
Vermont	4,473,529	5,733,344	6,757,435	7,352,992
Washington	567,757	1,717,072	3,482,238	6,711,010
West Virginia	–	–	328,594	1,723,437
Wisconsin	41,399,925	68,298,796	98,339,203	132,994,736
Wyoming	15,846	151,298	142,510	329,695
National Total	618,458,193	820,422,113	1,052,995,538	1,393,935,980
Inflation Adjusted^a	671,434,364	870,843,979	1,088,705,064	1,393,935,980

Source: Medicaid Buy-In finder files; 2002–2005 MAX data files.

Notes: Cells with “–” denote years in which the state did not have a Buy-In program. Individuals who are enrolled in Buy-In programs in more than one state during the same year are reported only once in the national total. As a result, the sum of participants across states will not equal the national total. Arizona and Maine were excluded from the analysis because of data limitations.

^a Inflation-adjusted national totals are reported in 2005 dollars.

Table D.2 Total Annual Medicare Expenditures (in \$) Among Dual Eligible Buy-In Participants, by Year and State, 2002–2005

	Total Medicare Expenditures (\$)			
	2002	2003	2004	2005
Alaska	\$895,487	\$1,354,014	\$2,693,495	\$2,432,068
Arkansas	700,730	312,683	150,838	229,951
California	4,903,515	7,107,314	9,626,183	15,070,371
Connecticut	15,244,114	18,977,855	22,809,421	28,027,743
Illinois	1,027,226	2,810,821	3,414,859	4,629,198
Indiana	8,034,674	11,314,172	14,196,407	29,735,696
Iowa	28,369,708	39,847,186	54,247,157	71,641,093
Kansas	1,906,892	4,103,760	5,826,879	7,295,567
Louisiana	–	–	1,634,892	3,901,076
Massachusetts	24,080,938	34,690,019	45,328,587	55,813,788
Michigan	–	–	67,280	2,317,803
Minnesota	36,584,628	41,428,553	42,569,375	43,753,849
Missouri	41,466,730	91,092,616	129,552,454	134,828,324
Nebraska	572,737	653,549	999,302	792,298
Nevada	–	–	10,012	183,565
New Hampshire	3,569,124	5,801,769	8,980,415	8,341,200
New Jersey	2,574,349	4,293,319	7,747,158	11,657,766
New Mexico	711,591	2,209,460	2,464,439	2,950,687
New York	–	2,799,322	11,197,942	20,494,692
North Dakota	–	–	1,084,765	1,736,954
Oregon	1,854,367	3,690,064	3,239,767	3,543,977
Pennsylvania	3,756,071	10,342,867	17,822,537	26,205,268
South Carolina	217,230	390,137	207,428	156,574
Utah	2,373,150	2,536,994	3,740,188	3,743,364
Vermont	2,570,622	3,476,484	4,061,476	4,398,792
Washington	463,898	1,380,673	2,357,439	3,485,407
West Virginia	–	–	46,889	65,042
Wisconsin	16,908,503	28,980,377	44,930,371	66,274,651
Wyoming	23,902	83,939	46,257	34,134
National Total	198,715,574	319,563,680	440,606,938	553,492,728
Inflation Adjusted^a	215,737,242	339,203,567	455,548,943	553,492,728

Source: Medicaid Buy-In finder files; 2002–2005 MAX data files; 2002–2005 Medicare claims files.

Notes: Cells with “–” denote years in which the state did not have a Buy-In program. Individuals who are enrolled in Buy-In programs in more than one state during the same year are reported only once in the national total. As a result, the sum of participants across states will not equal the national total. Arizona and Maine were excluded from the analysis because of data limitations.

^a Inflation-adjusted national totals are reported in 2005 dollars.

Table D.3 Annual Medicaid Expenditures per Enrollee in 2005 and FY 2006

State	Total Number of Buy-In Participants (2005)	Annual Medicaid Expenditures per Buy-In Participant (MAX 2005) (\$)	Estimated Total Number of Disabled Medicaid Beneficiaries (FY 2006)	Annual Medicaid Expenditures per Disabled Medicaid Beneficiary (MSIS FY 2006) (\$)	Percent Difference Between Annual Expenditures of Buy-In vs. All Disabled Medicaid Beneficiaries (%)
Indiana	9,870	23,874	151,800	13,669	75
Wyoming	11	29,972	9,600	18,120	65
South Carolina	70	12,172	141,900	9,219	32
Missouri	20,502	11,571	186,000	10,775	7
Minnesota	8,109	23,723	112,400	23,131	3
North Dakota	397	19,384	10,600	19,535	-1
Arkansas	60	9,485	112,200	10,031	-5
Wisconsin	11,428	11,638	139,700	13,345	-13
Oregon	786	8,304	80,000	10,218	-19
Michigan	629	6,783	301,000	8,439	-20
New Hampshire	2,188	12,057	22,100	15,100	-20
Pennsylvania	7,085	6,784	491,400	8,585	-21
Utah	788	10,659	34,800	13,908	-23
Louisiana	950	7,083	201,000	9,267	-24
California	2,499	8,910	963,600	11,890	-25
New York	4,547	18,809	649,900	26,535	-29
West Virginia	273	6,313	107,300	8,847	-29
Kansas	1,226	10,242	61,000	15,176	-33
New Mexico	1,273	10,250	56,200	15,358	-33
Washington	934	7,185	169,800	10,732	-33
Alaska	358	15,288	14,100	23,865	-36
Connecticut	5,025	14,633	66,200	23,034	-36
Iowa	11,124	10,557	70,000	17,082	-38
Illinois	1,035	8,001	289,700	13,933	-43
Massachusetts	13,372	8,208	248,400	14,331	-43
Vermont	897	8,197	20,800	14,876	-45
Nebraska	141	8,940	33,700	16,940	-47
Nevada	26	6,935	37,123	13,409	-48
New Jersey	2,172	9,797	160,100	21,271	-54
National Total:	107,687	\$12,944	4,942,423	\$14,057	-8%

Source: MAX 2005, Kaiser Family Foundation (MSIS 2006).

Notes: For Kaiser/MSIS data, Nevada data are from FY 2005.

FY. fiscal year.

Table D.4 PMPM Medicaid Expenditures (in \$) Among Buy-In Participants, by Year and State, 2002-2005

	PMPM Medicaid Expenditures (\$)			
	2002	2003	2004	2005
Alaska	\$902	\$1,356	\$1,295	\$1,612
Arkansas	688	527	655	916
California	629	728	770	869
Connecticut	1,131	1,053	1,169	1,324
Illinois	625	653	730	758
Indiana	3,394	3,700	3,248	2,163
Iowa	781	841	901	995
Kansas	600	746	886	927
Louisiana	–	-	680	705
Massachusetts	666	681	711	791
Michigan	–	–	627	611
Minnesota	1,467	1,611	1,883	2,104
Missouri	1,614	1,094	1,062	1,162
Nebraska	727	692	767	821
Nevada	–	–	2,036	656
New Hampshire	1,743	1,670	1,447	1,121
New Jersey	711	724	829	929
New Mexico	962	920	884	983
New York	–	1,833	1,583	1,674
North Dakota	–	–	1,896	1,749
Oregon	729	773	690	738
Pennsylvania	535	593	639	681
South Carolina	925	1,017	1,011	1,166
Utah	1,221	1,065	1,056	1,076
Vermont	605	714	755	769
Washington	400	590	623	685
West Virginia	–	–	698	774
Wisconsin	900	963	1,000	1,064
Wyoming	792	1,940	2,127	3,623
National Total	1,185	1,108	1,123	1,224
Inflation Adjusted^a	1,287	1,177	1,161	1,224

Source: Medicaid Buy-In finder files; 2002–2005 MAX data files.

Notes: Cells with “–” denote years in which the state did not have a Buy-In program. Individuals who are enrolled in Buy-In programs in more than one state during the same year are reported only once in the national total. As a result, the sum of participants across states will not equal the national total. Arizona and Maine were excluded from the analysis because of data limitations.

^a Inflation-adjusted national totals are reported in 2005 dollars.

Table D.5 PMPM Medicare Expenditures (in \$) Among Dual Eligible Buy-In Participants, by Year and State, 2002–2005

	PMPM Medicare Expenditures (\$)			
	2002	2003	2004	2005
Alaska	\$430	\$505	\$876	\$705
Arkansas	426	553	377	600
California	539	613	593	609
Connecticut	488	539	569	585
Illinois	286	413	415	473
Indiana	260	412	533	422
Iowa	516	552	604	660
Kansas	360	478	545	564
Louisiana	–	–	536	660
Massachusetts	416	506	589	600
Michigan	–	–	145	367
Minnesota	442	488	512	516
Missouri	609	680	723	750
Nebraska	379	407	510	551
Nevada	–	–	167	961
New Hampshire	325	390	483	416
New Jersey	382	413	548	623
New Mexico	409	570	567	567
New York	–	308	394	450
North Dakota	–	–	368	419
Oregon	254	378	410	443
Pennsylvania	463	596	658	655
South Carolina	375	929	608	400
Utah	574	523	668	564
Vermont	367	447	462	467
Washington	291	487	448	388
West Virginia	–	–	977	971
Wisconsin	413	474	521	592
Wyoming	996	1,952	1,285	833
National Total	454	536	588	597
Inflation Adjusted^a	493	569	608	597

Source: Medicaid Buy-In finder files; 2002–2005 MAX data files; 2002–2005 Medicare claims files.

Notes: Cells with “–” denote years in which the state did not have a Buy-In program. Individuals who are enrolled in Buy-In programs in more than one state during the same year are reported only once in the national total, and as a result, the sum of participants across states will not equal the national total. Arizona and Maine were excluded from the analysis because of data limitations.

^a Inflation-adjusted national totals are reported in 2005 dollars.

Table D.6 PMPM Medicaid Expenditures (in \$): Duals vs. Non-Duals, by State, 2002–2005

	Duals				Non-Duals			
	2002	2003	2004	2005	2002	2003	2004	2005
Alaska	\$785	\$1,023	\$1,191	\$1,466	\$1,295	\$2,604	\$1,776	\$2,356
Arkansas	626	542	521	581	909	501	888	1,424
California	618	693	740	831	701	965	1,003	1,144
Connecticut	1,189	1,051	1,191	1,365	891	1,066	1,064	1,114
Illinois	559	614	695	736	1,030	913	903	870
Indiana	4,102	4,979	4,407	2,814	1,405	1,932	2,015	949
Iowa	699	759	828	882	1,274	1,386	1,404	1,865
Kansas	576	728	865	919	837	937	1,144	1,030
Louisiana	–	–	272	447	–	–	1,325	1,143
Massachusetts	716	686	648	651	606	673	804	1,049
Michigan	–	–	618	580	–	–	804	868
Minnesota	1,461	1,597	1,833	2,046	1,517	1,730	2,359	2,698
Missouri	1,628	1,131	1,104	1,205	1,563	994	951	1,009
Nebraska	702	567	757	801	999	3,026	928	1,025
Nevada	–	–	348	353	–	–	5,170	1,524
New Hampshire	1,813	1,783	1,513	1,164	1,260	968	1,093	921
New Jersey	687	703	778	886	885	834	1,034	1,083
New Mexico	561	701	624	542	1,127	1,198	1,228	1,267
New York	–	1,906	1,681	1,783	–	1,398	984	998
North Dakota	–	–	1,842	1,780	–	–	2,558	1,431
Oregon	714	771	649	701	795	784	965	1,011
Pennsylvania	460	505	540	606	676	758	792	777
South Carolina	1,049	1,416	957	1,242	804	698	1,052	1,089
Utah	926	864	881	907	1,929	1,693	1,671	1,658
Vermont	594	717	743	749	711	690	876	973
Washington	341	576	593	575	1,000	732	811	1,369
West Virginia	–	–	1,103	681	–	–	669	777
Wisconsin	878	937	964	1,024	1,012	1,093	1,221	1,353
Wyoming	514	1,071	751	769	1,442	2,765	3,725	5,027
National Total	1,245	1,132	1,132	1,253	991	1,032	1,094	1,124
Inflation Adjusted^a	1,351	1,202	1,170	1,253	1,076	1,095	1,131	1,124

Source: Medicaid Buy-In finder files; 2002–2005 MAX data files.

Notes: Cells with “–” denote years in which the state did not have a Buy-In program. Individuals who are enrolled in Buy-In programs in more than one state during the same year are reported only once in the national total. As a result, the sum of participants across states will not equal the national total. Arizona and Maine were excluded from the analysis because of data limitations.

^a Inflation-adjusted national totals are reported in 2005 dollars.

APPENDIX E
SCOPE OF SERVICES

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SCOPE OF SERVICES IN MEDICARE AND MEDICAID PROGRAMS

For dual Buy-In participants, the scope of covered medical services is fragmented by type of service, which can affect Medicaid and Medicare expenditures. Broadly speaking, Medicaid covers personal assistance services, adaptive equipment for home use, and long-term care services, while Medicare covers most hospital, physician, and acute care services. However, if both programs cover the same service, Medicare is usually the primary payer for that service. For participants with Medicaid coverage only, Medicaid covers inpatient and outpatient hospital services, physician visits, laboratory and x-ray services, and durable medical equipment (for those eligible for nursing home services).

Dual eligibility offers two advantages compared to having Medicaid coverage only. First, Medicare pays for some types of services that are not covered by Medicaid, such as inpatient psychiatric care for people ages 22 to 64 as well as services that may not be available as a state option—for example, hospice care and durable medical equipment.

Similarly, for disabled persons already enrolled in Medicare but not in Medicaid, there are “wraparound” benefits and advantages to dual eligibility. While Medicare covers emergency services and inpatient hospitalization, doctor visits, and some durable medical equipment like Medicaid does, it does not cover long-term care services, including personal assistance services,⁴³ home health services, prescription drugs (from 2002 to 2005), or transportation to medical appointments. Disabled Medicare beneficiaries may therefore wish to obtain access to these additional Medicaid-covered services.

⁴³ Personal assistance services include a range of services designed to help a participant perform activities of daily living (such as bathing, dressing, and eating) and, in some cases, instrumental activities of daily living (such as cleaning the house, preparing meals, shopping for food or clothing, and managing money) that the individual would typically perform without assistance if not disabled.

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APPENDIX F

STATE SERVICE USE TABLES FOR CHAPTER IV

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Table F.1 Distribution of Total Medicaid FFS Expenditures for Buy-In Participants by Type of Service and State, 2005

Type of Service, as a Percentage of Total Medicaid FFS Expenditures

State	Number of Participants	Total Medicaid FFS Expenditures (\$) in 2005	Hospital Inpatient	Prescription Drug	Institutional Long-Term Care	Community Long-Term Care ^a	Physician and Ambulatory Services ^b	Lab, X-ray, and Other ^c
Alaska	358	5,473,040	6.7	40.4	0.4	18.2	15.5	19.0
Arkansas	60	568,559	15.7	23.8	0.0	0.4	46.5	13.6
California	2,216	19,434,904	5.9	52.4	1.0	11.8	12.7	16.1
Connecticut	4,989	73,149,162	3.6	33.5	1.2	33.5	8.3	19.9
Illinois	1,035	8,280,565	4.0	58.6	1.0	5.2	19.8	11.4
Indiana	9,712	234,224,813	3.2	15.3	40.6	20.4	10.3	10.2
Iowa	11,122	111,395,835	10.6	46.2	2.7	8.4	16.0	16.1
Kansas	1,225	12,526,104	4.2	48.3	0.4	2.7	35.6	8.9
Louisiana	950	6,721,943	23.8	37.4	2.0	1.0	23.5	12.2
Massachusetts	12,466	95,982,312	6.1	52.6	2.2	3.0	19.8	16.3
Michigan	517	1,939,865	2.8	89.5	0.0	0.0	5.9	1.8
Minnesota	7,901	185,453,108	2.2	23.6	0.5	44.6	15.6	13.4
Missouri	20,436	236,628,437	4.1	47.5	0.9	23.9	13.7	9.8
Nebraska	137	1,216,097	2.2	42.2	0.7	17.9	23.2	13.7
Nevada	26	179,742	14.5	26.3	1.4	26.9	16.0	14.9
New Hampshire	2,188	26,380,133	4.3	31.9	0.9	1.3	41.8	19.8
New Jersey	1,920	19,012,070	10.1	49.9	2.4	4.3	25.2	8.0
New Mexico	502	2,332,441	35.1	5.9	2.4	17.9	21.9	16.8
New York	4,362	83,229,475	2.4	24.7	2.2	43.1	17.5	10.1
North Dakota	397	7,695,541	8.3	16.6	1.3	17.1	14.6	42.0
Oregon	305	2,008,078	3.5	46.6	3.0	5.0	12.1	29.9
Pennsylvania	3,273	21,286,072	15.2	61.4	3.6	0.3	12.5	6.9
South Carolina	69	850,938	14.7	32.7	0.0	23.1	18.4	11.1
Utah	788	7,271,461	18.2	55.2	3.0	1.8	14.7	7.1
Vermont	897	7,352,992	4.3	56.4	0.5	1.6	28.3	8.8
Washington	930	6,577,855	7.1	60.1	0.6	14.5	13.2	4.5
West Virginia	268	1,638,116	20.5	34.3	0.5	0.4	31.5	12.7
Wisconsin	11,316	123,996,569	7.3	39.6	1.8	14.2	12.7	24.3
Wyoming	11	329,695	32.6	39.2	0.0	1.8	12.9	13.4

Type of Service, as a Percentage of Total Medicaid FFS Expenditures

State	Number of Participants	Total Medicaid FFS Expenditures (\$) in 2005	Hospital Inpatient	Prescription Drug	Institutional Long-Term Care	Community Long-Term Care ^a	Physician and Ambulatory Services ^b	Lab, X-ray, and Other ^c
National Total	100,290	1,302,673,548	5.2	35.5	8.5	22.0	15.0	13.8

Source: Medicaid Buy-In finder files; 2002–2005 MAX data files; service type classifications are from Wenzlow et al. (2007).

Notes: Arizona and Maine were excluded from the analysis because of data limitations.

^aCommunity long-term care is defined as residential care, home health, personal care services, adult day care, and private duty nursing.

^bPhysician and ambulatory services are defined as physician, outpatient hospital, clinic, dental, other practitioners, physical therapy or occupational therapy (PT/OT), rehabilitation, and psychiatric services.

^cLab, x-ray, supplies, and other wrap-around services are defined as lab, x-ray, durable medical equipment (DME), transportation, targeted case management, and all other services.

Table F.2 Distribution of Total Medicare FFS Expenditures for Dual Buy-In Participants by Type of Service and State, 2005

	Number of Participants	Total Medicare FFS Expenditures (\$)	Type of Service, as a Percentage of Total Medicare FFS Expenditures						
			Hospital Inpatient	Hospital Outpatient	SNF	Home Health	Hospice	Part B Carrier ^a	Part B DME
Alaska	358	2,432,068	40.0	22.1	0.0	1.0	0.0	32.9	4.0
Arkansas	60	229,951	37.2	38.8	0.0	0.8	0.0	21.3	1.8
California	2,216	13,419,309	40.2	21.2	1.5	1.9	0.3	28.1	6.8
Connecticut	4,989	27,963,073	45.0	22.5	2.5	1.8	0.0	25.0	3.2
Illinois	1,035	4,629,198	42.5	20.8	1.6	1.2	0.1	27.6	6.2
Indiana	9,712	29,721,638	38.1	23.7	2.9	1.3	0.8	27.9	5.3
Iowa	11,122	71,640,348	43.0	24.3	2.3	0.9	0.4	23.7	5.4
Kansas	1,225	7,295,055	45.5	19.2	2.0	0.7	0.2	28.9	3.4
Louisiana	950	3,901,076	36.6	35.0	0.0	1.3	0.0	21.7	5.4
Massachusetts	12,466	55,065,090	44.6	19.5	2.2	2.5	0.2	27.1	3.9
Michigan	517	2,115,529	33.5	30.1	0.3	0.8	0.0	31.3	4.0
Minnesota	7,901	43,142,214	45.8	17.1	2.4	1.1	0.3	27.0	6.2
Missouri	20,436	134,757,992	46.2	18.9	2.2	2.5	0.5	22.7	7.0
Nebraska	137	742,295	41.5	23.2	0.0	0.8	0.0	27.6	6.9
Nevada	26	183,565	71.0	2.4	10.3	2.0	0.0	13.8	0.6
New Hampshire	2,188	8,341,200	44.4	21.0	2.5	1.2	0.2	27.4	3.4
New Jersey	1,920	10,821,629	44.2	20.1	2.7	1.2	0.3	27.9	3.6
New Mexico	502	2,889,476	40.3	21.0	0.9	2.9	0.3	27.9	6.8
New York	4,362	20,210,270	41.6	22.6	0.8	1.0	0.1	31.1	3.0
North Dakota	397	1,736,954	39.5	27.6	2.2	0.7	0.0	25.0	5.0
Oregon	305	1,814,936	46.1	18.1	1.4	0.8	0.0	23.9	9.6
Pennsylvania	3,273	9,511,644	46.7	20.0	1.2	1.8	0.5	24.9	4.7
South Carolina	69	156,574	39.1	38.5	0.0	1.1	0.0	20.7	0.5
Utah	788	3,743,364	37.5	23.8	3.8	1.0	0.3	25.7	7.9
Vermont	897	4,398,792	40.5	23.9	2.6	2.1	0.2	26.2	4.5
Washington	930	3,485,407	38.1	22.4	1.6	0.8	0.0	32.2	4.8
West Virginia	268	65,042	53.4	12.1	2.8	2.7	2.6	24.9	1.6
Wisconsin	11,316	66,023,945	45.9	19.5	3.5	1.3	0.3	23.9	5.6
Wyoming	11	34,134	29.5	20.3	0.0	0.0	0.0	12.3	37.9

	Number of Participants	Total Medicare FFS Expenditures (\$)	Type of Service, as a Percentage of Total Medicare FFS Expenditures						
			Hospital Inpatient	Hospital Outpatient	SNF	Home Health	Hospice	Part B Carrier ^a	Part B DME
National Total	100,290	530,225,709	44.2	20.7	2.3	1.7	0.4	25.2	5.5

Source: Medicaid Buy-In finder files; 2002–2005 MAX data files; 2002–2005 Medicare claims files.

Notes: Percentages do not add up to 100 percent because individuals can use multiple service types.

Arizona and Maine were excluded from the analysis because of data limitations.

^aPart B carrier services include physician visits, lab services, ambulance services, and procedures in free-standing ambulatory surgical centers.

Table F.3 Percentage of Buy-In Participants Using Medicaid Services by Service Type and State, 2005

	Number of Buy-In Participants 2005	Percentage of Users, By Type of Service						
		Any Medicaid Service	Inpatient Hospital	Prescription Drugs	Institutional LTC	Community LTC	Physician/Ambulatory	Lab, X-Ray, and Other
Alaska	358	95.8	11.2	87.7	0.6	11.7	89.9	80.4
Arkansas	60	100.0	23.3	85.0	0.0	1.7	88.3	100.0
California	2,499	91.6	8.8	83.2	0.8	7.7	73.8	57.0
Connecticut	5,025	96.4	13.1	89.9	4.7	21.0	89.9	82.2
Illinois	1,035	97.7	7.1	93.5	1.0	6.0	90.1	79.7
Indiana	9,870	96.6	10.9	88.1	13.0	11.6	91.9	84.9
Iowa	11,124	97.8	24.3	93.5	1.0	15.3	94.9	86.9
Kansas	1,226	98.1	13.6	92.5	0.6	4.2	91.1	70.1
Louisiana	950	93.6	32.3	84.9	1.7	2.5	81.4	70.2
Massachusetts	13,372	89.4	8.1	84.8	2.2	4.4	79.6	56.7
Michigan	629	90.5	2.9	86.8	0.0	0.0	69.4	42.9
Minnesota	8,109	99.2	16.9	94.0	2.1	42.0	95.9	91.2
Missouri	20,502	98.0	16.7	95.6	1.5	19.7	94.4	77.9
Nebraska	141	94.9	17.5	91.2	1.5	10.2	92.7	84.7
Nevada	26	92.3	15.4	84.6	3.8	7.7	84.6	57.7
New Hampshire	2,188	93.9	13.0	86.5	0.9	3.1	89.1	54.8
New Jersey	2,172	92.4	11.9	87.2	0.8	4.5	78.6	60.8
New Mexico	1,273	85.1	10.8	24.3	0.4	5.8	78.9	71.7
New York	4,547	96.5	13.1	88.9	0.6	27.4	92.5	72.6
North Dakota	397	100.0	9.3	92.4	3.0	26.2	98.2	90.2
Oregon	786	95.1	1.3	87.9	1.0	4.3	70.8	63.9
Pennsylvania	7,085	95.8	15.3	92.1	3.8	2.0	85.8	70.2
South Carolina	70	94.2	13.0	88.4	0.0	15.9	84.1	81.2
Utah	788	89.5	11.8	83.2	1.9	3.8	75.1	50.9
Vermont	897	97.5	14.0	93.8	2.5	3.2	93.6	78.0
Washington	934	96.8	7.1	92.4	1.0	11.0	88.2	63.1
West Virginia	273	94.4	16.0	91.8	0.7	1.9	91.4	82.8
Wisconsin	11,428	97.3	20.1	92.5	1.8	9.2	92.8	84.5
Wyoming	11	100.0	45.5	100.0	0.0	18.2	90.9	100.0
National Total	109,845	96.0	15.3	90.7	2.9	14.9	90.1	76.5

Source: MAX data 2002-2005; Finder File data 2002-2005; service type classifications are from MAX Data Chartbook (2007).

Notes: Arizona and Maine were excluded from the analysis because of data limitations.

Community care is defined as residential care, home health, personal care services, adult day care, and private duty nursing.

Physician and ambulatory services are defined as physician, outpatient hospital, clinic, dental, other practitioners, physical therapy or occupational therapy (PT/OT), rehabilitation, and psychiatric services.

Lab, x-ray, supplies, and other wrap-around services are defined as lab, x-ray, durable medical equipment (DME), transportation, targeted case management, and all other services.

Table F.4 PMPM Medicaid FFS Expenditures for Buy-In Participants by Type of Service and State, 2005

PMPM Medicaid FFS Expenditures (\$), By Service Type

	Number of Buy-In Participants 2005	PMPM Medicaid Total (\$)	PMPM Inpatient	PMPM Prescription Drug	PMPM Institutional Long-Term Care	PMPM Community Long-Term Care ^a	PMPM Physician and Ambulatory Services ^b	PMPM Lab, X-ray, and Other ^c
Alaska	358	1,612	108	650	6	293	249	306
Arkansas	60	916	144	218	0	3	426	124
California	2,216	862	51	452	9	101	110	139
Connecticut	4,989	1,326	48	445	15	444	110	263
Illinois	1,035	758	30	444	8	39	150	86
Indiana	9,712	2,186	71	334	887	445	225	223
Iowa	11,122	944	100	436	26	80	151	152
Kansas	1,225	925	39	447	3	25	329	82
Louisiana	950	705	168	264	14	7	166	86
Massachusetts	12,466	743	45	391	16	22	147	121
Michigan	517	336	9	301	0	0	20	6
Minnesota	7,901	2,079	46	491	10	927	325	279
Missouri	20,436	1,162	48	552	11	278	159	114
Nebraska	137	811	18	342	6	145	189	111
Nevada	26	654	95	172	9	176	105	98
New Hampshire	2,188	1,121	48	358	10	15	468	222
New Jersey	1,920	949	96	474	23	41	240	76
New Mexico	502	469	164	28	11	84	102	79
New York	4,362	1,699	40	420	37	733	297	172
North Dakota	397	1,749	146	291	23	299	256	735
Oregon	305	597	21	278	18	30	72	179
Pennsylvania	3,273	689	105	423	25	2	86	48
South Carolina	69	1,167	171	382	0	270	215	130
Utah	788	932	170	514	28	17	137	66
Vermont	897	769	33	434	4	13	218	68
Washington	930	673	48	405	4	97	89	30
West Virginia	268	751	154	258	4	3	237	95
Wisconsin	11,316	1,003	73	397	18	143	127	244

PMPM Medicaid FFS Expenditures (\$), By Service Type

	Number of Buy-In Participants 2005	PMPM Medicaid Total (\$)	PMPM Inpatient	PMPM Prescription Drug	PMPM Institutional Long-Term Care	PMPM Community Long-Term Care ^a	PMPM Physician and Ambulatory Services ^b	PMPM Lab, X-ray, and Other ^c
Wyoming	11	3,623	1,182	1,422	0	65	469	485
National Total	100,290	1,229	64	436	104	270	184	170

Source: Medicaid Buy-In finder files; 2002–2005 MAX data files; service type classifications are from Wenzlow et al. (2007).

Notes: Arizona and Maine were excluded from the analysis because of data limitations.

^aCommunity long-term care is defined as residential care, home health, personal care services, adult day care, and private duty nursing.

^bPhysician and ambulatory services are defined as physician, outpatient hospital, clinic, dental, other practitioners, physical therapy or occupational therapy (PT/OT), rehabilitation, and psychiatric services.

^cLab, x-ray, supplies, and other wrap-around services is defined as lab, x-ray, durable medical equipment (DME), transportation, targeted case management, and all other services.

Table F.5 Number and Percent of Medicaid Service Users, Total Expenditures (in \$), and PMPM Expenditures (in \$) among Service Users, by Dual Status and Service Type, 2005

	All Buy-In Participants			Duals			Non-Duals		
	Number of Users	Total Medicaid FFS Exp. (\$)	PMPM FFS Exp. (\$)	Number of Users	Total Medicaid FFS Exp. (\$)	PMPM FFS Exp. (\$)	Number of Users	Total Medicaid FFS Exp.	PMPM FFS Exp.
Inpatient Hospital (IP)	15,300	67,521,489	410	11,224	20,290,514	163	4,076	47,230,975	1,176
Prescription Drugs (RX)	90,946	462,537,902	469	71,233	378,009,211	479	19,713	84,528,691	432
Institutional Long-Term Care (LT)	2,867	110,746,847	3,386	2,504	105,714,119	3,636	363	5,032,728	1,383
Mental hospital services for the aged	253	549,575	198	184	124,963	59	69	424,612	627
Inpatient psychiatric facility services for age<21	177	895,168	438	156	527,547	287	21	367,621	1,793
Intermediate care facility services for the mentally retarded (ICF/MR)	1,265	97,944,543	6,486	1,238	96,396,684	6,519	27	1,547,859	4,914
Nursing facility services	1,199	11,357,561	866	950	8,664,925	815	249	2,692,636	1,088
Community Long-Term Care (OT)	14,926	286,179,195	1,673	13,131	270,279,897	1,778	1,795	15,899,298	833
Home health	5,220	13,636,287	230	4,227	11,550,162	235	993	2,086,125	203
Personal care services	5,494	57,744,009	936	4,851	51,517,946	940	643	6,226,063	903
Private duty nursing	46	3,444,129	6,474	40	2,652,410	5,766	6	791,719	10,996
Residential care	4,616	181,900,174	3,329	4,381	175,982,085	3,389	235	5,918,089	2,181
Adult day care	2,717	29,454,596	917	2,586	28,577,294	934	131	877,302	575
Physician and Ambulatory (OT)	90,398	195,453,909	199	70,668	143,275,132	182	19,730	52,178,777	268
Physician services	66,239	28,593,286	39	50,859	14,123,783	25	15,380	14,469,503	94
Dental care	28,984	9,679,230	29	24,461	7,807,955	28	4,523	1,871,275	39
Other practitioner services	27,934	3,267,247	10	23,128	2,537,772	10	4,806	729,475	15
Outpatient hospital	55,265	37,505,452	62	42,059	19,849,419	42	13,206	17,656,033	131
Clinic	42,663	27,584,203	60	33,643	19,673,945	53	9,020	7,910,258	87
Rehabilitation	5,175	19,551,502	329	4,316	18,071,759	360	859	1,479,743	159

	All Buy-In Participants			Duals			Non-Duals		
	Number of Users	Total Medicaid FFS Exp. (\$)	PMPM FFS Exp. (\$)	Number of Users	Total Medicaid FFS Exp. (\$)	PMPM FFS Exp. (\$)	Number of Users	Total Medicaid FFS Exp.	PMPM FFS Exp.
Physical therapy, occupational therapy, speech or hearing services	2,276	469,276	18	1,764	276,777	13	512	192,499	34
Psychiatric services	33,293	68,803,713	184	25,878	60,933,722	206	7,415	7,869,991	102
All Other Services (OT)	76,756	180,234,206	215	58,488	144,901,362	221	18,268	35,332,844	193
Lab and X-ray	55,985	22,914,176	38	39,241	8,112,489	18	16,744	14,801,687	88
Transportation	12,138	6,253,902	46	9,440	4,888,910	46	2,698	1,364,992	49
Targeted case management	12,267	23,815,584	169	11,182	22,043,909	171	1,085	1,771,675	153
Hospice benefits	181	944,405	706	26	176,561	806	155	767,844	686
Nurse midwife services	146	9,039	6	70	4,023	5	76	5,016	6
Nurse practitioner services	3,298	268,450	7	2,247	117,110	5	1,051	151,340	14
Durable medical equipment	36,041	24,157,736	60	27,313	16,895,189	55	8,728	7,262,547	81
Other Services	28,581	101,246,348	311	25,374	92,119,143	318	3,207	9,127,205	258
Unknown	4,783	582,029	11	2,508	519,100	18	2,275	62,929	3
Total Number of Medicaid Users- Any Service	96,245	1,302,673,548	1,260	74,899	1,062,470,235	1,286	21,346	240,203,313	1,158

Source: Medicaid Buy-In finder files; 2002-2005 MAX data files; service type classifications are from Wenzlow et al. (2007).

Notes: Arizona and Maine were excluded from the analysis because of data limitations.

Community Long-Term Care is defined as residential care, home health, personal care services, adult day care, and private duty nursing.

Physician and Ambulatory services are defined as physician, outpatient hospital, clinic, dental, other practitioners, physical therapy or occupational therapy (PT/OT), rehabilitation and psychiatric services.

Lab, X-ray, supplies, and other wrap-around services is defined as lab, x-ray, durable medical equipment (DME), transportation, targeted case management, and all other services.

Table F.6 Percent of Dual Buy-In Participants Using Medicare Services, by Service Type and State, 2005

Percent of All Dual Buy-In Participants Using:

	Number of Dual Buy-In Participants	Any Medicare Service	Inpatient Hospital	Outpatient Hospital	SNF	Home Health	Hospice	Part B Carrier	Part B DME
Alaska	293	87.0	17.4	70.6	0.0	2.4	0.0	84.0	30.0
Arkansas	33	84.8	21.2	57.6	0.0	3.0	0.0	84.8	21.2
California	1,932	78.3	15.4	61.9	1.1	4.2	0.4	75.6	22.9
Connecticut	4,105	88.6	17.5	72.4	1.5	3.4	0.0	85.9	22.6
Illinois	849	86.9	18.4	73.1	1.5	3.2	0.5	84.2	24.3
Indiana	6,088	89.4	15.8	74.1	1.3	1.9	0.3	87.5	23.1
Iowa	9,540	93.0	25.6	81.9	2.6	2.5	0.5	91.2	35.1
Kansas	1,119	93.1	23.2	75.5	1.9	2.1	0.3	91.5	27.7
Louisiana	549	78.1	20.9	63.9	0.2	4.0	0.0	75.0	23.5
Massachusetts	8,051	83.1	17.6	71.6	1.5	5.1	0.2	81.0	22.1
Michigan	492	89.6	14.2	79.1	0.4	2.6	0.0	87.8	23.2
Minnesota	7,158	92.2	19.2	72.3	1.9	2.0	0.2	90.5	31.2
Missouri	15,665	91.2	27.3	81.2	2.3	6.7	0.6	88.2	38.7
Nebraska	125	84.8	18.4	69.6	0.0	2.4	0.0	84.8	32.0
Nevada	18	72.2	11.1	33.3	5.6	11.1	0.0	72.2	16.7
New Hampshire	1,747	85.0	16.7	72.4	1.1	2.3	0.1	81.2	20.3
New Jersey	1,462	89.3	19.8	69.8	2.3	2.6	0.3	87.3	22.2
New Mexico	405	82.5	18.5	72.6	0.7	5.2	0.2	79.8	30.6
New York	3,842	86.0	15.1	68.6	0.5	2.0	0.1	83.1	17.5
North Dakota	356	89.9	15.7	71.3	2.5	2.0	0.0	88.2	26.1
Oregon	262	80.9	14.9	65.6	0.8	2.7	0.0	77.9	34.0
Pennsylvania	1,293	87.4	24.3	78.7	1.2	5.4	0.5	84.4	27.1
South Carolina	33	60.6	12.1	51.5	0.0	3.0	0.0	60.6	9.1
Utah	577	86.1	18.0	73.5	2.1	3.3	0.7	84.2	29.8
Vermont	813	87.9	14.9	80.3	1.2	4.2	0.4	84.9	26.1
Washington	782	87.7	12.5	70.3	1.3	1.5	0.0	86.8	27.5
West Virginia	8	100.0	25.0	87.5	12.5	12.5	12.5	100.0	50.0
Wisconsin	9,760	90.4	21.6	72.7	2.4	2.8	0.4	88.1	32.9
Wyoming	4	100.0	50.0	100.0	0.0	0.0	0.0	100.0	75.0

Percent of All Dual Buy-In Participants Using:

	Number of Dual Buy-In Participants	Any Medicare Service	Inpatient Hospital	Outpatient Hospital	SNF	Home Health	Hospice	Part B Carrier	Part B DME
National Total	77,289	89.1	21.0	75.1	1.9	3.7	0.4	86.8	29.7

Source: Medicaid Buy-In finder files (2002-2005); MAX files (2002-2005), and Medicare claims files (2002-2005).

Notes: Arizona and Maine were excluded from the analysis because of data limitations.

Percentages do not add up to 100 percent because individuals can use multiple service types.

Part B carrier services include physician visits, lab services, ambulance services, and procedures in free-standing ambulatory surgical centers.

Table F.7 PMPM Medicare FFS Expenditures for Dual Buy-In Participants by Type of Service and State, 2005

PMPM Medicare FFS Expenditures (\$), By Service Type

	Number of Dual Buy-In Participants	PMPM Medicare Total (\$)	PMPM Inpatient Hospital	PMPM Outpatient Hospital	PMPM SNF	PMPM Home Health	PMPM Hospice	PMPM Part B Carrier	PMPM Part B DME
Alaska	293	705	282	156	0	7	0	232	28
Arkansas	33	600	223	233	0	5	0	128	11
California	1,932	605	243	128	9	12	2	170	41
Connecticut	4,105	585	263	132	15	10	0	146	19
Illinois	849	473	201	98	8	6	0	131	29
Indiana	6,088	422	161	100	12	5	3	118	22
Iowa	9,540	660	284	161	15	6	3	156	36
Kansas	1,119	564	257	109	12	4	1	163	19
Louisiana	549	660	241	231	0	8	0	143	36
Massachusetts	8,051	600	268	117	13	15	1	163	23
Michigan	492	364	122	110	1	3	0	114	15
Minnesota	7,158	516	236	88	12	6	2	140	32
Missouri	15,665	751	347	142	16	19	4	171	52
Nebraska	125	521	216	121	0	4	0	144	36
Nevada	18	961	682	23	99	20	0	132	6
New Hampshire	1,747	416	185	87	10	5	1	114	14
New Jersey	1,462	645	285	130	17	7	2	180	23
New Mexico	405	602	243	126	5	17	2	168	41
New York	3,842	449	187	101	3	4	0	140	13
North Dakota	356	419	166	116	9	3	0	105	21
Oregon	262	597	275	108	8	5	0	143	57
Pennsylvania	1,293	663	310	133	8	12	4	165	31
South Carolina	33	400	157	154	0	4	0	83	2
Utah	577	564	212	134	22	6	1	145	44
Vermont	813	467	189	112	12	10	1	122	21
Washington	782	388	148	87	6	3	0	125	19
West Virginia	8	971	519	117	27	26	25	241	16
Wisconsin	9,760	593	272	116	21	8	2	142	33
Wyoming	4	833	246	169	0	0	0	102	316

PMPM Medicare FFS Expenditures (\$), By Service Type

	Number of Dual Buy-In Participants	PMPM Medicare Total (\$)	PMPM Inpatient Hospital	PMPM Outpatient Hospital	PMPM SNF	PMPM Home Health	PMPM Hospice	PMPM Part B Carrier	PMPM Part B DME
National Total	77,289	597	264	124	14	10	2	151	33

Source: Medicaid Buy-In finder files; 2002–2005 MAX data files; 2002-2005 Medicare claims files.

Notes: Percentages do not add up to 100 percent because individuals can use multiple service types.

Arizona and Maine were excluded from the analysis because of data limitations.

Part B carrier services include physician visits, lab services, ambulance services, and procedures in free-standing ambulatory surgical centers.

APPENDIX G
SUBGROUP ANALYSIS TABLES FOR CHAPTER V

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Table G.1 Percentage of Buy-In Participants Using Medicaid Services by Demographic Characteristic and Type of Service, 2005

Service Users as a Percentage of Buy-In Participants, Nationwide

Characteristic	Number of Buy-In Enrollees	Any Medicaid Service	Hospital Inpatient	Prescription Drug	Institutional Long-Term Care	Community Long-Term Care	Physician and Ambulatory Services	Lab, X-ray, and Other
Age Category^a (Finder File)								
30 years or less	9,820	93.5	11.4	83.1	1.8	11.1	84.7	70.9
31–50 years	47,830	96.6	13.8	91.0	2.7	14.7	90.6	75.1
51–64 years	38,770	96.9	17.9	93.2	3.3	16.6	92.1	80.7
65 years or more	3,870	85.7	16.5	81.4	2.7	10.5	78.6	66.8
Gender (Finder File)								
Male	49,430	95.2	13.9	88.4	3.1	15.2	88.8	72.8
Female	50,860	96.7	16.5	92.9	2.6	14.5	91.4	80.2
Race/Ethnicity (MAX)								
White	79,957	96.7	15.5	91.7	3.1	16.2	91.2	78.0
Black or African-American	6,481	95.5	16.5	89.0	3.1	12.7	89.5	76.4
American Indian or Alaskan Native	409	96.1	17.4	88.8	1.2	14.2	90.5	79.0
Asian	404	92.8	9.9	84.4	2.0	13.6	84.4	70.5
Hispanic or Latino	1,886	91.3	11.7	77.6	1.6	6.5	83.2	69.9
Other or More than One	5	95.2	15.4	90.8	1.5	12.8	87.5	74.0
Race								
Unknown	10,568	91.9	13.8	86.6	1.4	7.9	84.0	67.0
National Total	100,290	96.0	15.3	90.7	2.9	14.9	90.1	76.5

Source: Medicaid Buy-In finder files; 2005 MAX data files; service type classifications are from Wenzlow et al. (2007).

^aAge of participant is computed as of December 31, 2005.

Table G.2 Percentage of Dual Eligible Buy-In Participants Using Medicare Services by Demographic Characteristic and Type of Service, 2005

Service Users as a Percentage of Buy-In Participants, Nationwide

Characteristic	Number of Buy-In Enrollees	Any Medicare Service	Hospital Inpatient	Hospital Outpatient	SNF	Home Health	Hospice	Part B Carrier	Part B DME
Age Category^a (Finder File)									
30 years or less	826	77.2	14.6	58.6	0.3	1.1	0.1	73.6	13.0
31–50 years	38,577	88.5	18.8	73.2	1.0	2.4	0.2	86.1	24.5
51–64 years	29,116	92.1	24.8	80.6	2.9	5.5	0.5	90.0	38.4
65 years or more	3,770	91.5	25.4	78.8	4.6	7.5	1.2	89.2	40.8
Gender (Finder File)									
Male	39,302	87.7	19.7	71.2	1.6	3.2	0.4	84.7	26.7
Female	37,987	90.7	22.4	79.2	2.1	4.3	0.3	89.0	32.7
Race/Ethnicity (MAX)									
White	62,522	90.0	21.2	75.5	1.9	3.7	0.4	87.7	30.2
Black or African-American	5,022	86.1	22.7	74.9	1.4	4.7	0.1	83.2	27.9
American Indian or Alaskan Native	296	85.8	18.9	74.7	0.3	1.4	0.3	81.8	28.4
Asian	282	82.6	14.2	63.8	0.0	1.1	0.0	78.7	19.1
Hispanic or Latino	1,253	83.3	16.8	69.5	1.1	3.3	0.6	80.0	27.4
Other or More than One Race	495	86.3	18.6	68.3	1.4	3.0	0.2	83.0	25.7
Unknown	7,419	85.9	19.8	73.8	1.9	4.1	0.4	83.8	27.1
National Total	77,289	89.1	21.0	75.1	1.9	3.7	0.4	86.8	29.7

Source: Medicaid Buy-In finder files; 2005 MAX data files; service type classifications are from Wenzlow et al. (2007).

^aAge of participant is computed as of December 31, 2005.

Table G.3 Percentage of Buy-In Participants Using Medicaid Services by SSA Program Participation, Primary Disabling Condition, and Type of Service, 2005

Service Users as a Percentage of Buy-In Participants, Nationwide

Characteristic	Number of Buy-In Enrollees	Any Medicaid Service	Hospital Inpatient	Prescription Drug	Institutional Long-Term Care	Community Long-Term Care	Physician and Ambulatory Services	Lab, X-ray, and Other
SSA Program Participation (TRF)								
SSDI only	69,666	97.3	15.7	92.9	3.2	16.5	92.3	76.6
SSI only	1,451	96.3	16.6	90.6	2.0	16.9	91.3	88.5
SSDI and SSI	2,601	96.8	15.8	92.0	1.7	13.6	92.3	83.9
Neither SSDI nor SSI	14,627	94.2	14.0	86.7	2.9	15.5	85.9	76.2
Unknown (not in TRF)	11,945	90.0	14.0	82.3	1.4	4.6	82.0	73.7
Primary Disabling Condition (TRF)								
Severe mental illness	24,086	98.0	16.3	95.7	2.3	10.2	94.4	72.4
Other mental disorders	6,953	96.0	12.4	90.4	1.7	12.9	91.1	72.4
Mental retardation	12,879	96.6	5.8	85.7	6.4	31.1	90.0	82.2
Musculoskeletal system	10,967	96.8	17.7	94.1	1.0	9.9	92.3	76.1
Sensory impairments	1,986	92.7	11.0	84.1	1.9	12.7	84.9	70.9
All other conditions	22,442	97.0	20.2	93.1	2.2	17.4	89.9	79.5
Unknown (in TRF)	9,032	94.7	15.6	86.8	6.3	19.8	88.1	80.8
Unknown (not in TRF)	11,945	90.0	14.0	82.3	1.4	4.6	82.0	73.7
National Total	100,290	96.0	15.3	90.7	2.9	14.9	90.1	76.5

Source: Medicaid Buy-In finder files; 2005 MAX data files; service type classifications are from Wenzlow et al. (2007).

Note: SSA program participation and primary disabling condition as of December 2004.

Table G.4 Percentage of Dual Eligible Buy-In Participants Using Medicare Services by SSA Program Participation, Primary Disabling Condition, and Type of Service, 2005

Service Users, as a Percentage of Buy-In Enrollees, Nationwide

Characteristic	Number of Buy-In Enrollees	Any Medicare Service	Hospital Inpatient	Hospital Outpatient	SNF	Home Health	Hospice	Part B Carrier	Part B DME
SSA Program Participation (TRF)									
SSDI only	65,215	91.1	22.3	77.3	2.0	4.0	0.4	88.8	31.4
SSI only	329	77.5	14.3	61.7	1.2	4.0	0.0	73.3	15.8
SSDI and SSI	1,820	84.3	16.6	70.5	0.5	1.8	0.2	81.1	22.3
Neither SSDI nor SSI	8,278	76.8	12.5	60.4	0.9	1.7	0.2	74.2	18.1
Unknown (not in TRF)	1,647	83.2	19.7	69.9	3.8	5.5	1.2	80.0	31.1
Primary Disabling Condition (TRF)									
Severe mental illness	22,290	90.5	23.2	76.9	1.3	2.0	0.1	88.7	23.1
Other mental disorders	6,260	87.5	16.2	72.0	1.0	2.0	0.2	85.0	21.9
Mental retardation	12,114	87.1	9.6	66.3	1.1	1.4	0.1	84.2	17.5
Musculoskeletal system	9,581	90.6	23.6	81.0	2.2	5.3	0.3	88.4	37.8
Sensory impairments	1,752	84.5	15.4	68.2	1.8	4.2	0.1	82.2	28.0
All other conditions	19,155	89.5	28.3	78.6	3.0	7.1	0.8	86.8	44.7
Unknown (in TRF)	4,490	89.5	14.1	71.8	1.7	2.7	0.3	87.6	24.1
Unknown (not in TRF)	1,647	83.2	19.7	69.9	3.8	5.5	1.2	80.0	31.1
National Total	77,289	89.1	21.0	75.1	1.9	3.7	0.4	86.8	29.7

Source: Medicaid Buy-In finder files; 2005 MAX data files; service type classifications are from Wenzlow et al. (2007).

Note: SSA program participation and primary disabling condition as of December 2004.

APPENDIX H

PMPM EXPENDITURE DATA TABLES FOR CHAPTER VI

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Table H.1 PMPM Medicaid Expenditures (in \$) Among First-Time Buy-In Participants, by Year and State, 2002-2005

	PMPM Medicaid Expenditures (\$)			
	2002	2003	2004	2005
Alaska	\$959	\$1,531	\$1,681	\$1,958
Arkansas	682	313	1,463	2,968
California	620	639	766	906
Connecticut	1,089	1,160	1,259	1,341
Illinois	625	628	640	721
Indiana	3,394	3,455	2,788	1,335
Iowa	772	880	931	1,218
Kansas	600	713	863	823
Louisiana	--	--	680	753
Massachusetts	629	650	779	714
Michigan	--	--	627	606
Minnesota	1,414	1,528	2,595	2,316
Missouri	1,614	888	871	957
Nebraska	847	1,033	750	725
Nevada	--	--	2,036	611
New Hampshire	1,743	1,384	1,065	942
New Jersey	675	766	868	986
New Mexico	1,018	932	1,068	1,129
New York	--	1,833	1,547	1,432
North Dakota	--	--	1,896	1,044
Oregon	676	787	615	733
Pennsylvania	535	596	650	691
South Carolina	1,506	527	569	1,129
Utah	1,325	946	1,020	995
Vermont	629	671	689	788
Washington	400	653	537	656
West Virginia	--	--	698	823
Wisconsin	917	947	994	1,054
Wyoming	792	1,862	3,713	3,472
National Total	1,361	1,105	1,126	1,068
Inflation Adjusted^a	1,477	1,172	1,164	1,068

Source: Medicaid Buy-In finder files; 2002–2005 MAX data files.

Notes: Cells with “--” denote years in which the state did not have a Buy-In program. Individuals who are enrolled in Buy-In programs in more than one state during the same year are reported only once in the national total. As a result, the sum of participants across states will not equal the national total. Arizona and Maine were excluded from the analysis because of data limitations.

^a Inflation-adjusted national totals are reported in 2005 dollars.

Table H.2 PMPM Medicare Expenditures (in \$) Among First-Time Buy-In Participants, by Year and State, 2002–2005

	PMPM Medicare Expenditures (\$)			
	2002	2003	2004	2005
Alaska	\$430	\$505	\$876	\$705
Arkansas	426	553	377	600
California	539	613	593	609
Connecticut	488	539	569	585
Illinois	286	413	415	473
Indiana	260	412	533	422
Iowa	516	552	604	660
Kansas	360	478	545	564
Louisiana	--	--	536	660
Massachusetts	416	506	589	600
Michigan	--	--	145	367
Minnesota	442	488	512	516
Missouri	609	680	723	750
Nebraska	379	407	510	551
Nevada	--	--	167	961
New Hampshire	325	390	483	416
New Jersey	382	413	548	623
New Mexico	409	570	567	567
New York	--	308	394	450
North Dakota	--	--	368	419
Oregon	254	378	410	443
Pennsylvania	463	596	658	655
South Carolina	375	929	608	400
Utah	574	523	668	564
Vermont	367	447	462	467
Washington	291	487	448	388
West Virginia	--	--	977	971
Wisconsin	413	474	521	592
Wyoming	996	1,952	1,285	833
National Total	454	536	588	596
Inflation Adjusted^a	493	569	608	597

Source: Medicaid Buy-In finder files; 2002–2005 MAX data files.

Notes: Cells with “--” denote years in which the state did not have a Buy-In program. Individuals who are enrolled in Buy-In programs in more than one state during the same year are reported only once in the national total. As a result, the sum of participants across states will not equal the national total. Arizona and Maine were excluded from the analysis because of data limitations.

^a Inflation-adjusted national totals are reported in 2005 dollars.

APPENDIX I
GLOSSARY OF TERMS

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1115 Waiver (MAS Group). a maintenance assistance status (MAS) group that consists of people eligible for Medicaid via a state 1115 waiver program that extends benefits to certain otherwise ineligible persons. For example, the Medicaid Buy-In program in Massachusetts was authorized under an 1115 waiver.

Balanced Budget Act (BBA) of 1997. legislation by which Congress authorized states to extend Medicaid coverage to workers with disabilities who meet the SSI definition of disability and exceed the SSI income eligibility limit, but whose income remains under 250 percent of the federal poverty level (see Ticket Act which modified these eligibility criteria).

Basis of Eligibility (BOE). eligibility grouping that traditionally has been used by CMS to classify enrollees; BOE categories include children, adults, aged, and disabled.

Capitation. a payment method in which a health plan, practitioner, or hospital is given a fixed amount of dollars per individual to cover specified health services over a defined period of time (usually a month), regardless of the amount or type of services provided. In contrast with fee-for-service, capitation shifts the financial risk of caring for patients from the payer to the provider.

Community-Based Long-Term Care (LTC). support services covered under 1915c waivers for people who are not institutionalized, but require nursing or other personal assistance services. In this report, we included five service types in community-based long-term care: adult day care, home health, personal care services, private duty nursing, and residential care.

Disabled. a basis of eligibility (BOE) group that includes persons of any age (including children) who are unable to engage in substantial gainful activity by reason of any medically determinable physical or mental impairment that can be expected to result in death or that has lasted or can be expected to last for a continuous period of not less than 12 months.

Dual Eligibles. persons who are dually enrolled in Medicare and Medicaid (also referred to as duals). In this report, duals are Buy-In participants who are enrolled simultaneously in Medicare and Medicaid during at least one month within a calendar year.

Durable Medical Equipment (DME). medical equipment (wheelchairs, beds); supplies (adult diapers, dialysis equipment); home improvements (ramps); emergency response systems; and repairs, replacements, or renting of these items.

Fee-for-Service (FFS). a payment method in which a provider is reimbursed for each utilized service. FFS payments exclude services provided under capitated arrangements.

Health Maintenance Organization (HMO). a health care plan that provides comprehensive medical services to people in return for a prepaid fee. HMOs may restrict coverage to providers within a network to manage the overall utilization of services across HMO enrollees.

Institutional Long-Term Care (LTC). Medicaid covered institutional or inpatient long-term care services. Institutional LTC includes the following four service types: nursing facility services, intermediate care facility services for the mentally retarded (ICF/MR), mental hospital services for the aged, and inpatient psychiatric facility services for those under age 21.

Maintenance Assistance Status (MAS). eligibility grouping traditionally used by CMS to classify enrollees by the financial-related criteria by which they are eligible for Medicaid. MAS groups include cash assistance-related, medically needy, poverty-related, 1115 waiver, and other.

Managed Care. a type of organization used to manage the use of health care services, which may include incentives to use certain providers and case management. A managed care plan includes a network of select providers who have contractual arrangements with the plan; a health maintenance organization (HMO) is one example of a managed care plan.

Medicaid Buy-In Program. state program that offers Medicaid coverage to workers with disabilities whose income and assets would otherwise make them ineligible for Medicaid. Participants with earnings above the federal poverty level (FPL) can “buy into” Medicaid coverage by paying monthly premiums or co-payments. To enroll in the program, individuals must have a disability as medically defined by the Social Security Administration and meet certain work and financial eligibility requirements.

Medicaid Statistical Information System (MSIS). the CMS data system containing complete eligibility and claims data from each state Medicaid program. Electronic submission of data by states to MSIS became mandatory in 1999, in accordance with the Balanced Budget Act of 1997.

Medically Needy (MN). a maintenance assistance status (MAS) group that includes persons qualifying for Medicaid through the medically needy provision (a state option) that allows for a higher income threshold than required by the AFDC cash assistance level. Persons with income above the medically needy threshold can deduct incurred medical expenses from their income and/or assets—or “spend down” their income/ assets—to determine financial eligibility.

Medicare Prescription Drug, Improvement, and Modernization Act (MMA) of 2003. amendment to Title XVIII of the Social Security Act that added Part D—the Medicare prescription drug benefit—to cover the costs of outpatient prescription drugs through prescription drug plans beginning in 2006. This report covers expenditures during the period before Medicare Part D was implemented.

Per Member Per Month (PMPM). an aggregate measure of expenditures that provides an average monthly dollar amount across a group of individuals. In this report, PMPM expenditures are defined as the sum of total annual Medicaid or Medicare expenditures across an entire group of Buy-In participants divided by the sum of Medicaid or Medicare enrollment months across the same group of participants.

Personal Care Services. personal assistance with daily activities, such as bathing, toileting, and sometimes light housekeeping; these services are furnished to an individual who is not an inpatient or a resident of a group home, assisted living facility, or long-term care facility. Personal care services are those that individuals would typically accomplish themselves if they did not have a disability.

Section 209(b). states that have elected to use more restrictive eligibility requirements than those of the Supplemental Security Income (SSI) program. These requirements cannot be more restrictive than those in place in the state’s Medicaid plan as of January 1, 1972. Section 209(b)

states include Connecticut, Illinois, Minnesota, New Hampshire, Ohio, Virginia, Hawaii, Indiana, Missouri, North Dakota, and Oklahoma.

Social Security Disability Insurance (SSDI). a federal entitlement program that provides cash assistance to persons with disabilities who are no longer able to work beyond a minimum earnings threshold (see Substantial Gainful Activity) due to a severe, long-term disability that is expected to last more than 12 months and/or result in death. Persons who qualify for SSDI benefits are eligible for Medicare after a two-year waiting period. The SSDI program is administered by the Social Security Administration.

Substantial Gainful Activity (SGA). a monthly earned income threshold which is updated annually by the Social Security Administration (SSA) and used to determine eligibility for federal entitlement programs. The SGA monthly amount in 2009 was \$980 for a non-blind person, which is \$11,760 if annualized.

Supplemental Security Income (SSI). a means-tested federal entitlement program that provides cash assistance to low-income aged, blind, and disabled individuals; people receiving SSI are eligible for Medicaid in all but Section 209(b) states, where more restrictive criteria may be used to determine Medicaid eligibility. The SSI program is administered by the Social Security Administration.

Ticket to Work and Work Incentives Improvement Act (“Ticket Act”) of 1999. legislation which builds on the BBA option by giving states unlimited flexibility to set higher income and asset levels for two new eligibility groups under the Buy-In program. The Basic Coverage group includes persons 16-64 years old; the Medical Improvement group is designed for workers who lose Basic Coverage because they no longer meet the SSI disability definition but still have a severe impairment. Among Ticket Act states, most Buy-In participants have Basic Coverage.

User. Buy-In participants with a Medicaid or Medicare claim for a specific type of service are called users of that service; in this report, users have a positive amount of medical expenditures within a calendar year and can use more than one type of service.

Waivers. statutory authorities that allow states to receive federal matching funds for Medicaid expenditures even if the state is not in compliance with requirements of the federal Medicaid statute; for example, 1115 waivers allow states to cover categories of people that are not generally covered under Medicaid.

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