Money Follows the Person 2011 Annual Evaluation Report

Final Report

October 31, 2012

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MATHEMATICA
Policy Research

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EXECUTIVE SUMMARY

The Money Follows the Person (MFP) demonstration program represents a major initiative to give people needing long-term services and supports (LTSS) more choice about where they live and receive care, and to increase the capacity of state long-term care systems to serve people in the community rather than in institutions. The MFP demonstration grew in 2011, from 31 to 44 state grantees, when 13 additional states were awarded MFP grants. Three planning grants were also awarded in 2012. Each grantee must implement (1) a transition program that identifies Medicaid beneficiaries in institutional care who wish to live in the community and helps them do so; and (2) a rebalancing initiative that invests the enhanced federal matching funds MFP programs receive into programs and services that increase, relative to institutional care, the proportion of Medicaid long-term care expenditures flowing to community services and supports.

Calendar year 2011 marked the fourth full year of implementation of the national MFP demonstration. During the year, the demonstration grew to nearly 20,000 transitions, and four states that were awarded grants in 2011 began their transition programs.

A. Purpose of the Report

This third annual report presents five broad sets of analyses that shed light on the overall progress and effects of the MFP demonstration: (1) an implementation analysis of the first four years; (2) descriptive analyses of participants benefiting from the MFP demonstration and the costs and types of home and community-based services (HCBS) they receive; (3) trend analyses that assess whether state-level transition, reinstitutionalization, and mortality rates changed after MFP was implemented; (4) participant-level assessment of the program's influence on post-transition physician visits, inpatient admissions, and emergency room care; and (5) an assessment of participant quality of life. To the extent possible, the analyses cover the program from its inception through December 2011.

B. Overview of Findings

In general, the MFP demonstration appears to be achieving its broad goals of (1) transitioning people successfully, and (2) helping states establish the infrastructure necessary to increase the capacity of long-term care systems to serve people in the community. In several different analyses presented in this report, MFP participants appear to be younger than others who transition from institutional to community LTSS without the benefit of the MFP program. Among those transitioning from nursing homes, MFP participants are more likely to have low care needs compared to others leaving nursing homes, but this difference is not seen consistently across the states. We do not know why these differences exist. They may reflect how state grantees are targeting their outreach or that younger people are more receptive to the program. In the initial years of the program, states may target people who are relatively easy to transition to build and refine their processes and procedures. However, the differences between MFP participants and others who transition without the benefit of this program may be partly explained by differences in the availability of community-based informal supports and housing options. Those who transition without the benefit of the MFP program may be receiving considerable assistance from family and friends who help them obtain the necessary LTSS they need in the community. They may be moving to types of assisted living that disqualify them from MFP or they may have more ready access to housing in the community, either through their own personal resources or through their network of informal supports. Because MFP participants may not have the same level of informal supports and personal resources as others, they may have to rely more on MFP transition coordinators to help them identify and secure the LTSS and housing they need. In several of the analyses presented in this report, we control for the observable differences between MFP participants and others who transition, and we still find that the MFP demonstration is associated with either improved outcomes or no change in outcomes.

C. Summary of Findings

1. Program Implementation Results

Mathematica closely monitors the implementation of the MFP program through semiannual progress reports and administrative data that grantee states submit to CMS.

- The MFP program continued to expand in 2011, sustaining a strong upward trend in annual enrollment growth.
    - By the end of December 2011, nearly 20,000 people had transitioned to community living through the MFP program, which represented a 65 percent increase from a year earlier in the cumulative number of MFP participants.
- The growth in enrollment was primarily driven by people transitioning from nursing homes, particularly those under age 65 with physical disabilities.
- The MFP program in Texas continued to have a disproportionate influence on the overall national picture of the MFP program.
    - Texas accounted for approximately 27 percent of all transitions at the end of 2011, a small decrease from 30 percent at the end of calendar year 2010.
- The 30 established states that received initial MFP grants in 2007 varied in their enrollment trends from 2010 to 2011.
    - Six states increased new MFP transitions in 2011 by 50 percent or more, and several reversed declining trends in their transition numbers seen in previous years.
    - Thirteen states increased new MFP transitions by 20 percent or more, consistent with similar rates of growth in the number of MFP transitions in previous years.
    - Six states experienced relatively small changes in the number of new transitions from 2010 to 2011.
    - Five states experienced declines in new transitions from 2010 to 2011, after having had modest or notable gains in the past, and one state in this group suspended new transitions to conduct a thorough review of all program policies and procedures.
- In the aggregate, MFP grantees achieved overall annual transition and HCBS expenditure goals set for 2011.
    - In total, state grantees exceeded their annual transition goal for 2011 by 13 percent. Nevertheless, eight states achieved less than 75 percent of their

    transition goal and had to submit plans to CMS describing the strategies they would use to achieve their goals in the future.

    - In 2010, the most recent year for which we have data, state grantees achieved 106 percent of their overall HCBS expenditure goal. Among the 29 states reporting, 6 achieved less than 90 percent of the Medicaid HCBS spending goal. Explanations ranged from lags in claims reporting to cuts in HCBS programs to address state budget concerns.

- In February 2011, CMS awarded MFP grants to 13 additional states, and 4 were able to begin transitions by the end of the year.

- By the end of 2010, 19 of 30 MFP grantee states reported spending $39 million in MFP rebalancing funds on a wide range of activities designed to increase the availability of HCBS, including expanded HCBS waiver programs and services, tools for assessing needs and tracking clients, and efforts to strengthen the direct care workforce.

2. Characteristics of MFP Participants

To understand who enrolls in the MFP demonstration, Mathematica uses enrollment records submitted by the MFP grantees to track the basic characteristics of MFP participants.

- MFP participants were predominately working-age adults 21 through 64 years of age (62 percent).
    - The average MFP participant was 58 years old at the time of the transition.
- The population continued to be evenly divided between men and women, although those transitioning from intermediate care facilities for those with intellectual disabilities (ICFs-ID) were primarily men (63 percent), and the elderly transitioning from nursing homes were primarily women (65 percent).
- Most MFP participants transitioned to an apartment (30 percent) or a home that they themselves or a family member owned (29 percent).
    - Among those transitioning from nursing homes, approximately 21 percent had low care needs and 79 percent had medium or high care needs.

3. HCBS Expenditures of MFP Participants

To assess the HCBS costs incurred by MFP participants, Mathematica conducted descriptive analyses of the MFP service records that grantee states submit to CMS quarterly.

- Through the end of 2011, the HCBS expenditures of MFP participants had climbed to approximately $723 million across the 29 states that reported aggregate financial data.
- HCBS expenditures during the first year of community living were nearly $41,000 per MFP participant, ranging from $24,000 among the elderly who transitioned from nursing homes to nearly $34,000 for the nonelderly who transitioned from nursing homes to more than $89,000 among those who transitioned from ICFs-ID.
- Per-person per-month expenditures were $3,700 on average, ranging from $2,200 among the elderly to nearly $7,600 among those with intellectual disabilities.

  - HCBS expenditures during the first 30 days were 61 percent greater on average than expenditures that occurred after that time, which reflects the additional services most MFP participants receive for the transition itself.
  - Among those participants transitioning from nursing homes, post-transition HCBS expenditures were greater the more impaired someone was, either physically or cognitively.
- Among the 16 categories of HCBS considered, home-based services (primarily personal care assistance) and round-the-clock services (primarily residential services) each accounted for 33 percent of total HCBS expenditures.
  - Nearly 60 percent of MFP participants received personal care assistance during their first year of community living.

4. State-Level Trends in Transition, Reinstitutionalization, and Mortality Rates

The report presents trend analyses that determine whether state-level transition, reinstitutionalization, and mortality rates changed during the first two years after the implementation of the national MFP demonstration. Because of data limitations, the reinstitutionalization and mortality rates are only measured during the first six months after the transition to the community. Therefore, the findings are preliminary, and more years of data are required before these analyses can conclude that the MFP program had long-term effects on these broad, state-level outcomes.

- Overall, the trend in transition rates varied by targeted population.
  - The number of transitions among the elderly remained unchanged after the launch of the MFP program, about three transitions per 1,000 elders who met the MFP eligibility requirements.
  - Among the nonelderly with physical disabilities in nursing homes, overall rates of transition increased from a little more than seven transitions per 1,000 eligibles before the implementation of MFP to nearly nine transitions per 1,000 eligibles in 2009. The results suggest that approximately one-half of MFP participants in this subgroup represented transitions that would not have occurred if the MFP program had not been launched.
  - The overall number of transitions to the community among those with intellectual disabilities appeared to increase after the launch of the MFP program, from a little more than five transitions per 1,000 eligibles before MFP to more than seven transitions per 1,000 eligibles after MFP was introduced. This change was driven by a large increase in the number of transitions from ICFs-ID in Texas.
- We find little evidence that the MFP program is associated with six-month post-transition outcomes.
  - Among those who transitioned to community living, MFP program was not associated with changes in reinstitutionalization rates.
  - Among the elderly, six-month post-transition mortality rates decreased after MFP was introduced, from approximately 13 percent to about 10 percent.

    However, those who transitioned by 2009 were somewhat younger and healthier on average, and this result is not surprising.

  - After the introduction of the MFP demonstration, among the nonelderly who transitioned from nursing homes and beneficiaries who transitioned from ICFs-ID, there was no change in the rate of reinstitutionalization (about 5 to 7 percent of the nonelderly who transitioned from nursing homes to 3 percent from those who moved from ICFs-ID) or in the rate at which people remained in the community for a full six months (about 90 to 92 percent of the nonelderly and 96 to 97 percent of those from ICFs-ID). The lack of results could be due to the relatively high rate of successful transitions in the baseline period.

5. Utilization of Health Care Services in the First Six Months

This annual report marks the first attempt to measure MFP impacts at the individual-level. Using service utilization data through 2009 and a comparison group approach, Mathematica analyzed the probability of having a physician visit, hospital admission, or emergency room visit during the first six months after the transition to community living. Having a physician visit early is a general indicator of access to ambulatory care, while hospital admissions and emergency room visits are two costly services that indicate an acute event that may or may not have been avoidable with appropriate ambulatory care. The results are not conclusive and before strong conclusions can be drawn, more years of data are required and a longer post-transition follow-up period needs to be assessed.

- Although no robust findings were detectable among the nonelderly who transitioned from nursing homes and beneficiaries who transitioned from ICFs-ID, we found positive results among the elderly and their access to physician services.
  - Compared to other elderly Medicaid enrollees who transitioned from nursing homes without the benefit of the MFP program, elderly MFP participants were more likely to have a physician visit (77 percent, compared to 66 percent among comparison group members) within the first six months of community living.
  - The positive results for physician visits among the elderly may reflect better access to physicians and that MFP participants have more community-based support.

6. Quality of Life of MFP Participants

Ongoing analyses of data from a quality of life survey the grantees administer indicate that MFP participants experience improved quality of life when they transition to community living. The quality of life results are perhaps the most consistent and unambiguous of those presented in this report.

- Satisfaction with their lives after one year of community living increased from three out of five participants pre-transition to four out of five post-transition. Among those who reported being unhappy with their lives while living in an institution, about three out of four (73 percent) reported being satisfied with life in the community.

- Participants reported enhanced quality of life across most measures.
    - Participants' satisfaction with where they live exhibited the largest increase (nearly 40 percentage points).
    - After a year of community living, more participants reported a greater sense of choice and control and community integration, being treated well by their providers, and having fewer unmet care needs compared with institutional care.
    - Satisfaction with care remained high and did not change significantly after a year of community living.
- Several findings may warrant further attention from program administrators. Specifically, more than one-third of participants continued to report barriers to community integration and low mood status [1] after one year of community living.
    - Participants who worked for pay had some of the highest levels of community integration.
    - Those with unmet special equipment needs or who had any unmet personal care needs were the least integrated into their communities.
- After one year of community living, 11 percent of participants reported working for pay and 20 percent reported wanting to work for pay.
    - Life satisfaction was highest among those who worked.

D. Conclusions

Continuing growth characterized the MFP demonstration during 2011, and we anticipate the demonstration will continue to expand in 2012. More states will begin their transition programs in 2012, and some of the initiatives states are pursuing with their MFP rebalancing funds will start to take hold. We continue to anticipate that version 3.0 of the nursing home minimum data set (NF-MDS 3.0), which included new questions that require nursing home residents be asked directly about their desire to return to the community, will generate more referrals for many MFP programs, and growth in the number of Medicaid beneficiaries transitioning from nursing homes is expected to be sustained. Finally, at the time this report was written, eight MFP grantee states had already been awarded Balancing Incentive Payment (BIP) grants, which should create important synergies between the BIP and MFP grants. These synergies are anticipated to put these states on a faster pace for rebalancing their long-term care systems and increasing the provision of community-based LTSS.

Based on the analyses conducted, the early years of the MFP demonstration have had a mixture of effects. For example, we found little effect on state-level transition rates among the elderly in nursing homes or emergency room use among the elderly who transitioned to the community, but positive effects on transition rates among the nonelderly in nursing homes and those with intellectual disabilities and improved quality of life among all MFP participants.

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[1] Defined as feeling sad or "blue" in the past week.

However, more research is needed before firm conclusions can be drawn. Most important, the evaluation needs to incorporate more years of data to determine whether program effects and impacts change as the program grows and becomes more mature. We also need to investigate participant-level impacts and outcomes over a longer period after the initial transition to see how MFP participants fare throughout the first year in the community, as well as after MFP benefits end. As more people participate in MFP and more data become available, the evaluation will be able to conduct more detailed and in-depth analyses of MFP impacts, including the assessment of overall health care costs.

I. INTRODUCTION AND BACKGROUND

For the national Money Follows the Person (MFP) demonstration, 2011 marked a year of growth and expansion. Cumulative MFP enrollment climbed to nearly 20,000 transitions by the end of December 2011. The Patient Protection and Affordable Care Act of 2010 (P.L. 111-148) increased funding for the demonstration from $1.75 to $4 billion and extended the demonstration. States now have until the end of 2020 to spend all their grant funds. The Centers for Medicare & Medicaid Services (CMS) used this additional funding to award demonstrations to another 13 states in early 2011, bringing the total number of states with MFP demonstration grants to 43, plus the District of Columbia. In early 2012, three more states received state planning grants to design an MFP program.

This report is the third in a series of annual reports that Mathematica Policy research is producing for the national evaluation of the MFP demonstration (CMS Contract Number HHSM-500-2005-00025I TO#02). It provides basic information about the program and how it grew and changed during calendar year 2011. It also updates and summarizes analytic studies Mathematica conducted during the year.

A. Background

1. Basic Features of the MFP Program

As noted in a previous report (Irvin et al. 2011), each state in the MFP demonstration must establish a program that has two components: (1) a transition program that identifies Medicaid beneficiaries in institutional care who wish to live in the community and helps them do so, and (2) a rebalancing program that allows a greater proportion of Medicaid long-term care expenditures to flow to community services and supports. MFP programs (like Medicaid programs in general) are subject to general federal requirements, but the design and administration of each MFP program are unique and tailored to state needs.

Transition programs. By statute, the MFP program is for people institutionalized in nursing homes, hospitals, intermediate care facilities for those with intellectual disabilities (ICFs-ID), or institutions for mental diseases (IMDs). Until the passage of the Affordable Care Act, people had to be institutionalized for a minimum of 180 days or six months and had to be eligible for full Medicaid benefits for at least the month before transition to the community. The Affordable Care Act reduced the length of stay requirement to only 90 days, but states may not count any rehabilitative care days covered by Medicare. [2]

On the day they transition to the community, MFP participants begin receiving a package of home- and community-based services (HCBS) financed by the state’s MFP grant funds. MFP-

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[2] Initially, states had to set the minimum length of institutionalization between 6 and 24 months for MFP participants, but all selected 6 months as the minimum requirement. With the passage of the Affordable Care Act, states may now use a minimum of 90 days, but days for care covered by the Medicare program cannot be counted toward the 90-day minimum.

financed services continue for up to one year, or 365 days, after the date of transition. After exhausting their 365 days of eligibility for MFP-financed HCBS, MFP participants become regular Medicaid beneficiaries and receive HCBS through the state plan and/or a waiver program, depending on their eligibility for these services.

MFP programs may provide up to three categories of services: (1) qualified HCBS, (2) demonstration HCBS, and (3) supplemental services. Qualified HCBS are services beneficiaries would have received regardless of their status as MFP participants, such as personal assistance services. Demonstration HCBS are either Medicaid services not included in the state's array of HCBS for regular Medicaid beneficiaries (such as assistive technologies) or qualified HCBS above what would be available to regular Medicaid beneficiaries (such as 24-hour personal care). States may also provide supplemental services to MFP participants: services that are not typically reimbursable under the Medicaid program but that make the transition to a community setting easier (such as a home computer or trial visit to the proposed community residence). States receive an enhanced federal match (known as the Federal Medical Assistance Percentage, or FMAP), which is drawn from their MFP grant funds, when they provide either qualified HCBS or demonstration HCBS. [3] They receive the regular FMAP, which is also drawn from their MFP grant funds, when they provide supplemental services. In general, MFP transition programs are designed to provide a richer mix of community services for a limited time to help make the transition to the community successful.

Rebalancing programs. The rebalancing program is subject to fewer basic requirements than the transition program. States must use the enhanced matching funds they receive when MFP participants use qualified HCBS or demonstration services to finance changes in their long-term care systems. No formal requirements for using or reinvesting these funds exist, except that the funds must be used for rebalancing the long-term care system. States may use the enhanced funds in a variety of ways, including (1) reducing the use of institutional care (such as financing the costs of closing beds or facilities), (2) supporting transitions of people not eligible for MFP, (3) expanding the availability of HCBS programs (such as increasing HCBS waiver slots or adding a self-direction program), or (4) improving the infrastructure (such as expanding the availability of affordable and accessible housing). Each state sets specific benchmarks for measuring the success of the selected rebalancing strategy.

2. MFP Grant Awards

CMS began awarding MFP demonstration grants in January 2007 with 17 initial awards, and 14 additional awards in May 2007. In January 2011, 13 additional states received MFP grants, bringing the total number of states with MFP grants to 43, plus the District of Columbia (see Figure I.1). Alabama, Montana, and South Dakota received planning grants in 2012. Among the 2007 grantees, several states delayed the startup of their programs, frequently because implementation was more challenging than anticipated. As noted in previous reports (Denny-

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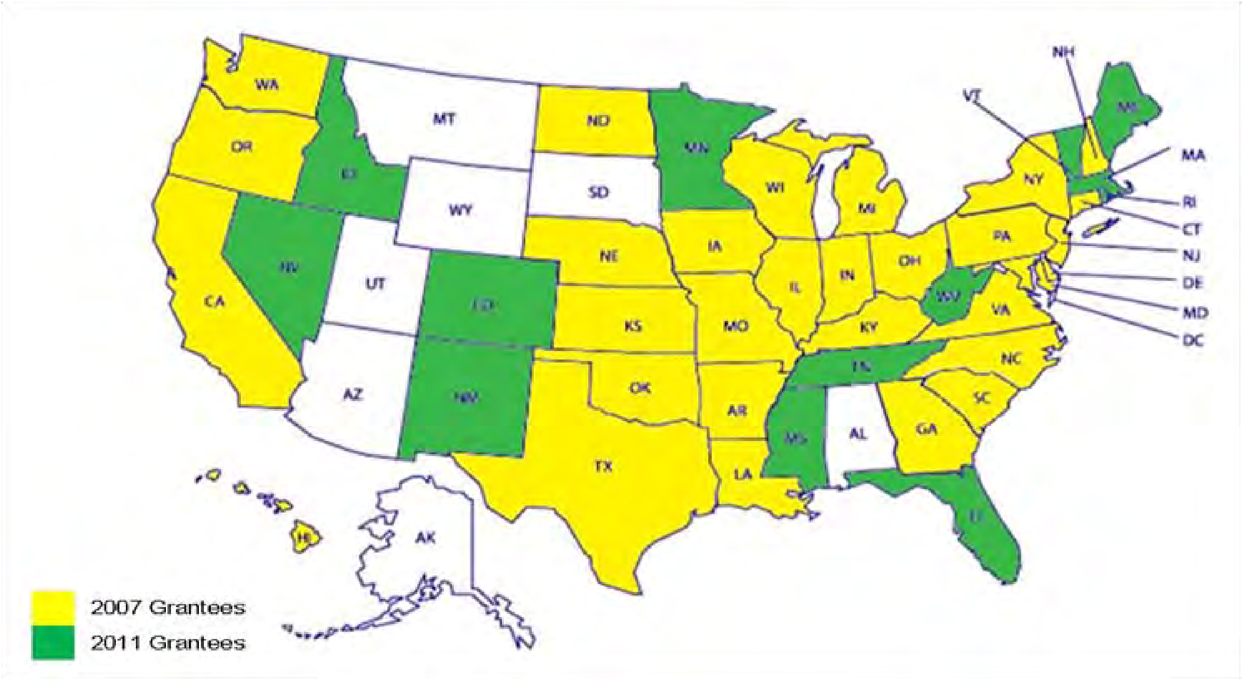
[3] The MFP-enhanced FMAP is set in statute (state's regular FMAP + [1 – state's regular FMAP]*.5) and cannot exceed 90 percent. Retroactive to October 1, 2008, the state's regular FMAP includes the enhancements that states received through the American Recovery and Reinvestment Act of 2009.

Brown et al. 2011; Irvin et al. 2011), implementing an MFP program requires considerable effort and coordination among different agencies, particularly when the program targets populations. Some programs were delayed while key adjustments to community services were made to ensure the states could serve MFP participants. At a minimum, every program had to (1) establish processes for identifying eligible Medicaid beneficiaries who can be adequately served in the community, (2) hire and train transition coordinators who work one-on-one with beneficiaries to set up their community living arrangements and services and supports, (3) develop strategies for locating affordable and accessible housing in areas where beneficiaries want to live, and (4) implement risk assessment and management systems that balance beneficiary choices against the increased risks associated with living in the community.

Figure I.1. Map of MFP Demonstration Grants



Note: Alabama, Montana, and South Dakota received MFP planning grants in 2012.

B. Purpose of This Report

In March 2007, CMS contracted with Mathematica to conduct a national evaluation of the MFP demonstration (CMS Contract Number HHSM-500-2005-00025I TO#02). This third annual report for the MFP demonstration covers the program from its inception through December 2011. The primary purpose of the report is to describe the status of the program as of December 31, 2011, including how states are progressing on their goals.

The following chapters present analyses that include basic descriptive information about the program and MFP participants and the HCBS they receive while in the program, as well as assessments of program outcomes at the state and individual levels. As in the previous annual reports, the work presented here continues to set the foundation for the national evaluation and an assessment of program impacts.

At the most fundamental level, the national evaluation of the MFP program seeks to understand whether the program met its goals to (1) increase the number and proportion of long-term institutionalized Medicaid enrollees who can live successfully in the community, and (2) facilitate state rebalancing of long-term care systems. MFP programs are anticipated to have an array of effects on beneficiaries who need long-term services and supports (LTSS), including increases in the likelihood and number of transitions from institutional to community settings and greater increases in HCBS use and expenditures than in institutional care.

C. Road Map to the Report

The next chapters are organized around four broad types of analyses: (1) an assessment of program implementation and growth; (2) descriptions of the characteristics of MFP participants and the HCBS they receive while enrolled in MFP; (3) state-level analyses of trends in transition, reinstitutionalization, and mortality rates that determine how these trends changed after MFP was implemented at the national level; and (4) participant-level outcomes after the transition to community living. Chapter II describes the overall growth of the MFP demonstration and assesses whether state grantees are achieving program goals. Chapters III and IV present descriptive statistics about the demographic makeup of MFP participants and the HCBS they receive during the year after their transition to the community.

Chapters V through VII summarize our ongoing assessments of program outcomes. Chapter V documents how state-level trends in transitions, reinstitutionalizations, and mortality changed after MFP was introduced in 2008. Chapter VI presents the first attempt to assess post-transition incidence of physician visits, hospital admissions, and emergency room visits and how the use of these services varies between MFP participants and a comparison group of Medicaid beneficiaries who transitioned without the benefit of the MFP program. Chapter VII presents updated analyses on the implications of the transition on participants’ quality of life, including overall satisfaction with life and services received, perceptions of the quality of their care, and satisfaction with community life. The analysis also delves further into the quality of life of MFP participants who work for pay or wish to work. Because the assessment of outcomes at the participant level requires a year’s worth of data, the analyses in these last three chapters do not include all who had transitioned by the end of 2011. As a result, the sample sizes for the studies were relatively small and did not always support rigorous treatment to isolate the effects of the MFP program. Therefore, the results in Chapters V through VII are preliminary and subject to change as the program grows and more beneficiaries transition to community living.

II. STATE GRANTEE PROGRESS TOWARD MFP GOALS: TRANSITIONS AND MEDICAID HCBS SPENDING

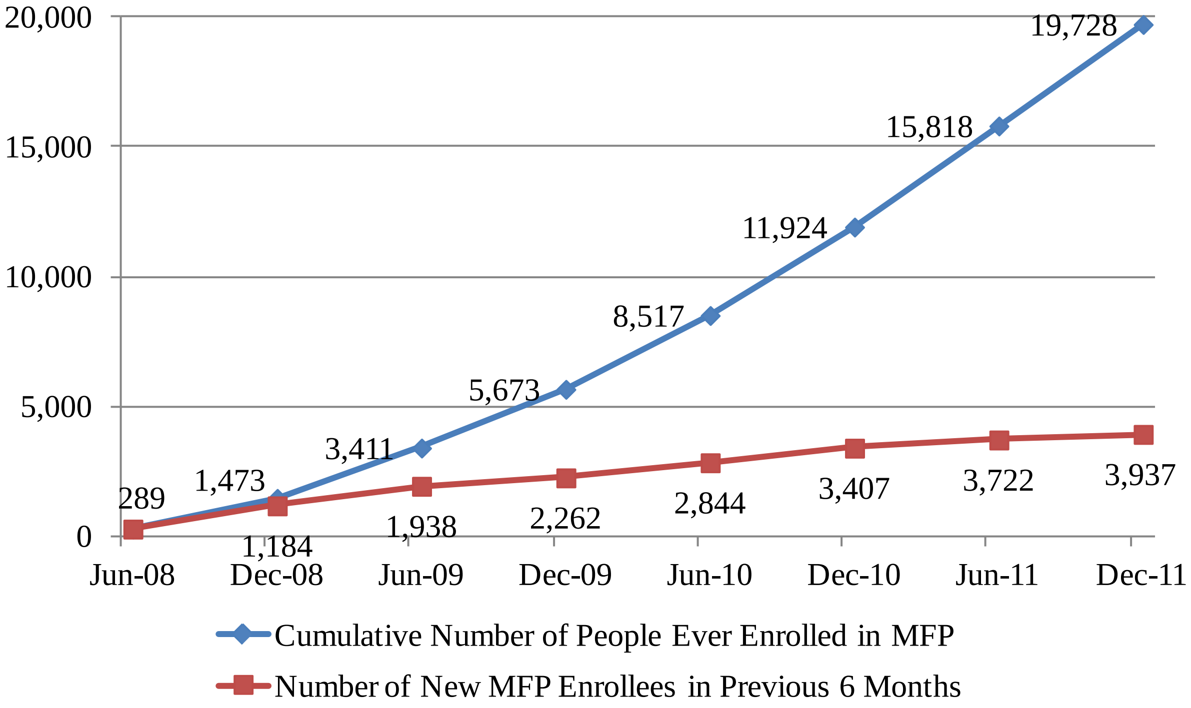
The federal statute that created the MFP demonstration requires state grantees to establish two sets of annual goals: (1) the number of institutionalized individuals who will be assisted to transition back to the community, by population group; and (2) an increase in total Medicaid expenditures on home- and community-based services (HCBS) for all Medicaid enrollees. Both are important indicators of progress toward the MFP demonstration's overall aim: to enable more people with disabilities to receive long-term services and supports (LTSS) in home or community settings if that is their preference.

This chapter reviews trends in MFP transitions and HCBS spending, and in meeting annual state-established targets for these two goals, from 2008 through 2011 after four years of program implementation. It also examines differences in state grantees' achievement of their goals and explores the likely reasons for those differences. The chapter briefly describes the transition goals of the grantees that received new MFP grants in 2011 and projects their impact on the magnitude and composition of MFP participants in the coming years. It concludes by discussing how states are starting to invest the extra federal matching funds they receive for MFP participants' HCBS into initiatives designed to ensure that more people with disabilities can remain in home or community settings.

A. Transition Trends

Cumulative and annual MFP transitions. From the start of the MFP demonstration in January 2008 through December 2011, state grantees transitioned nearly 20,000 people from institutions to the community, where they received LTSS. In 2011, the fourth full year of the MFP demonstration, both the cumulative and annual number of MFP transitions increased substantially over previous years (Figure II.1). A total of 7,659 individuals enrolled in MFP for the first time in 2011, bringing the number of people ever enrolled in MFP since it began in 2008 to 19,728 individuals, 65 percent higher than the cumulative total of 11,924 at the end of 2010. This growth rate sustains the strong upward trend in enrollment growth each year of the program's operation.

Figure II.1. Total MFP Enrollment, 2008–2011

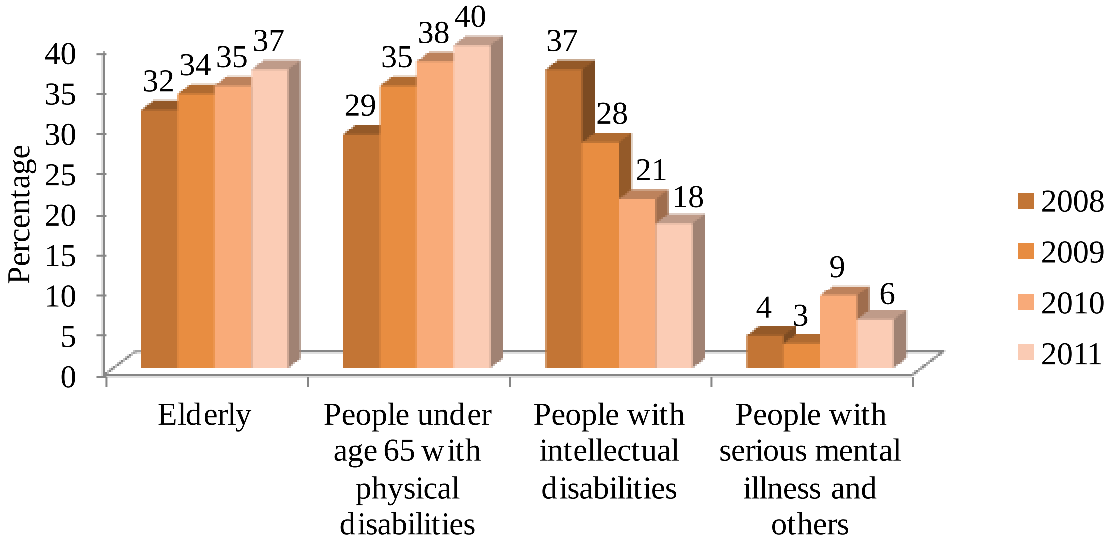


Source: Mathematica analysis of state MFP grantee semi-annual progress reports, 2008–2011.

B. MFP Transitions, by Population Subgroups

Over the MFP demonstration’s four years of operation, the mix of MFP participants has changed (Figure II.2). In 2011, nonelderly individuals with physical disabilities were the largest group, comprising 40 percent of all those who enrolled in MFP in 2011, up from 29 percent in 2008. The elderly increased as a share of total MFP participants, but at a slower rate of growth, rising from 32 percent of new enrollees in 2008 to 37 percent in 2011. In contrast, people with intellectual disabilities made up a smaller share of new enrollees, dropping nearly in half from 37 percent in 2008 to 18 percent in 2011. The share of all MFP participants with serious mental illness or other conditions rose during the first three years, but reached a peak of 9 percent in 2010 and then dropped in 2011 to about 6 percent.

Figure II.2. Annual Distribution of MFP Participants by Population Group, 2008–2011



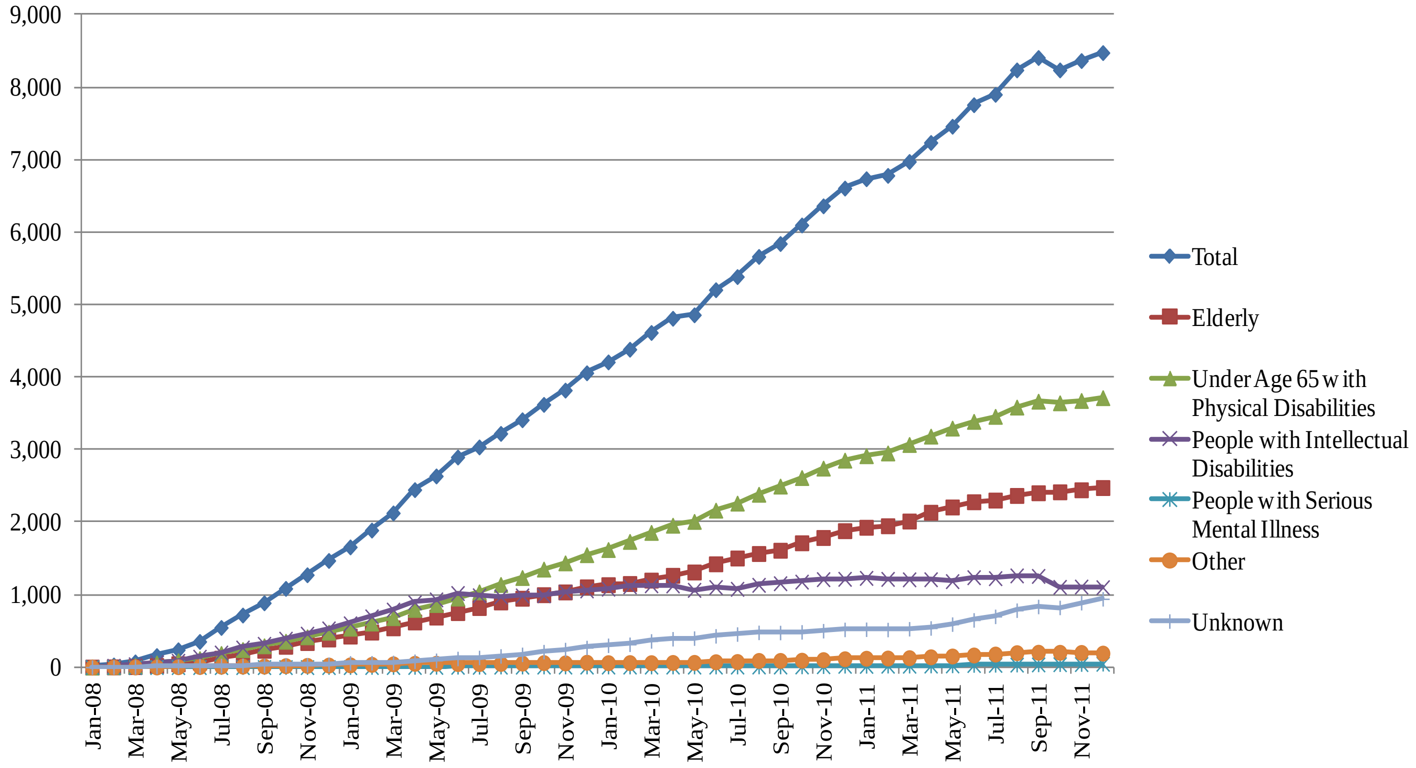
Source: Mathematica analysis of state MFP grantee web-based progress reports, 2008–2011.

Although we do not know all the reasons for the shift in the makeup of MFP participants, two factors may explain some of the change. First, at the start of the demonstration in 2008, many states were actively seeking to close or downsize ICFs-ID, either due to court orders or to address state budget shortfalls. In many cases, state MFP programs took advantage of these initiatives to work with state agencies that serve people with intellectual disabilities to enroll into MFP the residents of these institutions who relocated to community residences and small-group homes. Although this trend continued in subsequent years, the monthly enrollment data suggest growth in this trend slowed recently (Figure II.3).

Offering transition assistance to other target populations in 2008, however, often took more time if the Medicaid agency had to establish working relationships with other state agencies that operate HCBS waiver programs (such as departments of aging and mental health), because most states enroll MFP participants into such programs after they return to the community. Delays in transitioning younger people with physical disabilities, the elderly, and people with serious mental illness also occurred if state Medicaid agencies initiated new contracts with community organizations (such as centers for independent living, aging and disability resource centers), and other local agencies to serve these populations.

A second reason for the increase in the share of older adults and younger people with physical disabilities among MFP participants may relate to gradual progress in expanding community housing options for these two groups. Whereas most people with intellectual disabilities move to small-group homes, older adults and the nonelderly with physical disabilities more often choose homes and apartments. MFP program officials have consistently reported severe shortages of affordable and physically accessible housing units for those who want to live in these types of residences. Over time, however, MFP grantees have secured special vouchers and other rental subsidies for MFP participants and developed on-line registries of affordable, accessible housing for all people with disabilities, which has made it somewhat easier to find community housing for these two groups.

Figure II.3. MFP Monthly Enrollment by Population Group, 2008–2011



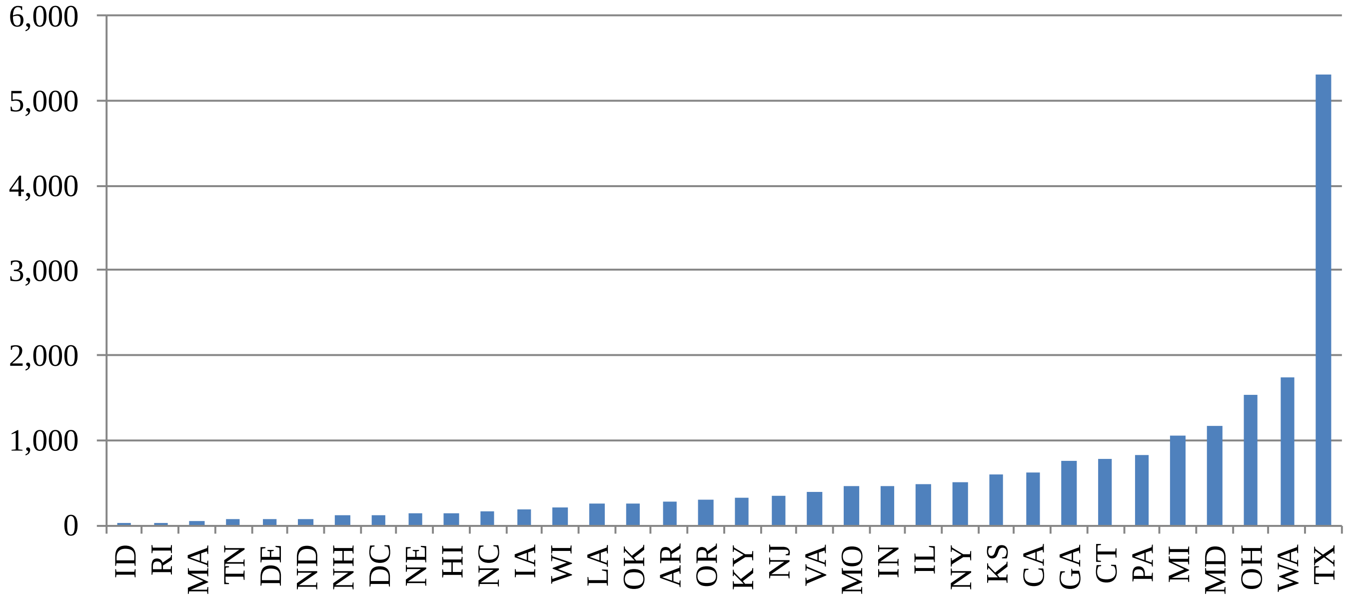
Source: State MFP program participation data, January 2008–December 2011.

Note: At the time of the analysis, data were incomplete for Georgia, Tennessee, Virginia, and Wisconsin.

C. Transition Trends by State

Cumulative transitions by the end of 2011 ranged widely across states, from 5,300 in Texas to 66 in Delaware, not including the four new grantees that began operations in the second half of 2011 (Figure II.4). This variation is mirrored in the number of current participants at the end of 2011, from 1,420 in Texas to 29 in Delaware (not shown). Because its program is so much larger than that of other states, Texas has a disproportionate influence on the overall national picture of the MFP program.

Figure II.4. Cumulative MFP Transitions by State, 2008–2011



Source: Mathematica analysis of state MFP grantee semi-annual progress reports.

By examining annual growth rates in new MFP participants from 2009 to 2011 among the 30 established states (again, disregarding the four new grantees that began operations in 2011), four distinct enrollment patterns emerge among the 30 established states. By examining themes in the progress and challenges reported by the states in these four groups, we found some factors that may explain differences in rates of progress:

- **Turnarounds.** Six states substantially increased the number of new MFP participants in 2011 compared to 2010, representing a reversal in the trend from 2009 to 2010, when the number of new MFP participants declined. From 2010 to 2011, the growth in new participants ranged from 59 to 237 percent in Delaware, the District of Columbia, Missouri, New Jersey, North Carolina, and Wisconsin, compared to declines of 3 to 42 percent from 2009 to 2010. The turnarounds were due to a variety of factors; in many cases, however, they followed the appointment of new program leaders who were given the authority to (1) resolve bottlenecks in recruitment, (2) launch new marketing campaigns, (3) hire additional MFP transition coordinators, and (4) modify HCBS waiver program benefits or other rules to meet MFP participants' needs.
- **Strong, continuing growth.** The following 13 states had increases of 20 percent or more in the number of new MFP participants in 2011 relative to 2010, maintaining or improving on growth rates from 2009 to 2010: Arkansas, Connecticut, Georgia, Hawaii, Illinois, Kansas, Kentucky, Louisiana, New Hampshire, New York, North Dakota, Ohio, and Washington. Although the states in this group vary greatly in size, target groups, and other program dimensions, in most cases, they had stable leadership in 2011; strengthened and expanded marketing efforts, transition coordination capacity, the array of HCBS, and housing assistance, or had both of these advantages.

- **Steady state.** Six states experienced relatively small changes in the number of new enrollees in 2011, ranging from about a 2 percent decline to an 18 percent increase. Three of the six states—California, Indiana, and Texas—had much higher growth rates from 2009 to 2010. In Texas, which still recorded more new enrollees in 2011 than any other MFP state, program officials attributed the slowing growth rate in 2011 to difficulty in transitioning as many ICF-ID residents as in the past because those who remain in these institutions have higher needs, making it harder and more time consuming to find appropriate community placement. Slowed growth rate in California and Indiana in 2011 may be partially due to changes in program leadership, and in California to the state budget shortfalls that led to cutbacks in HCBS funding. Two of the six states—Maryland and Michigan—had small decreases from 2009 to 2010, but both transitioned about 300 to 350 people in each of the past three years. Iowa, the sixth state in this group, has consistently transitioned 50 to 55 people with intellectual disabilities in each of the past three years.
- **Struggling.** Four states–Nebraska, Oklahoma, Pennsylvania, and Virginia–experienced declines in new enrollees from 2010 to 2011, after having had modest or notable gains in 2009. These states often did not know (or did not disclose) all the problems that contributed to poor performance; in some cases, however, changes in program leadership appeared to have played a role. In addition, after Oregon suspended its MFP program in 2010, new enrollment was halted.

D. Progress Toward Annual Transition Goals

The 30 established state grantees that received initial grant awards in 2007 exceeded their aggregate 2011 transition goal by 13 percent. This performance was slightly better than what happened in 2010, when they met 109 percent of the aggregate goal, and was more than double their 2009 performance of 53 percent. The stronger performance since 2010 is partially due to CMS guidance to states that conditioned subsequent-year grant payments on meeting certain thresholds, which led most states to make more conservative annual projections starting in 2010. [4]

As in previous years, progress toward 2011 annual transition goals varied widely across states. Excluding Oregon, whose program was temporarily suspended in fall 2010, about half (16) of the 29 grantees with operational MFP programs throughout 2011 achieved 100 percent or more of their annual transition goals during 2011 (Figure II.5). Two of the states exceeded their annual goals by two to three times. Among the 13 states that did not meet their 2011 annual goal, three achieved at least 90 percent of their annual transition goal, the threshold established by CMS for states to receive a full supplemental award in the following year. Two states achieved between 75 and 89 percent of the goal, and CMS allows these states to receive a partial supplemental award for six months. The eight states that did not meet the 75 percent threshold

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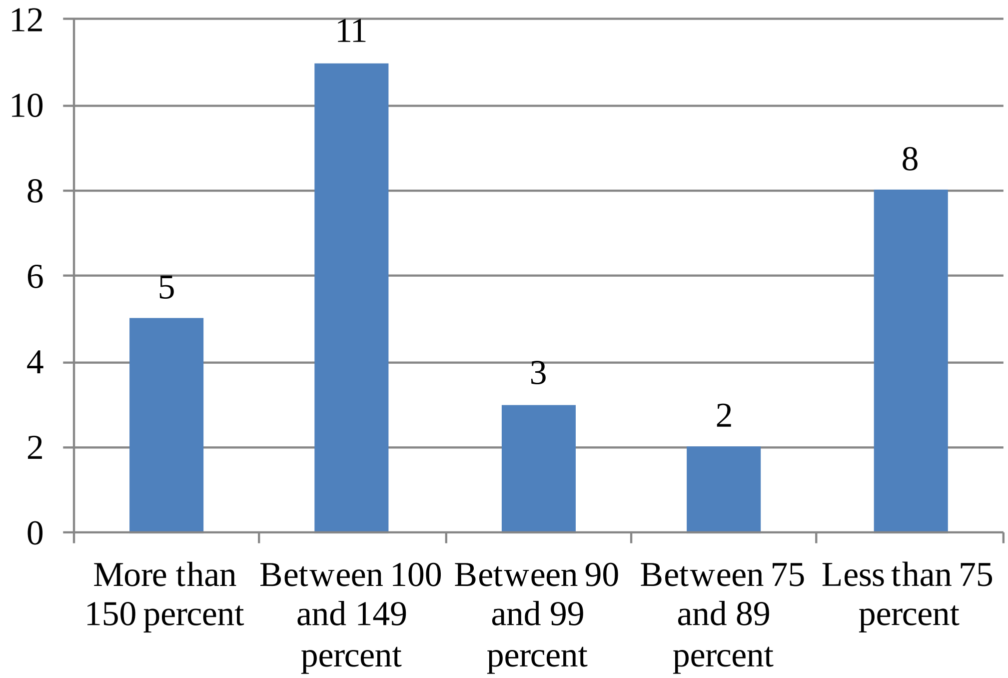
[4] CMS, Money Follows the Person Demonstration Policy Guidance (CMS 2009).

were expected to submit plans to CMS describing strategies for meeting these goals in the future. [5]

Figure II.5. Number of MFP Grantees Achieving 2011 Transition Goal Thresholds



Source: Mathematica analysis of state MFP grantee semiannual progress reports, 2011.

Note: Includes 29 states that received initial MFP grants in 2007 and had programs operational throughout 2011; excludes Oregon, whose program was temporarily suspended during 2011, and South Carolina, which received an initial grant in 2007 and did not implement a program, but has plans to do so in the future.

E. Progress Toward Medicaid HCBS Expenditure Goals

All MFP grantees are required by federal statute to establish annual targets for total qualified Medicaid spending on HCBS. As defined by CMS, “qualified HCBS expenditures” include federal and state Medicaid HCBS expenditures for all Medicaid enrollees including but not limited to, MFP participants. Total qualified HCBS expenditures include those spent on 1915(c) waiver programs, home health services, personal care, and other HCBS provided as state plan

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[5] According to CMS guidance, grantees that fail to meet at least 75 percent of annual transition goals are not eligible for a supplemental grant award. Grantees that do not met their annual transition goal after another six months must submit an action plan describing how they will meet the goal by the end of the calendar year.

optional benefits, [6] as well as HCBS spending on MFP participants (qualified, demonstration, and supplemental services). [7] Annually, grantees report actual Medicaid spending on these services, which is then compared to yearly targets.

In total, the 30 states that received initial MFP grants in 2007 and established demonstration programs spent nearly $47.6 billion on qualified HCBS expenditures, 106 percent of the aggregate spending goal, although this is just 1 percent more than the $46.6 billion spent in 2010. [8] Although this level of achievement is slightly lower than in 2010, when MFP grantees' aggregate spending was 109 percent of the total HCBS spending goal, their performance in 2011 indicates a commitment to at least sustain HCBS in most states, despite difficult budget situations that required some states to reduce coverage or otherwise restrict access to HCBS. [9]

From 2008 to 2011, most of the 30 established grantee states that received initial MFP grants in 2007 achieved 100 percent or more of their HCBS expenditure targets (two sets of bars on the left of Figure II.6). In 2011, 19 of these 30 states achieved at least 100 percent of their total HCBS spending goal, with 7 states achieving 110 percent or more. Total Medicaid HCBS spending was below the annual target in 10 states, 6 of which achieved less than 90 percent of the HCBS spending goal, the highest in the four years of reporting. These 10 states attributed their inability to reach the spending targets to (1) claims lags (after these are taken into account, total spending usually increases); (2) differences in expenditure categories and amounts used to develop forecasted targets from those captured on federal claims reporting forms (CMS-64) and the MFP Financial Reporting Form; and (3) HCBS program reductions, including fewer HCBS waiver slots; limits on the amount, scope, or duration of benefits covered; and HCBS provider payment cuts. One state was unable to report HCBS spending in 2011.

All grantee states plan to revise their annual benchmarks for qualified HCBS expenditures for the years 2012 to 2016 to reflect updated HCBS expenditure projections, taking into account

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6 Qualified HCBS expenditures also include estimated spending on HCBS by capitated managed care plans that provide LTSS, but some states report that they cannot accurately track HCBS spending apart from total capitated payments.

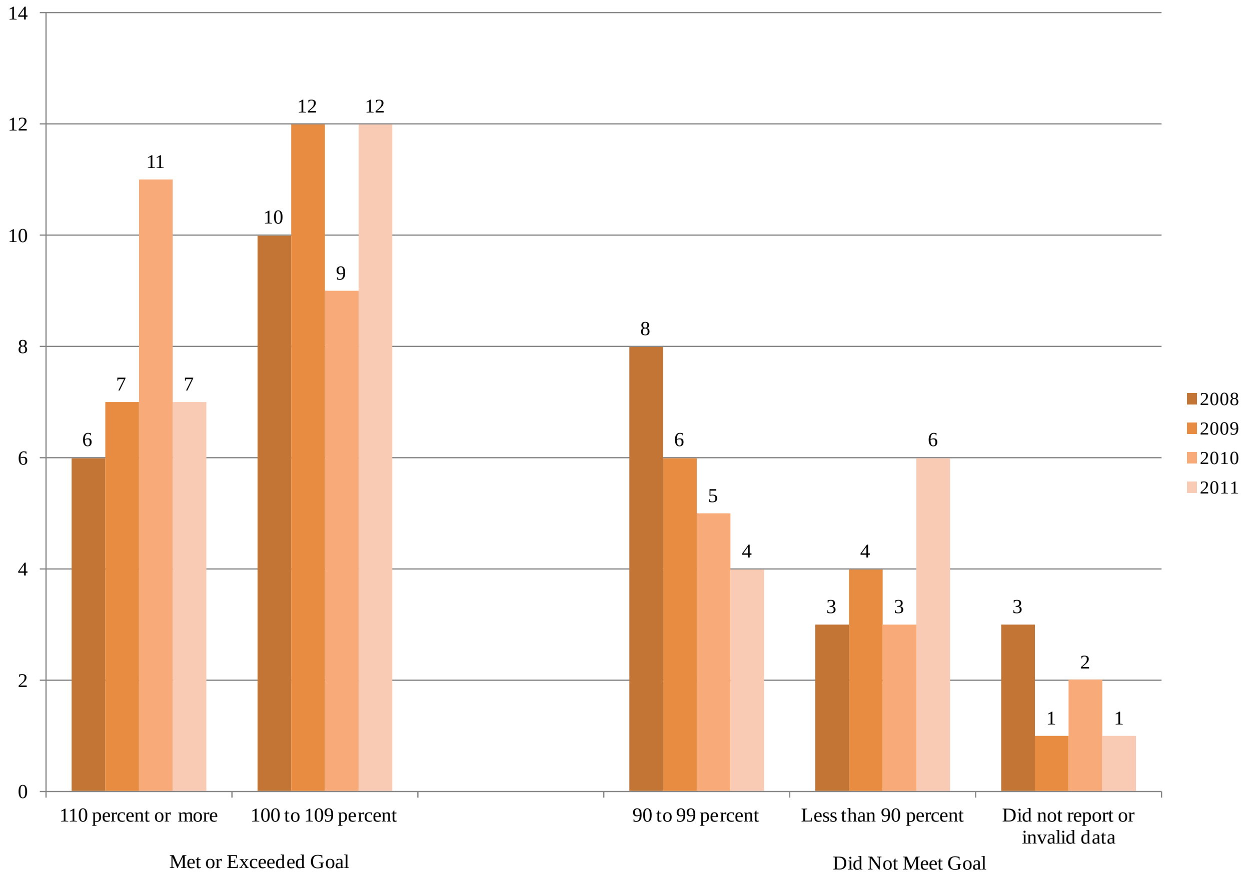
7 Grantees are instructed to report total annual qualified HCBS expenditures once each year, on a calendar year basis; 33 grantees reported qualified HCBS expenditures in their 2011 end-of-year reports. In this context, qualified HCBS expenditures are all Medicaid expenditures on all types of HCBS for all Medicaid beneficiaries, including those in the MFP demonstration program.

8 Qualified HCBS spending figures for 2011 are provisional, based on historical trends; 14 grantees adjusted qualified HCBS expenditures for 2010 to reflect late billings and corrections, so we expect many states to adjust 2011 spending figures in the next reporting period.

9 For example, survey information collected by Smith et al. (2011) indicate that seven states (five of which were MFP grantees) in fiscal (FY) 2011 and seven states in FY 2012 (five MFP states) restricted HCBS programs or services, while four states (three MFP states) in FY 2011 and six states (five MFP states) in FY 2012 reduced coverage of state plan personal care services.

anticipated expansions or shifts to managed LTSS programs or significant changes in HCBS or MFP policies that affect total spending.

Figure II.6. Number of MFP Grantees Achieving Medicaid HCBS Spending Goals, 2008–2011



Source: MFP semiannual web-based progress reports, 2008–2011.

F. New State Grantees in 2011: Transition Goals and Program Implementation to Date

In February 2011, CMS awarded MFP grants to 13 additional states: Colorado, Florida, Idaho, Maine, Massachusetts, Minnesota, Mississippi, Nevada, New Mexico, Rhode Island, Tennessee, Vermont, and West Virginia. One additional state, South Carolina, which received an MFP grant award in 2007 but chose not to implement its program at that time, informed CMS in 2011 that it would resume plans to implement its MFP grant.

MFP program officials in these new participating states proposed to transition about 13,000 people between 2011 and 2016, which would increase the total number of MFP transitions over the entire 10 year demonstration (2007 to 2016) to about 68,500, or nearly 20 percent more than the number projected by the 30 states that received grants in 2007 and implemented programs in 2008 or 2009.

Among these new states, seven planned to start operations in 2011, but only four—Idaho, Massachusetts, Rhode Island, and Tennessee—succeeded in completing all the requirements needed to begin operations by the end of 2011. These requirements included hiring a full-time project director, developing a final operational protocol that met CMS requirements for approval, securing state funding commitments, modifying information systems to track participants and report expenditures accurately, and other start-up activities. One of these four states—Tennessee—reported exceeding its 2011 MFP transition goal (62 enrolled compared to an annual target of 55). The other three—Idaho, Massachusetts, and Rhode Island—collectively transitioned 62 individuals, but each met 50 percent or less of their 2011 transition targets (data not shown) due to delays in program implementation.

The new grantees that did not begin program operations in 2011 experienced various problems that delayed implementation. In some cases, grantees could not obtain authorization to hire new program staff due to state hiring freezes. Other states had to make extensive revisions to the MFP operational protocol to comply with federal program requirements. In two states, the delays were due to extraordinary events beyond state officials' control. Minnesota's program start was delayed by a three-week shut down of state government operations in summer 2011, and program planning in Vermont was deferred after a flood stopped all but the most essential government activities. The fate of MFP remains uncertain in Florida because the state legislature has not yet authorized necessary state funds, and New Mexico officials recently announced their decision to put their plans to implement the program on hold.

Among the 12 new grantee states that either began MFP program implementation in 2011 or planned to do so in 2012, about 10,200 total transitions are projected from 2012 to 2016 (Table II.1). Nearly half (49 percent) of these transitions were expected to be older adults, about a quarter (28 percent) people under age 65 with physical disabilities, 11 percent people with intellectual disabilities, 7 percent individuals with serious mental illness, and 5 percent in other categories. If the new grantees meet these goals, the distribution across the five MFP target populations would reinforce the trend among the 30 established states towards enrolling larger shares of nursing home residents, relative to the other target groups.

Besides the increase in total MFP participants generated by the new 2011 grantees, the MFP program overall may be especially influenced by three states–Massachusetts, Minnesota, and Tennessee–, each of which (1) plans to transition more than 2,000 people and (2) has a relatively large number of people enrolled in a managed long-term services and supports (MLTSS) program. To date, Texas has been the only MFP grantee state with sizable numbers of MFP participants and enrollment in MLTSS programs. The addition of these three states to the national MFP program provides new "testing grounds" to understand how MFP and MLTSS can work in tandem, which may provide useful lessons for a growing number of states with MFP programs that also plan to expand or introduce MLTSS programs over the next several years.

Table II.1. MFP Grantee Transition Goals from 2012 Through 2016 Among States Planning to Start Program Operations by the End of 2012, by Targeted Population

State	MFP Targeted Population Groups: Individuals Over Age 65	Individuals Under Age 65 with Physical Disabilities	Individuals with Intellectual Disabilities	Individuals with Serious Mental Illness	Other Population Group	Total
Colorado	158	210	72	45	5	490
Idaho	175	113	29			317
Maine	75	27			20	122
Massachusetts	1,257	459	116	181		2,013
Minnesota	747	178	467	150	464	2,006
Mississippi	70	140	135	240		585
Nevada	256	256	12			524
Rhode Island	540	60				600
South Carolina	90	130	210	15		445
Tennessee	1,168	957	45			2,170
Vermont	301	49				350
West Virginia	185	325		60		570
TOTAL	5,022	2,904	1,086	691	489	10,192
Share of Total	49%	28%	11%	7%	5%	100%

Source: Mathematica analysis of most recent state MFP operational protocols, 2011 and 2012.

Note: MFP implementation in Florida and New Mexico was on hold at the time of this report.

G. Rebalancing Funds

By the end of 2010, 19 of 30 MFP grantee states reported cumulative spending of about $39 million in rebalancing funds, nearly four times the amount reported in 2009 cumulative spending ($9.9 million) (Denny-Brown et al. 2011). [10] Median cumulative spending among these 19 states was about $1.5 million, and ranged from $32,435 to about $7.2 million. These funds represent the "dividend," or net federal revenues that states receive from an enhanced Federal Medical Assistance Percentage (FMAP) matching rate, above the state's regular FMAP rate, for

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[10] Because state grantees report cumulative rebalancing fund spending in midyear progress reports, the reports submitted in September of each year provide information on cumulative spending as of the end of the previous calendar year.

expenditures on qualified and demonstration HCBS provided to MFP participants during their first 365 days of community living.

Compared to approximately $1.4 billion in federal funds initially awarded to the 30 states and the District of Columbia in 2007 for the initial five-year grant period (2007 to 2011), $39 million is relatively small. The amount will grow rapidly in the coming years, however, as (1) the number of people who ever enroll in MFP and receive services that qualify for enhanced federal matching funds increases, (2) claims for MFP-related HCBS expenditures are paid and states submit official records that generate the enhanced FMAP funds, and (3) states receive enhanced federal funds and authorize spending on LTSS system rebalancing initiatives. For example, if the nearly 20,000 people who ever enrolled in MFP by the end of 2011 had $39,395 in average HCBS spending during the first year after leaving an institution as estimated by Irvin et al. (2012), it would have generated approximately $119 million in enhanced federal funds, which states can use however they wish to rebalance their long-term service system. [11]

CMS requires state grantees to invest these funds in initiatives that help to shift the balance of LTSS toward home- and community-based settings, but gives states broad flexibility to decide how to spend the funds (Table II.2).

- Ten states reported using MFP rebalancing funds to establish new HCBS waiver programs or to increase the number of waiver slots in existing programs to accommodate people at high risk of a nursing home admission.
- Six states invested the funds in developing better tools for assessing community-based service needs
- Six states have spent funds to improve data or client tracking systems.
- Four states have used the funds to recruit, train, or retain direct care workers to serve people with disabilities.

In addition, grantees have used MFP rebalancing funds for a wide variety of other activities, such as public awareness campaigns about HCBS alternatives and efforts to help providers develop the capacity to serve more people with special needs. Texas uses the funds to compensate owners of ICFs-ID for costs associated with the voluntary permanent closure of such institutions. New York covers the cost of purchasing new assistive technology and devices that can be loaned to people with disabilities.

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[11] Per-person annual spending on HCBS for MFP participants comes from Irvin et al. (2012). The rebalancing funds calculation assumes 95 percent of HCBS spending was for MFP qualified and demonstration HCBS, which are eligible for enhanced FMAP rates, and an average enhanced FMAP rate of 84 percent, versus 68 percent average FMAP for all states from FYs 2009 to 2011.

Table II.2. MFP Grantee States' Actual or Planned Use of Rebalancing Funds, 2010

State	New or Expanded HCBS Waiver Capacity	Assessment Tools	Improvements to Data or Client Tracking Systems	Recruit, Train, or Retain Direct Care Workers	Other
Arkansas (a)					
California		X			X
Connecticut					X
Delaware					X
Dist. of Columbia (a)					
Georgia			X		
Hawaii	X				
Illinois	X				
Indiana					X
Iowa	X	X			
Kansas					X
Kentucky	X				
Louisiana			X		
Maryland	X	X	X		X
Michigan					X
Missouri		X			X
Nebraska			X		
New Hampshire	X				X
New Jersey					X
New York					X
North Carolina					
North Dakota				X	
Ohio		X	X	X	X
Oklahoma	X			X	
Oregon	X				X
Pennsylvania	X				
Texas		X		X	X
Virginia					X
Washington			X		
Wisconsin	X				
Total	10	6	6	4	15

Source: MFP grantee semiannual progress reports, January–June 2011.

(a) Did not report.

In addition, as states examine some of the new options to offer expanded HCBS programs that became available through the Affordable Care Act of 2010, such as the Balancing Incentive Payment program and the Community First Choice option, state officials have begun to look to MFP rebalancing funds as a flexible source of funds for the upfront investments in referral, assessment, case management, and data systems that are needed to begin these programs. Future reports in 2012 and 2013 will provide updates on how all states are spending rebalancing funds, as well as an in-depth look at specific states that are using these funds in innovative or creative ways to increase the availability of HCBS alternatives.

III. CHARACTERISTICS OF MFP PARTICIPANTS

A. Introduction

As the data in Chapter II indicate, the mix of targeted populations, and therefore the demographic makeup of MFP participants, has been changing, and these changes continued in 2011. Although several states were ready to transition individuals from ICFs-ID during the initial years of the demonstration, grantee states have increased the number of people transitioning from nursing homes. This chapter examines the characteristics of MFP participants to provide a more detailed understanding of who is participating in the MFP demonstration. The last section also describes the level of care that by MFP participants who transition from nursing homes need. Level of care need information comes from the nursing home resident assessment instrument, known as the nursing home minimum data set (NF-MDS 2.0). Unfortunately, this type of information is not available for those who transition from ICFs-ID and those with severe mental illness who transition from institutions for mental diseases (IMDs), so the analysis of level of care need had to exclude these two groups.

B. Demographic Characteristics of MFP Participants

The enrollment records submitted by the MFP grantee states indicate that, by the end of 2011, nearly two-thirds (62 percent) of MFP participants were working-age adults (Table III.1) between ages 21 and 64. The average MFP participant was 58 years old at the time of the transition. [12] The population continued to be relatively evenly divided between men and women, although men dominated the group transitioning from ICFs-ID, while women dominated among the elderly transitioning from nursing homes.

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[12] Women tend to be slightly older than men–62 years old among all female MFP participants, compared to 54 years old among men (data not shown).

Table III.1. Demographic Characteristics of All MFP Participants Through December 2011

Characteristic	Overall	Elderly	Physical Disabilities	Intellectual Disabilities	Other	Unknown
Number	18,688	5,504	7,706	3,381	473	1,624
Average age (in years)	58	77	51	43	51	57
Age Distribution						
Younger than 21	3.2	0.0	0.8	10.3	19.0	5.4
21 to 44	17.1	0.0	19.9	39.4	16.7	15.3
45 to 64	44.6	0.0	79.3	39.6	30.9	45.7
65 to 79	22.4	62.9	0.0	8.5	18.4	21.6
80 and older	12.6	37.1	0.0	2.0	14.6	11.0
Unknown	0.1	0.0	0.0	0.2	0.4	0.9
Gender						
Male	49.8	35.1	54.5	61.7	49.1	52.3
Female	50.2	64.9	45.5	38.2	50.7	47.2
Unknown	0.1	0.0	0.0	0.1	0.2	0.5
Medicare Eligibility						
Medicare-Medicaid Enrollee	60.3	88.3	43.2	56.2	41.6	61.5

Source: Mathematica analysis of MFP program participation data files from 2007–2011.

Note: Virginia was excluded because of missing data. Delayed data submissions from Arkansas, Tennessee, and Wisconsin mean that data from these states were incomplete. Age was determined at the start of a MFP eligibility period. The data used likely underidentify those eligible for both Medicare and Medicaid benefits. The information was reported by the MFP grantees, but we were not able to verify the Medicare eligibility of all MFP participants with cross checks to Medicare eligibility records. Nearly all Medicare-Medicaid enrollees were eligible for full Medicaid benefits.

People eligible for both Medicaid and Medicare benefits are some of the most costly individuals in both programs (MedPAC 2012). Medicare-Medicaid enrollees are particularly costly if they also use LTSS. Among all MFP participants, approximately 60 percent were dually eligible for both Medicaid and Medicare benefits, although the data used for this analysis likely understate Medicare enrollment. [13] Although nearly all elderly were Medicare-Medicaid enrollees, less than half of those in the other group (primarily those with dual diagnoses) and the

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[13] The information on dual eligibility in Medicare and Medicaid is likely to be unreported in the data used for this analysis. The MFP grantee states reported this information, but Mathematica has not been able to verify Medicare enrollment for the most recent participants. This underreporting will be addressed when all the enrollment records can be linked to both Medicaid and Medicare administrative data files.

nonelderly with physical disabilities were Medicare-Medicaid enrollees (41 and 43 percent, respectively). More than half of MFP participants with intellectual disabilities (56 percent) received both Medicaid and Medicare benefits.

C. Types of Community Residences

By the end of 2011, 30 percent of all MFP participants had moved to apartments in their community, 29 percent had moved to a home, and 20 percent had moved to a group home of four or fewer people (Table III.2). Assisted living was less common (at 9 percent), presumably because most such units do not meet the qualified residence requirements established by CMS. Elderly MFP participants most commonly move into a home (44 percent) while the nonelderly with physical disabilities most commonly move to an apartment (also 44 percent). Those with intellectual disabilities predominantly move into small-group homes (71 percent).

Table III.2. Types of Qualified Residences Through December 2011

Qualified Residence	Overall	Elderly	Physical Disabilities	Intellectual Disabilities	Other	Unknown
Number	18,688	5,504	7,706	3,381	473	1,624
Home	28.7	44.3	31.2	3.7	31.9	15.8
Apartment	30.4	23.9	43.5	15.1	10.6	28.1
Assisted living	9.0	13.6	8.1	5.4	5.9	6.3
Group home of no more than four	19.9	7.3	7.4	71.4	12.3	16.4
Unknown	11.9	10.9	9.8	4.5	39.3	33.4

Source: Mathematica analysis of MFP program participation data files from 2007–2011.

Note: Virginia was excluded because of missing data. Because of delayed data submissions, data from Arkansas, Tennessee, and Wisconsin were incomplete. Nearly 60 percent of those with an unknown residence are from Maryland, the only grantee unable to report the qualified residence for any of its participants. The data only present the type of qualified residence a participant moves to upon transition to the community. They do not reflect the type of residence participants might move to after the initial transition.

The proportion of MFP participants moving to homes has held steady at about 28 to 29 percent. The percentage moving to apartments grew from 21 percent at the end of 2009 to 30 percent two years later in 2011, while the percentage moving to small-group homes declined from 29 percent at the end of 2009 to 20 percent at the end of 2011 (see Irvin et al 2010). These trends appear to be driven primarily by the changing composition of MFP participants over that time, as people transitioning from ICFs-ID who more often move to small-group homes made up a smaller share of all participants in 2011 than they did in 2009.

D. Level of Care Needs Among MFP Participants Transitioning from Nursing Homes

Recent work by Ross et al. (2012) suggests that, of the MFP participants who transitioned from nursing home care during the first two years of program operations (2008 and 2009), 21 percent had low care needs, but most (79 percent) had medium or high care needs. This study defined level of care needs using information from the NF-MDS 2.0. Those with low care needs generally had few needs for physical assistance with daily activities of living, but may still have important cognitive or behavioral impairments (see Ross et al. [2012] for full details of their methodology).

Although most MFP participants transitioning from nursing homes during the initial years of the demonstration had medium or high level of care needs, MFP participants as a group were more likely to have low care needs than all other nursing home residents who met the MFP length of stay requirement of 180 days but transitioned without the benefit of the program or remained in nursing home care (see Table III.3). [14] This finding is consistent with the younger age profile of MFP participants relative to others who transitioned to community living or remained in institutional care.

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14 Before passage of the Affordable Care Act, the institutional length of stay requirement for MFP was 180 days. This legislation changed the requirement to 90 days, excluding days covered by Medicare, and this new requirement became effective in April 2010.

Table III.3. Level of Care Needs Among MFP Participants Transitioning from Nursing Homes Through December 2009

Characteristics	Percentage Among MFP Participants	Percentage Among Others Who Transitioned to HCBS	Percentage Among Those Who Remained in Nursing Home Care
Number	3,891	6,819	556,975
Level of Care			
Low	21.4	12.9	14.5
Medium	45.8	44.6	45.3
High	31.9	42.0	39.8
Gender			
Male	44.3	33.3	30.9
Female	55.7	66.8	69.1
Age			
< 18 years	0.3	0.4	0.2
18 to 24	1.4	0.7	0.2
25 to 44	10.2	4.6	2.3
45 to 64	43.6	24.1	15.5
65 to 74	19.0	16.7	14.8
75 to 84	16.1	25.0	27.5
85+	9.4	28.6	39.6

Source: Mathematica analysis of linked MFP program participation data, Medicaid Analytical Extract (MAX) data, and the nursing home minimum data set.

Note: The analysis was based on 28 MFP grantee states. Iowa and the District of Columbia were excluded because they did not transition nursing home residents during calendar years 2008 and 2009. The others who transitioned to HCBS and those who remained in nursing home care met the MFP length of stay requirement of 180 days that was in effect through March 2010.

The study done by Ross et al. (2012) also points out that the national estimates masked considerable state-level variability in the care needs among MFP participants who transitioned from nursing home care during the initial years of the demonstration. Of the 20 MFP programs that transitioned at least 30 nursing home residents by the end of 2009, 7, including Texas, transitioned disproportionate numbers of nursing home residents with low care needs when compared to others who transitioned to HCBS during the same period. When Texas was excluded from the analysis, the national estimate of the proportion of low care need nursing home residences who became MFP participants dropped from 21 to 17 percent.

Conversely, 13 states transitioned disproportionately fewer nursing home residents with low care needs, and MFP participants in these states were more likely to have medium to high care needs than others who transitioned through other avenues. In two of these states, MFP participants also had higher rates of medium to high care needs than those who remained in nursing homes.

Several factors may explain state-level variability in level of care need among MFP participants, particularly in the first years. MFP programs were heavily influenced by the HCBS infrastructure that was in place at the time program operations began. Some states already had the capacity to serve people with higher needs in the community, while others needed time to develop enough trained and knowledgeable transition coordinators, housing specialists, and HCBS providers who could support people with medium or high level of care needs. Available housing options may also have differed across states and subgroups. The grantees' progress reports discuss at length the barriers housing issues present for many people who would like to move to the community. For some, the lack of community-based housing may be a key reason they remain in institutional care when they may have few needs for assistance with the daily activities of living. The national evaluation of MFP will continue to track the level of care needs among MFP participants transitioning from nursing homes. As states gain experience and community-based care systems are strengthen and expanded to serve people with more significant care needs, analyses of later demonstration years may show shifts in the care needs of MFP participants who transition from nursing homes.

IV. HCBS EXPENDITURES OF MFP PARTICIPANTS

A. Overview

MFP programs provide participants a rich mix of home- and community-based services (HCBS) to prepare for and support the transition from institutional to community-based care and to help them continue living in the community after they have settled into their new home. Because states have flexibility in the services they provide MFP participants, examining the level of spending and service variation across states will be important to understanding who enrolls and the outcomes of the demonstration.

This chapter provides information on the types and costs of HCBS delivered during participants' first year of community residence by examining HCBS use and expenditures in aggregate, per MFP participant, and by type of service. We look at the variation in these measures across targeted populations and across the first year of community living. We also examine how the HCBS expenditures of MFP participants are distributed across different categories of services to identify those services that dominate.

The analyses presented in this chapter are descriptive only and do not investigate the relationship between HCBS expenditures and post-transition outcomes. Nonetheless, this chapter presents the first component of this work by providing information that helps us understand the cost of moving people to community-based care.

To summarize, we found that:

- MFP programs spent nearly $723 million on HCBS through the end of 2011. Although most HCBS spending for MFP participants was on qualified HCBS (services that participants would have received regardless of their eligibility for MFP), most states provided additional services not otherwise available to Medicaid beneficiaries who were not in the MFP program.
- During the first year of MFP enrollment, HCBS expenditures averaged $41,000 per MFP participant. The elderly had the lowest (nearly $24,000) expenditures and people with intellectual disabilities had the highest expenditures ($89,000).
- Monthly HCBS expenditures were highest at the beginning of the MFP eligibility period. For example, monthly service expenditures during the first 30 days after the initial transition were, on average, more than 61 percent higher than monthly expenditures for the rest of the year.
- For those MFP participants transitioning from a nursing home, greater cognitive and physical impairment was associated with greater HCBS expenditures after the transition to community living.
- Most HCBS spending is concentrated in home-based care and round-the-clock services (33 percent of all expenditures each). All states provided some kind of home-based services (that is, personal care) and equipment (such as wheelchairs) to their MFP participants.

B. State-Level HCBS Expenditures

Upon returning to the community, MFP participants receive LTSS through HCBS provided through 1915(c) waivers or optional state plan services (such as personal assistance services). Aggregate data from state budget worksheets indicate that state MFP programs spent nearly $723 million on HCBS from the program's inception through the end of 2011. By the end of 2011, nearly 20,000 people participated in MFP, meaning that, on average, states spent about $37,000 on HCBS per MFP enrollee in 2011 (Table IV.1), about two percent higher than the average as of the end of 2010 (see Irvin et al. 2011). Spending by state ranged from $16,000 per person in Arkansas to $86,000 in North Dakota. Iowa, Kentucky, and North Dakota had the highest per-person expenditures, which were more than double the 30-state average. These estimates of MFP expenditures did not account for length of MFP program enrollment, however; furthermore, five states were excluded from the analysis due to unavailable data.

Table IV.1. Total HCBS Expenditures, by MFP Grantee State

State	Total Number of MFP Transitions	HCBS Spending per MFP Participant (Dollars)
Total	19,728	37,067
Arkansas	272	16,415
California	630	42,877
Connecticut	796	32,312
Delaware	66	32,775
District of Columbia (a)	110	N/A
Georgia	746	40,254
Hawaii	139	25,412
Idaho (b)	4	N/A
Illinois	482	30,749
Indiana	460	25,882
Iowa	173	73,456
Kansas	595	28,640
Kentucky	314	77,062
Louisiana	257	47,283
Massachusetts (b)	52	N/A
Maryland	1,167	51,951
Michigan	1,056	19,853
Missouri	454	55,132
Nebraska	136	56,020
New Hampshire	107	33,685

Table IV.1 (continued)

State	Total Number of MFP Transitions	HCBS Spending per MFP Participant (Dollars)
New Jersey	347	27,127
New York	506	59,826
North Carolina	157	47,650
North Dakota	75	85,721
Ohio	1,533	52,868
Oklahoma	262	37,503
Oregon	306	55,042
Pennsylvania	821	24,282
Rhode Island (b)	6	N/A
Tennessee (b)	62	N/A
Texas	5,300	31,026
Virginia	388	60,006
Washington	1,748	22,760
Wisconsin	201	50,966

Source: Mathematica analysis of MFP budget worksheets for 2011 including expenditures from 2007 through the end of 2011.

Note: Annual expenditures were inflated to 2011 U.S. dollars using the medical care component of the Consumer Price Index available from the Bureau of Labor Statistics.

(a) The District of Columbia was excluded because its state budget worksheet does not separate HCBS and other Medicaid spending for its MFP participants.

(b) These states were excluded because they have new MFP programs and have not accumulated enough data for analysis.

Differences in average state HCBS spending on MFP participants may be attributable to several factors. States can choose the services they offer MFP participants, and those with higher per-person expenditures may be offering a richer or more costly array of services. The services provided also reflect the needs of the population that an MFP program targets. In addition, state grantees were transitioning different types of populations, and those that have higher proportions of enrollees with intellectual disabilities—who typically use a more costly array of services than those with physical disabilities—were expected to have higher per-participant costs. Such was the case for Iowa, which only transitioned individuals with intellectual disabilities.

C. MFP Expenditures, by Federal Medical Assistance Percentage (FMAP) Group

MFP demonstration programs can offer a variety of services grouped into three FMAP categories: (1) qualified HCBS, (2) demonstration HCBS, and (3) one-time supplemental services that support transitions to the community. Qualified HCBS are services that the state provides to all Medicaid beneficiaries who need these services, either through their state plan or through 1915(c) HCBS waivers, regardless of their participation in the MFP program. States also can offer HCBS benefits to MFP participants, known as demonstration HCBS, not otherwise available to regular Medicaid beneficiaries. Examples may include extra hours of personal care assistance beyond what is allowed or a specific type of behavioral health service. Finally, states may provide supplemental services as one-time benefits to support the transition back to the community that are typically not allowable Medicaid-covered services (such as payment of overdue electrical bills) or not allowable outside a waiver program. States are not required to provide demonstration HCBS or supplemental services. All qualified HCBS and demonstration services provided to MFP participants are reimbursed at an enhanced FMAP, making it appealing for states to offer either or both categories of services. States receive their regular FMAP for the supplemental services they provide.

By the end of 2011, more than two-thirds of HCBS expenditures were for qualified HCBS (see Table IV.2). Supplemental services, on the other hand, accounted for less than five percent of total HCBS expenditures. Of the states that provided supplemental services at any point between 2008 and 2011, 80 percent had reduced their supplemental services expenditures compared to the proportion reported in the 2010 annual report (see Irvin et al. 2011). This change most likely resulted from CMS guidance to re-classify supplemental services as demonstration services whenever possible to help the states maximize their FMAP rate.

Demonstration services accounted for approximately 28 percent of HCBS expenditures. Texas was the only state to provide only demonstration HCBS to its MFP participants. Starting in 2011, three additional states began providing HCBS demonstration services, one additional state began providing supplemental services, and two additional states began to provide both services. In total, 22 states offered HCBS demonstration services, 16 offered supplemental services, and 15 offered both demonstration and supplemental services.

Table IV.2. HCBS Expenditures by FMAP Category, by State

State	Total MFP Expenditures 2007–2011 (Dollars)	Qualified HCBS	Demonstration HCBS	Supplemental Services
Total	722,587,847	67.6%	28.3%	4.1%
Arkansas	4,464,872	80.1%	19.9%	0.0%
California	27,012,705	91.8%	8.2%	0.0%
Connecticut	25,720,596	72.7%	2.8%	24.5%
Delaware	2,163,179	31.8%	46.3%	22.0%
District of Columbia (a)	N/A	N/A	N/A	N/A
Georgia	30,029,714	93.7%	5.2%	1.1%
Hawaii	3,532,316	96.1%	3.9%	0.0%
Idaho (b)	N/A	N/A	N/A	N/A
Illinois	14,820,884	93.3%	2.7%	4.1%
Indiana	11,905,522	62.7%	0.9%	36.4%

Table IV.2 (continued)

State	Total MFP Expenditures 2007–2011 (Dollars)	Qualified HCBS	Demonstration HCBS	Supplemental Services
Iowa	12,707,968	94.5%	4.4%	1.1%
Kansas	17,040,844	82.8%	15.8%	1.4%
Kentucky	24,197,373	74.4%	24.8%	0.8%
Louisiana	12,151,698	100.0%	0.0%	0.0%
Massachusetts(b)	N/A	N/A	N/A	N/A
Maryland	60,626,858	98.6%	1.4%	0.0%
Michigan	20,964,486	100.0%	0.0%	0.0%
Missouri	25,029,986	98.5%	1.3%	0.2%
Nebraska	7,618,662	100.0%	0.0%	0.0%
New Hampshire	3,604,250	98.5%	1.1%	0.4%
New Jersey	9,412,945	98.6%	0.2%	1.2%
New York	30,271,948	100.0%	0.0%	0.0%
North Carolina	7,480,985	94.8%	5.2%	0.0%
North Dakota	6,429,073	93.0%	4.9%	2.0%
Ohio	81,047,080	70.4%	14.1%	15.6%
Oklahoma	9,825,702	100.0%	0.0%	0.0%
Oregon	16,842,985	88.2%	0.0%	11.8%
Pennsylvania	19,935,390	100.0%	0.0%	0.0%
Rhode Island (b)	N/A	N/A	N/A	N/A
Tennessee (b)	N/A	N/A	N/A	N/A
Texas	164,438,036	0.0%	100.0%	0.0%
Virginia	23,282,328	71.8%	21.7%	6.5%
Washington	39,785,342	85.3%	14.2%	0.5%
Wisconsin	10,244,120	100.0%	0.0%	0.0%

Source: Mathematica analysis of MFP budget worksheets for 2011, including expenditures from 2007 through the end of 2011.

Note: Annual expenditures are inflated to 2011 U.S. dollars using the medical care component of the Consumer Price Index available from the Bureau of Labor Statistics.

(a) The District of Columbia was excluded because its state budget worksheet does not separate HCBS and other Medicaid spending for its MFP participants.

(b) These states were excluded because they have new MFP programs and have not accumulated enough data for analysis.

D. HCBS Spending by Target Population and Enrollment Cohort and Over the Year

This section updates and adds more detail to the recent report by Irvin et al. (2012) on per-participant HCBS expenditures. The previous calculations were updated to incorporate another year of claims data, allowing more people and states to be added to the analysis. In addition, HCBS expenditures were disaggregated into three-month increments to better understand how HCBS costs vary over the year, and HCBS expenditures were linked to assessment information reported in the nursing home minimum data set (NF-MDS 2.0) to investigate the relationship between the level of need for services and HCBS expenditures among those transitioning from nursing homes.

The estimates presented in Section B above were based on aggregated data states provided in their routine financial reporting for the MFP demonstration. To obtain a more detailed understanding of the HCBS costs of MFP participants, we analyzed individual service records for 7,475 MFP participants who had transitioned by the end of December 2010 from 27 states and for whom a year's worth of service claims records were available. This sample size represents about 63 percent of everyone who had transitioned by the end of December 2010 and includes spending on HCBS delivered by the end of 2011.

The analyses excluded two important groups of MFP participants. We excluded all 3,712 MFP participants from Texas because most received their LTSS through a managed care plan and their claims information was not equivalent to that of others who received HCBS in a fee-for-service (FFS) system. In addition, all MFP participants without an MFP service record on file (roughly eight percent of all people who transitioned to MFP by the end of 2010) were excluded from analysis.

From the initial transition to the end of enrollment in MFP, per-person spending on HCBS among the participants in the sample was nearly $41,000 (Table IV.3). [15], [16] This estimate differs from the per-person costs presented above because the source data are different, and this analysis requires a full year of claims information (unlike the previous analysis based on grantee aggregate budget reports).

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[15] The current analysis was restricted to those MFP participants with sufficient information about their MFP enrollment status during the 365 days after their initial transition to the community. No such restriction was applied to the analysis based on the budget worksheets.

[16] Among MFP participants who transitioned by the end of 2010 in the 27 states included in our analyses, eight percent did not have a service record for HCBS, and were excluded. Most people without any record of receiving HCBS were participants in the programs operating in California, Indiana, and Washington. Although these individuals had no record of receiving HCBS, it is possible that they received services. Some states, such as California, pay for certain transition services through MFP administrative funds, which would not result in specific service claim records of the type used in this analysis. Another possibility is incomplete data: at the time this report was written, 16 states—including Indiana and Washington—had missing MFP service files for at least one quarter. If all individuals with no service records were included in the sample and treated as having zero expenditures (rather than being deleted from the sample due to missing data), then average HCBS expenditures would decrease by about seven percent.

Table IV.3. Per-Person and Per-Person Per-Month HCBS Expenditures During the First 30 Days and After the First 30 Days of Community Living, by Target Population

Target Population	Number of MFP Participants	Per-Person Expenditures (Dollars) (a)	Per-Person Per-Month Expenditures (Dollars)		
			Overall	First 30 Days (b)	After First 30 Days
Total	7,475	40,762	3,676	5,614	3,480
Elderly	2,183	23,725	2,233	4,337	2,016
Physical Disabilities	2,990	33,703	3,017	5,555	2,763
Intellectual Disabilities	1,048	89,044	7,572	8,595	7,468
Other	192	46,874	4,945	6,766	4,737
Unknown	1,062	46,904	4,096	5,227	3,983

Sources: Mathematica analysis of MFP services files and program participation data files submitted by 27 grantee states through June 2012.

Note: Expenditures include qualified, demonstration, and supplemental services. The District of Columbia and Virginia were not included in this analysis due to incomplete data. Texas was excluded because a high proportion of MFP participants received HCBS through managed care and their claims information is not equivalent to that of others who received services through FFS.

(a) Calculated as the total expenditures divided by the total number of MFP participants. These figures do not account for length of participation in the MFP program.

(b) Includes transition services provided either immediately before or at the time of the transition, as well as any HCBS provided during the first 30 days of community living.

When per-person HCBS expenditures were adjusted for length of program enrollment to control for readmission to institutional care and mortality before completing 365 days of community living, we found that the HCBS costs of MFP participants were approximately $3,700 per-person per-month (Table IV.3). [17] This estimate of per-person per-month costs is substantially (60 percent) lower than the $9,430 per-person per-month costs reported by the

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[17] Among the MFP participants used in this analysis, 10 percent were readmitted to institutional care for at least 30 days, and 6 percent died before completing 365 days of community living. These reinstitutionalization and mortality rates are similar to what Schurrer and Wenzlow (2011) found with a slightly different group of MFP participants.

Kaiser Family Foundation (2011), which relied on a different methodological approach and different data. [18]

The data presented in Table IV.3 show that HCBS expenditures varied considerably across the different targeted populations. For example, the elderly and those with intellectual disabilities had more than a three-fold difference in overall per-person per-month expenditures. Data available for this study did not provide enough detail to explain this difference in expenditures between these two groups. However, cost differences across groups most likely reflect differences in the type and intensity of services delivered to each population. As the data in Chapter III indicate, most MFP participants with intellectual disabilities moved to small-group homes of four or fewer people, and group homes frequently provide 24-hour attendant care.

Monthly expenditures also varied over the year of community living, and a disproportionate amount of HCBS expenditures were incurred within the first 30 days of enrollment (Table IV.3). The data indicate that monthly service expenditures during the first 30 days after the initial transition were, on average, more than 61 percent higher than those for the rest of the year (Table IV.3). Services delivered during the first month of enrollment included transition planning and coordination services, home modifications and setup, and HCBS to support care needs. Some services (such as transition planning and coordination) can be provided while the patient still resides in the facility in preparation for the actual transition. Therefore, the costs associated with the first 30 days include many services specific to the transition and are likely to be of short duration. The costs incurred after the initial 30 days are more likely to reflect costs associated with the ongoing care MFP participants need to live in the community on a long-term basis.

The magnitude of the difference between costs during the first 30 days and monthly costs after this initial period varied by population. Among the elderly and nonelderly transitioning from nursing homes, costs during the first month of community living were more than double their monthly costs in later months. In contrast, among those with intellectual disabilities, costs during the first month were only 15 percent higher than their ongoing per-person per-month costs. Again, the target group differences in cost patterns were likely to be attributable to differences in the types of services each group received. [19]

In addition to higher-than-average expenditures in the first 30 days after the transition, HCBS expenditures appeared to be slightly higher in the last quarter of MFP eligibility (Figure

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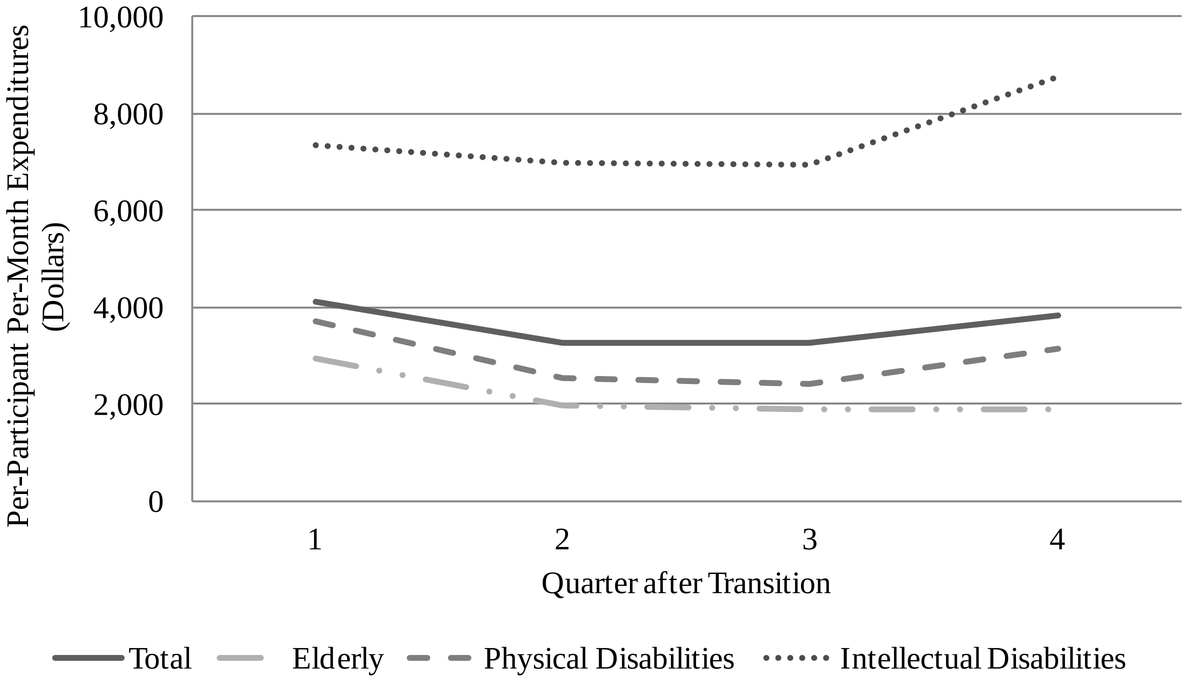
[18] The differences in these two per-participant per-month HCBS spending estimates are explained in Irvin et al. (2012). In summary, differences in data collection (claims versus surveys) and estimation methods (paid HCBS claims versus aggregate expenditures that include administrative costs) explain most of the differences.

[19] When replicating our expenditures analyses using the data on MFP participants from Texas, in general, we found that HCBS expenditures were lower in Texas compared to the rest of the MFP grantee states. Across all target populations, annualized expenditures were 15 percent lower for Texas MFP participants. The relationship between HCBS expenditures and target populations was the same in Texas as in other states, with people with intellectual disabilities having the greatest HCBS expenditures. In addition, we observed higher expenditures in the first 30 days of enrollment compared with other time periods, as we did with other states.

IV.1). Over all targeted populations, HCBS expenditures were about 18 percent greater (30 percent greater among those with physical disabilities) in the fourth quarter than in the prior quarter. It is unclear what might drive the increase in expenditures in the fourth quarter. Possible explanations include changes in the types of service used in months 3 to 9 compared to months 10 to 12, or the costs of additional services designed to help people transition out of MFP.

Figure IV.1. Quarter-by-Quarter HCBS Expenditures, by Target Population



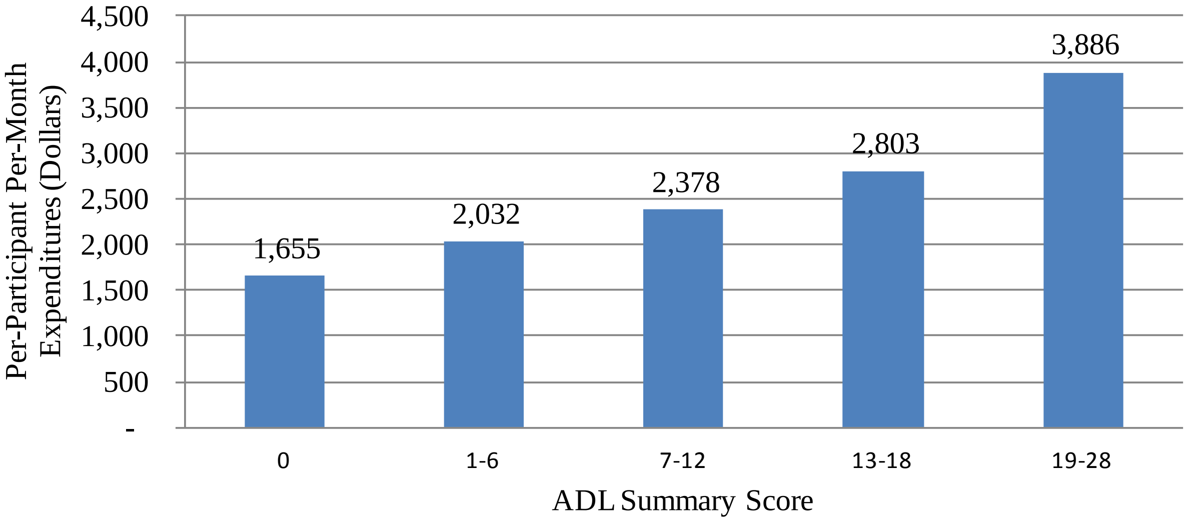
Sources: Mathematica analysis of MFP services files and program participation data files submitted by 27 grantee states through June 2012.

Note: Expenditures include qualified, demonstration, and supplemental services. The District of Columbia and Virginia were not included in this analysis due to incomplete data. Texas was excluded because a high proportion of MFP participants received HCBS through managed care and their claims information is not equivalent to that of others who received services through FFS.

To further explain variation in HCBS expenditures across MFP target populations, we examined how HCBS spending varied by the need for assistance with the activities of daily living (ADLs) and cognitive impairment based on cognitive performance scale (CPS) scores. The ADL summary score is taken from the NF-MDS (2.0) and the ADL long form scale, which measures the number of ADLs (maximum of seven) with which the individual requires assistance, and the extent of assistance required (on a four-point scale); the extent of assistance required is summed across the seven ADLs, producing the ADL summary score with a range from 0 (no assistance needed) to 28 (full assistance needed for all seven ADLs). The CPS measures cognitive function, ranging from no cognitive impairment to severe impairment. Calculated using NF-MDS 2.0 assessments, the CPS and the ADL summary score are part of the Resource Utilization Groups (RUG-III) that Medicare uses to determine nursing home reimbursement. Information was from the most recent NF-MDS assessment available before the transition to the community occurred. Ross et al. (2012) contains more information on the level of care needs of MFP participants.

Figures IV.2 and IV.3 indicate that MFP participants with higher levels of impairment had greater HCBS expenditures post-transition. MFP participants with higher ADL dependency had greater expenditures, with a more than a twofold difference in per-participant per-month expenditures between those with no ADL dependency and those with an ADL summary score of 18 or higher (Figure IV.2). The HCBS expenditures for individuals who were severely cognitively impaired (CPS = 4-6) were nearly double the expenditures for those who were not cognitively impaired (CPS = 0-1) (Figure IV.3).

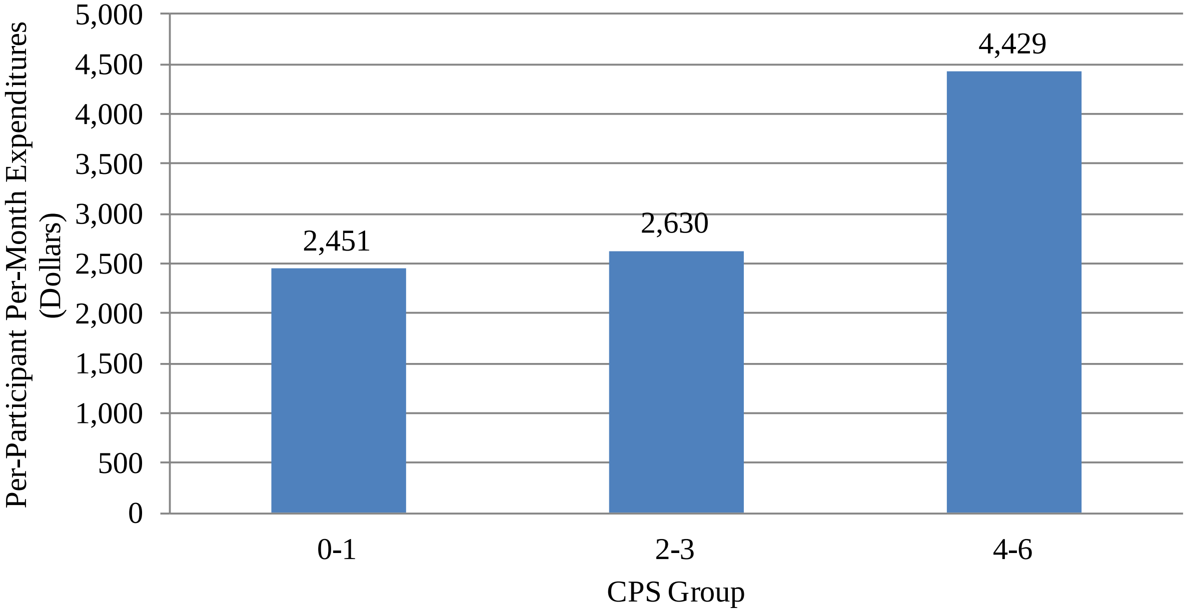
Figure IV.2. Relationship Between HCBS Expenditures and the Need for Assistance with ADLs



Sources: Mathematica’s analysis of MFP services files and program participation data files submitted by 27 grantee states through June 2012. Includes assessment data from the NF-MDS (2.0) on 5,771 MFP participants who transitioned from a nursing home.

Note: The ADL summary is taken from the NF-MDS (2.0) and the ADL long form scale, which measures the number of ADLs (maximum of seven) with which the individual requires assistance, and the extent of assistance required (on a four-point scale with the range of scores from 0 to 28). Expenditures include qualified, demonstration, and supplemental services. The District of Columbia and Virginia were not included in this analysis due to incomplete data. Texas was excluded because a high proportion of MFP participants received HCBS through managed care and their claims information is not equivalent to that of others who received services through FFS.

Figure IV.3. Relationship Between HCBS Expenditures and Cognitive Impairment



Sources: Mathematica's analysis of MFP services files and program participation data files submitted by 27 grantee states through June 2012. Includes assessment data from the NF-MDS (2.0) on 5,771 MFP participants who transitioned from a nursing home.

Note: The CPS measures cognitive function, ranging from no (a score of 0) to severe cognitive impairment (6). Expenditures include qualified, demonstration, and supplemental services. The District of Columbia and Virginia were not included in this analysis due to incomplete data. Texas was excluded because a high proportion of MFP participants received HCBS through managed care and their claims information is not equivalent to that of others who received services through FFS.

The ADL summary score and CPS score are related and mildly correlated. Cognitive impairment may result in a need for assistance with some ADLs. In addition, the CPS score and ADL summary score both include items pertaining to whether or not a person is eating. Because of this relationship, there were few MFP participants who had severe cognitive impairment but did not need any assistance with routine activities. [20]

E. Array of Services Provided

To meet the care needs of its participants, each state's MFP program relies on a diverse set of HCBS that span many professional competencies and technology categories. For this work, we used the HCBS taxonomy that Truven Health Analytics (formerly known as Thomson Reuters) and Mathematica have been developing and testing for CMS as a guide to categorize

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[20] Contrary to our findings among other states, there was little relationship between the level of impairment and a participant's HCBS expenditures post-transition among MFP participants in Texas.

the HCBS provided to MFP participants (see Eiken 2011 and Wenzlow et al. 2011). Whenever possible, we indicate when we adapted the HCBS taxonomy to better meet the needs of this study. As Table IV.4 shows, the services were organized into 16 mutually exclusive service categories, similar to the HCBS taxonomy. We added a 17th category to capture services that we could not classify because of inadequate information in the claims records. We also further disaggregated the information into 37 mutually exclusive subcategories to provide more information on the types of services in each category. This analysis used far fewer subcategories than the HCBS taxonomy, which includes 66 subcategories, because the volume of claims did not always support the level of detail that the HCBS taxonomy was designed to capture.

Table IV.4. Categories and Subcategories of HCBS Provided to MFP Participants Through Calendar Year 2011

HCBS Category (a)	Description	Percent of Individuals Used	Number of States Provided	Percentage of Total MFP Expenditures Nationally
1 Home-Based Services		58.7	27	32.6
1.1 Home health aide	Home health aide		14	1.6
1.2 Personal care	Personal or attendant care		24	28.4
1.3 Companion	Adult companion		7	0.5
1.4 Homemaker	Homemaker and chore services		17	2.1
2 Round-the-Clock Services		26.0	23	32.7
2.1 Group living	Group living		7	1.2
2.2 Shared living	Shared living, including adult foster care or adult family care		10	3.5
2.3 Residential, unspecified	Health and social services provided in the person's home or apartment in which a provider has round-the-clock responsibility for the person's health and welfare		17	28.0
3 Coordination and Management		68.7	26	6.0
3.1 Transition (b)	Transition coordination, transition specialist		11	3.5
3.2 Housing supports (c)	Assistance with finding housing and housing specialists		4	0.2
3.3 Case management (d)	Case coordination, plan development		22	2.4
4 Supported Employment		3.1	12	0.8
4.1 Employment (e)	Prevocational, supported employment, other employment services		12	0.8

Table IV.4 (continued)

HCBS Category (a)	Description	Percent of Individuals Used	Number of States Provided	Percentage of Total MFP Expenditures Nationally
5 Day Services		15.9	26	6.5
5.1 Day habilitation	Assistance in self-help, socialization, and/or adaptive skill provided in a fixed site during the working day		15	3.4
5.2 Adult day health	Health and social services provided in a fixed site during the working day		23	3.1
6 Nursing		18.7	22	3.2
6.1 Nursing	RN and LPN services		22	3.2
7 Meals		13.2	19	0.5
7.1 Home-delivered	Meals delivered to the home		18	0.5
7.2 Other meals	Meals (does not include home-delivered meals)		2	0.0
8 Caregiver Support		6.0	22	0.4
8.1 Caregiver support	Respite, caregiver counseling and training		22	0.4
9 Mental and Behavioral Health Services		9.2	20	0.5
9.1 Behavioral health	Behavioral health, psychosocial rehabilitation, day treatment, substance abuse, psychologist or social worker services		20	0.5
10 Other Health and Therapeutic Services		10.2	18	0.6
10.1 Nutrition	Nutrition counseling and supplies		9	0.0
10.2 Physician services	Services provided by a physician, NP, PA		3	0.3
10.3 Prescription drugs	Prescription drugs and anesthesia		7	0.0

Table IV.4 (continued)

HCBS Category (a)	Description	Percent of Individuals Used	Number of States Provided	Percentage of Total MFP Expenditures Nationally
10.4 Dental services	Services provided by a dentist or in a dentist's office		3	0.0
10.5 OT/PT/ST	Occupational therapy, physical therapy, speech therapy		13	0.1
10.6 Administration of drugs	Medication administration and injections by a health professional		4	0.0
10.7 Other therapies	Other health and therapeutic services, including communication aids, service animals, and drug infusion therapy		9	0.0
11 Services Supporting Participant Self-Direction		5.7	8	0.5
11.1 Self-directed funds	Funds allocated for self-direction		3	0.4
11.2 Assistance in self-direction	Assistance with the management of self-directed services and/or training in self-direction		6	0.1
12 Participant Training		16.4	13	8.4
12.1 Training	Other training (exclusive of home care or skills training)		3	0.1
12.2 Community support	Community supports, including independent living		13	8.4
13 Equipment, Technology, and Modifications		56.4	27	4.0
13.1 Personal systems	Personal emergency response systems		23	0.2

Table IV.4 (continued)

HCBS Category (a)	Description	Percent of Individuals Used	Number of States Provided	Percentage of Total MFP Expenditures Nationally
13.2 Modifications	Home, vehicle, or workplace modifications		22	1.7
13.3 Equipment/ Supplies	Equipment and supplies, including hospital beds, wheel chairs, surgical supplies, orthotics		24	2.1
14 Transportation		14.5	17	0.9
14.1 Medical	Ambulance services		2	0.0
14.2 Nonmedical	All other transportation services (nonmedical, transportation escort, unspecified)		17	0.9
15 Hospice		0.2	3	0.0
15.1 Hospice services (f)	Hospice services		3	0.0
16 Other	Services that do not fit within the categories above	4.7	14	0.4
16.1 Other	Services that do not fit within the categories above		14	0.4
17 Unclassified	Services that could not be identified because of missing information on the claims records	12.9	18	2.0

Sources: Mathematica analysis of MFP services files and program participation data files submitted by 27 grantee states through June 2012 for MFP participants who transitioned by the end of 2010.

Note: Expenditures include qualified, demonstration, and supplemental services. The District of Columbia and Virginia were not included in this analysis due to incomplete data. Data on the number and percent of individuals using services are only available at the category level. Texas was excluded because a high proportion of MFP participants received HCBS through managed care and their claims information is not equivalent to that of others who received services through FFS.

LPN = licensed practical nurse; NP = nurse practitioner; OT = occupational therapy; PA = physician assistant; PT = physical therapy; RN = registered nurse; ST = speech therapy.

(a) The HCBS taxonomy developed by Eiken (2011) and tested by Wenzlow et al. (2011) served as a guide for the categories and subcategories presented in this table. The order of services

Table IV.4 (continued)

represents the hierarchy of how services were classified. See Irvin et al. (2012) for more information on the methods used.

(b) One state refers to transition services as relocation services.

(c) The HCBS taxonomy includes housing supports in the "other" category of services. We included this service type in transition and case management services because of its critical role for the demonstration and potential similarities to the other service types in this category.

(d) The HCBS taxonomy treats case management as a stand-alone category, which includes transition coordination. We separated transition coordination from case management, given the important role of this service in the demonstration.

(e) In the HCBS taxonomy, prevocational services and supported employment are separate subcategories. We combined them because of the low volume of claims.

(f) The HCBS taxonomy does not treat hospice as a separate category, but as a subcategory in the "other" category.

Of the 17 categories of services MFP programs provided, home-based and round-the-clock services dominated HCBS spending for MFP participants (Figure IV.4). [21] Home-based and round-the-clock services each made up 33 percent of total HCBS expenditures for participants who transitioned by the end of December 2010. [22] Home-based services consisted primarily of personal care assistance (see Table IV.5) to help people perform ADLs, such as transferring in and out of chairs and bed, using the toilet, or showering, and were used by nearly 60 percent of the MFP participants in the sample. Round-the-clock services consisted primarily of residential services, such as residential habilitation, and 26 percent of participants had records that indicated use of these services. [23] The dominance of residential services is consistent with the makeup of the MFP population and their community residences; by the end of 2011, people with intellectual disabilities accounted for 18 percent of the MFP transitions, and most of these participants transitioned to small-group homes of four or fewer people (see Chapter III), a setting that states frequently use to deliver an array of residential services.

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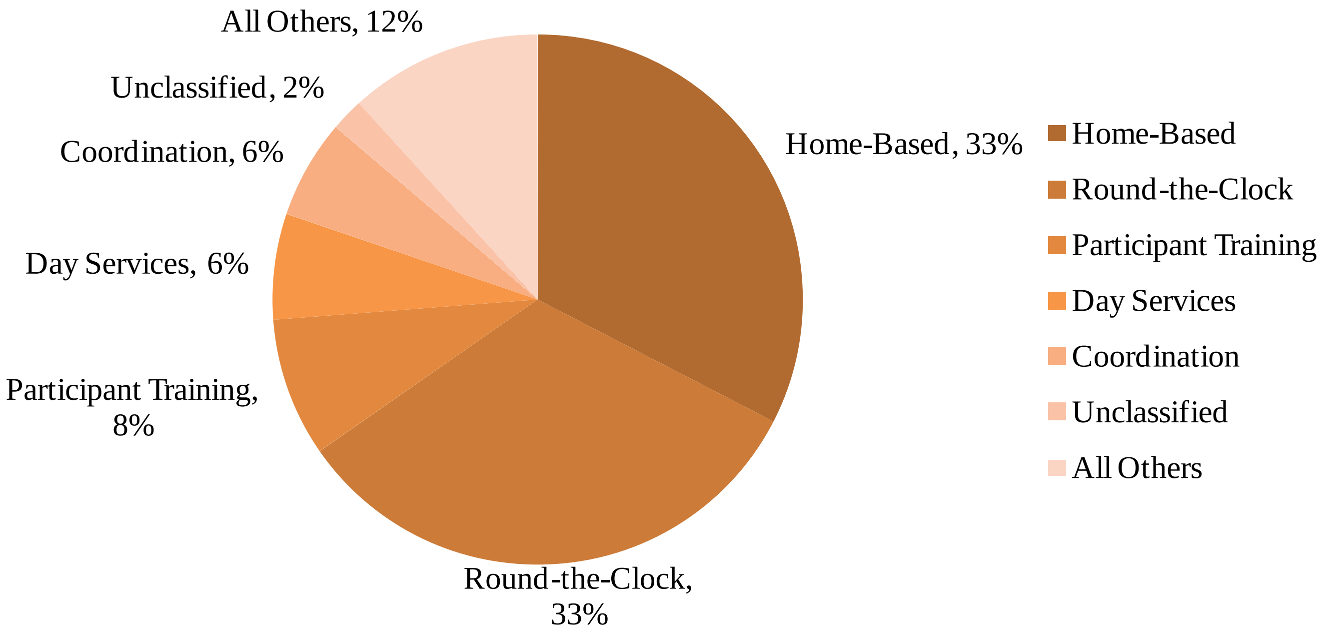
[21] When replicating our analyses for MFP participants in Texas, expenditures totaled $128 million, and 73 percent of their expenditures were for monthly capitated payments. An additional 15 percent of expenditures were for home-based care.

[22] These calculations included 7,476 MFP participants who transitioned through December 2010. Although we could link 92 percent of participants' MFP enrollment records with their claims, we could not create this link for all participants in this part of the analysis.

[23] Residential habilitation is defined as services that assist in acquiring, retaining, and improving self-help, socialization, and/or adaptive skills. To be considered residential services, they must be delivered in a residential setting, such as a group home or private residence, rather than in a clinical or nonresidential setting.

Figure IV.4. MFP Expenditures, by Service Category



Sources: Mathematica analysis of MFP services files and program participation data files submitted by 27 grantee states through June 2012 for MFP participants transitioning by the end of 2010.

Note: Expenditures include qualified, demonstration, and supplemental services. The District of Columbia and Virginia were not included in this analysis due to incomplete data. Texas was excluded because a high proportion of MFP participants received HCBS through managed care and their claims information is not equivalent to that of others who received services through FFS.

After home-based care and round-the-clock services, the remaining categories made up less than 10 percent of expenditures each. Participant training, which included community supports and independent living skills, accounted for eight percent of total expenditures. Day services, which included both day habilitation and adult day health, totaled six percent of MFP expenditures.

MFP programs devote considerable resources to coordinating and managing the transition to community living. Overall, these services accounted for 6 percent of total HCBS spending by MFP programs, and were used by nearly 70 percent of enrollees. However, these services might be underreported in claims data if states charged any portion as administrative expenses. A recent report by Lipson et al. (2011) underscores the importance of transition coordination to the progress of MFP programs. Transition coordinators have a variety of responsibilities that can include (1) conducting program outreach, (2) performing comprehensive assessments of transition candidates, (3) confirming Medicaid eligibility, (4) securing family or guardian support, (5) obtaining approval for HCBS waiver enrollment, (6) locating suitable housing, (7) arranging HCBS and other supports, and (8) developing contingency plans. More than two-thirds of MFP participants who transitioned to community living by the end of 2010 received coordination and management services, which included the array of transition planning services, as well as case management and care coordination services that 1915(c) waiver programs typically provide to manage the care of waiver participants.

The 10 service categories that remain—after accounting for home-based, round-the-clock, participant training, day services, coordination and management, and unclassified services—made up 12 percent of the total HCBS costs of MFP participants, which suggests that, of the array of services MFP programs provide, many were low-volume, low-cost, or both. Equipment, technologies, and modifications account for less than four percent, and nursing accounts for less than three percent. All other categories represent less than one percent of total expenditures each. [24]

When the variety of HCBS was assessed at the state level, we find that all programs provided home-based services and equipment, technologies, and modifications. Fifty-six percent of MFP participants used equipment across all 27 states. Twenty-four of these states spent more than $6 million on equipment and related supplies, which included hospital beds, wheel chairs, surgical supplies, and orthotics. Another 22 states spent $5 million on home and vehicle modifications. Spending on personal emergency response systems was also reported by 23 states, but expenditures for this category totaled less than $600,000.

All but one state provided coordination and management services through a provider claims process (Figure IV.5). The one state that did not have any claims records for coordination and management services provided transition and case management services, but paid for these services as administrative expenses. [25] Overall, states provided a large variety of services. When excluding hospice, unclassified, and the other service category, more than half of the 27 states (15 grantees) provided 11 or more of the remaining 14 categories of services. Four states provided 13 categories.

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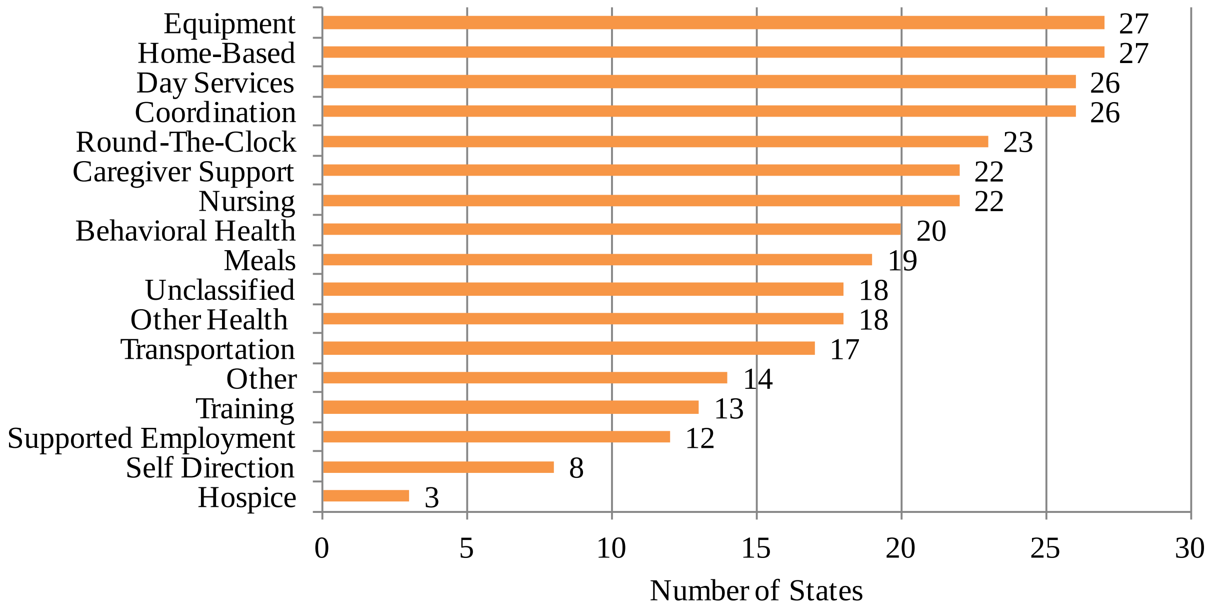
[24] Monthly capitated payments for those in managed care were identified in the Texas data. We are aware of two other MFP state grantees that provide HCBS to participants through long-term managed care plans: Hawaii and Wisconsin. However, Hawaii and Wisconsin did not report monthly capitated payments in their claim records. Claims for managed care have been excluded from this analysis as they do not provide the same level of information as FFS claims records.

[25] The category of coordination and management includes housing supports and assistance. Only four state grantees reported claims for this service type. Because the analysis was based on service claims records, we assumed most states provided housing assistance, but paid for this service through administrative funds rather than through a provider billing process.

Figure IV.5. Number of States Providing Each Service Category



Sources: Mathematica analysis of MFP services files and program participation data files submitted by 27 grantee states through June 2012 for participants transitioning by the end of 2010.

Note: Expenditures include qualified, demonstration, and supplemental services. The District of Columbia and Virginia were not included in this analysis due to incomplete data. Texas was excluded because a high proportion of MFP participants received HCBS through managed care and their claims information is not equivalent to that of others who received services through FFS.

The claims data available for this study contained little information on the use of self-direction options and the provision of hospice care. Self-direction, which provides Medicaid beneficiaries with the option of hiring or supervising their caregivers and managing a budget that they can use to obtain services they might need, will typically not generate service claims. Therefore, the claims data used for this study underreport participation in self-direction. Although claims records only identify self-direction for 8 grantee states, aggregate data reported by the grantees indicated that 27 MFP state grantees had operational self-direction programs in place in 2011. Of these, 18 state grantees had MFP participants who self-directed at least some aspect of their services, and about a third of participants in those states self-directed at least one type of service (Williams et al. 2012).

Hospice, a service that most Medicaid programs provide and is allowable as an MFP service, may also be underreported in the claims data used for this study. Only three state grantees reported claims for hospice services. Some MFP participants who died while in the community may have received hospice care through the Medicare program, so the information presented here does not report the extent of Medicare-financed hospice services because Medicare claims records were not included in the analysis.

Analyzing the HCBS use of MFP participants allows us to understand a small component of what happens when someone transitions to the community. Although this chapter has reported state spending and service use, we have yet to fully understand how HCBS spending and use relate to a successful transition and how states can tailor their programs to ensure success. Further research into the program could define a successful transition and investigate how HCBS expenditures and use relate to the duration of community residence and the quality of life achieved in the community. For each target population, researchers may then be able to better estimate the probability of a successful transition based on factors that include services accessed. Finally, future analyses should account for pre-transition spending as well as post-transition non-HCBS expenditures to develop a more complete understanding of how transition programs affect the overall health care costs of those who participate.

V. TRENDS IN STATE-LEVEL TRANSITIONS AND POST-TRANSITION OUTCOMES

A. Introduction

The MFP program is designed to help people successfully transition from institutions to the community. Therefore, identifying the program's effects on state-level transition rates and post-transition outcomes is fundamental to understanding the program's impact. Previous MFP evaluation reports have provided counts of MFP participants, as well as estimates of baseline transition rates using one year of data (Irvin et al. 2010; Wenzlow and Lipson 2009). This chapter builds on those previous analyses by examining transition activity for multiple years in the period before the start of the MFP program, as well as during the initial years after the program was implemented in a subset of grantee states. In addition, we use a rich set of patient characteristics available from the nursing home minimum data set (NF-MDS 2.0) assessments administered to nursing home residents. The availability of these data helps us understand which types of patients are transitioning with MFP assistance, and also allows us to control for factors that may confound the estimation of program impacts. This chapter addresses two research questions:

1. Is the MFP program associated with increased rates of transitions out of institutions and into the community?
2. Is the MFP program associated with changes in post-transition outcomes including reinstitutionalizations, mortality, and "successful" transitions?

To address these questions, we used data from 2005 through 2009 to examine preexisting trends in rates of transition to the community, as well as trends in post-transition outcomes in 18 MFP grantee states. [26] We then tested whether rates of transition and rates of post-transition outcomes deviated from the preexisting trends after the MFP program began. In addition to descriptive analyses, we present the results from regression models that control for person-level characteristics (such as age, race, and gender) and measures of limitations in the activities of daily living (ADLs), behavioral problems, cognitive functioning, depression, and pain.

Our findings suggest that:

- The overall size of the population eligible for the MFP program was declining in the years immediately before and after the MFP program began, although there was heterogeneity in that trend across the target populations.

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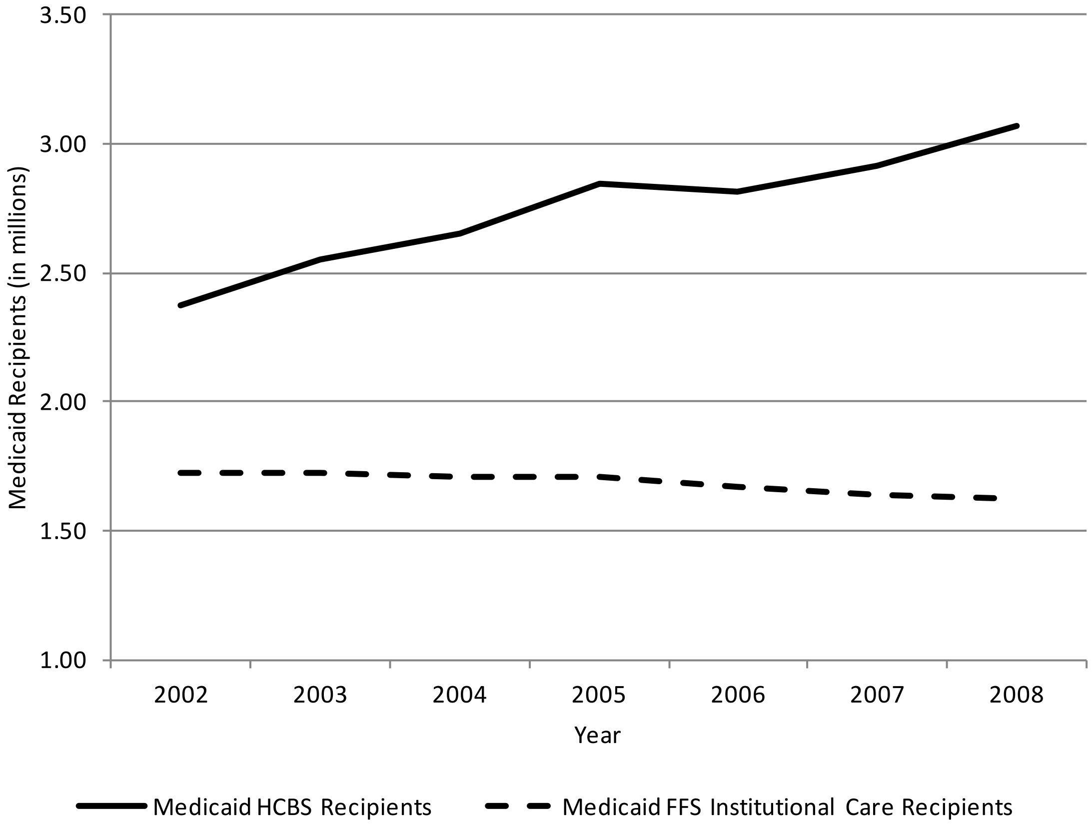
[26] The analysis relied on data from the Medicaid Analytic eXtract (MAX) system, and MAX data were not available for all grantee states through 2009, the last year included in the analysis. Therefore, our analysis is first limited to the 21 states for which we have 2009 MAX data files. We then omit three states (Kentucky, Ohio, and Virginia) from the analysis because of apparent data anomalies that generated biased estimates of program impacts. See Appendix A for more information on the MAX data and states that are included in this analysis.

- Overall, the number of transitions to the community among the elderly remained unchanged after the launch of the MFP program, suggesting that MFP participants among this subgroup would have transitioned to the community even without the program.
- The overall number of transitions to the community among those with intellectual disabilities increased after the launch of the MFP program. Most of this increase was driven by a large increase in the number of such transitions in Texas.
- Among the nonelderly with physical disabilities who transitioned from nursing homes, overall rates of transition increased in 2009. The results suggest that approximately one-half of MFP participants in this subgroup represented “new” transitions that would not have occurred if the MFP program had not launched in 2008.
- Among the elderly, six-month post-transition mortality rates decreased in 2008 and 2009 by 2.7 and 2.9 percentage points, respectively (on a base of 12.6 percent). However, given differences in pre-transition health and demographic characteristics between MFP participants and non-MFP transitioners, this finding may be driven by selection bias.
- There was no change in the rate of reinstitutionalization or the rate of “successful” transitions among either the nonelderly with physical disabilities or those with intellectual disabilities. Our inability to detect an impact could be due to the relatively high rate of successful transitions in the baseline period (2005–2007).

B. Background: Secular Trends in Institutional Care and HCBS

When the MFP program was implemented, the balance of long-term care services was already shifting toward more HCBS availability and utilization. The population of institutional residents in the United States was decreasing across different institutional types. Figure V.1 shows that the number of Medicaid nursing home residents in the United States decreased by about six percent between 2002 and 2010. Conversely, the figure also shows that, during the same time period, there was a significant increase in the number of Medicaid HCBS recipients, indicating that the rebalancing of long-term care services away from institutional care and toward HCBS was under way when states began implementing their MFP programs. Failing to account for these trends will lead to biased estimates of the impacts of the MFP program on transition rates and on post-transition outcomes.

Figure V.1. Medicaid HCBS and FFS Institutional Care Recipients, 2002–2008



Sources: Kaiser Commission on Medicaid and the Uninsured 2011 and MAX validation tables.

FFS=fee for service; HCBS=home and community-based services.

C. Trends in the Size of the MFP-Eligible Population

Table V.1 shows that the overall size of the Medicaid population eligible for MFP has decreased steadily from 2005 through 2009. [27] In 2005, there were 628,577 MFP eligibles in the 18 MFP grantee states included in this analysis. By 2007, that number had decreased to 608,398, a 3.2 percent decrease. From 2007 to 2009, the overall size of the MFP-eligible population decreased by approximately 2.6 percent, which represents a slightly slower rate of decrease than during the 2005 to 2007 period.

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[27] During this time period, MFP eligibility required a six-month stay in an institution. The Affordable Care Act decreased the required amount of time in the institution to 90 days, not including Medicare-covered skilled nursing days. For this chapter, we use the six-month requirement to flag individuals as being eligible for the MFP program in a given year.

Table V.1. Trends in the MFP-Eligible Population by Target Population, 2005–2009

Target Population	2005	2006	2007	2008	2009	Percent Change, 2005 to 2007	Percent Change, 2007 to 2009
Elderly	470,432	454,391	441,857	430,580	418,535	-6.1%	-5.3%
Physical Disabilities	89,422	94,365	99,383	104,756	108,409	11.1%	9.1%
Intellectual Disabilities	60,283	59,412	58,895	58,211	56,882	-2.3%	-3.4%
Severe Mental Illness	8,440	8,494	8,263	8,143	8,688	-2.1%	5.1%
Total	628,577	616,662	608,398	601,690	592,514	-3.2%	-2.6%

Source: Mathematica analysis of 2005–2009 MAX data for 18 MFP grantee states.

Not every subpopulation of MFP eligibles experienced the same decline in size. For example, although the group of elderly MFP eligibles experienced an 11 percent decrease in size from 2005 to 2009, the nonelderly in nursing homes with physical disabilities experienced a 21 percent increase in size over the same time period. In addition, the size of the group with severe mental illness shrank by 2.1 percent from 2005 to 2007, but then experienced a 5.1 percent increase in size from 2007 to 2009. The overall size of the MFP-eligible population, though, has followed the pattern of the elderly, as they make most of the overall MFP-eligible population (approximately 70 to 75 percent in any given year).

These patterns show that the makeup of the MFP-eligible population was shifting around the time that MFP was implemented, as well as during the first years of the program. In particular, although the elderly still made up a large percentage of the overall MFP-eligible population, their share of the MFP-eligible population was declining. Conversely, the non-lderly subpopulation with physical disabilities was becoming more prominent. The groups of individuals with intellectual disabilities or with severe mental illness remained small relative to the other two groups. Previous research has suggested that the shortage of suitable housing for MFP participants has been particularly problematic for the elderly population and that members of this population often have more complex medical needs than other MFP-eligible people. Alternatively, working-age adults may prefer to seek housing near employment opportunities (Lipson and Williams 2011). Given these unique needs of the elderly and nonelderly MFP-eligible subgroups, states' success in their transition efforts will be affected by their ability to respond to the changes in the makeup of the long-term institutionalized population.

D. Trends in Transition Rates

When assessing the trends in transition rates, an important question is whether the program yields "new" transitions that would not have occurred without the program. To answer that question, we examined preexisting trends in rates of transition to HCBS that were present before the implementation of the MFP program, and tested whether rates of transitions to HCBS changed after states began their MFP program activities. [28]

1. Descriptive Evidence

Figure V.2 shows the overall transition rates by quarter and by target population. The denominator of each rate is comprised of the number of MFP eligibles in a given quarter. The numerator is the number of transitions to HCBS by quarter. The 2008 and 2009 rates combine both MFP participants, as well as individuals who transitioned to HCBS without the benefit of the MFP program.

The figure shows significant variation in the level and trends of transition rates across the target populations. For example, during the time period examined, the elderly consistently had the lowest quarterly rate of transitions to HCBS per 1,000 eligible individuals. Their rate remained generally constant in the pre-MFP time period, at approximately 2.5 transitions per 1,000 eligible individuals. Conversely, individuals with severe mental illness had by far the highest rate of transitions to HCBS in 2005 but experienced a steady decline in transition rates over the study period, falling from a peak of 13 per 1,000 eligibles to a low of about 5 per 1,000 eligible individuals. The nonelderly with physical disabilities who transitioned from nursing homes had a consistently high quarterly transition rate over the study period, at approximately seven transitions per 1,000 eligibles. Finally, the rate of transitions among those with intellectual disabilities who transitioned from ICFs-ID declined throughout 2005 before rising in 2006 and stabilizing in 2007. By the end of the data period (third quarter of 2009), the transition rate among those with intellectual disabilities was approximately the same as it was at the end of 2007, despite relatively large jumps in the rate of transitions in early 2008 and again in early 2009.

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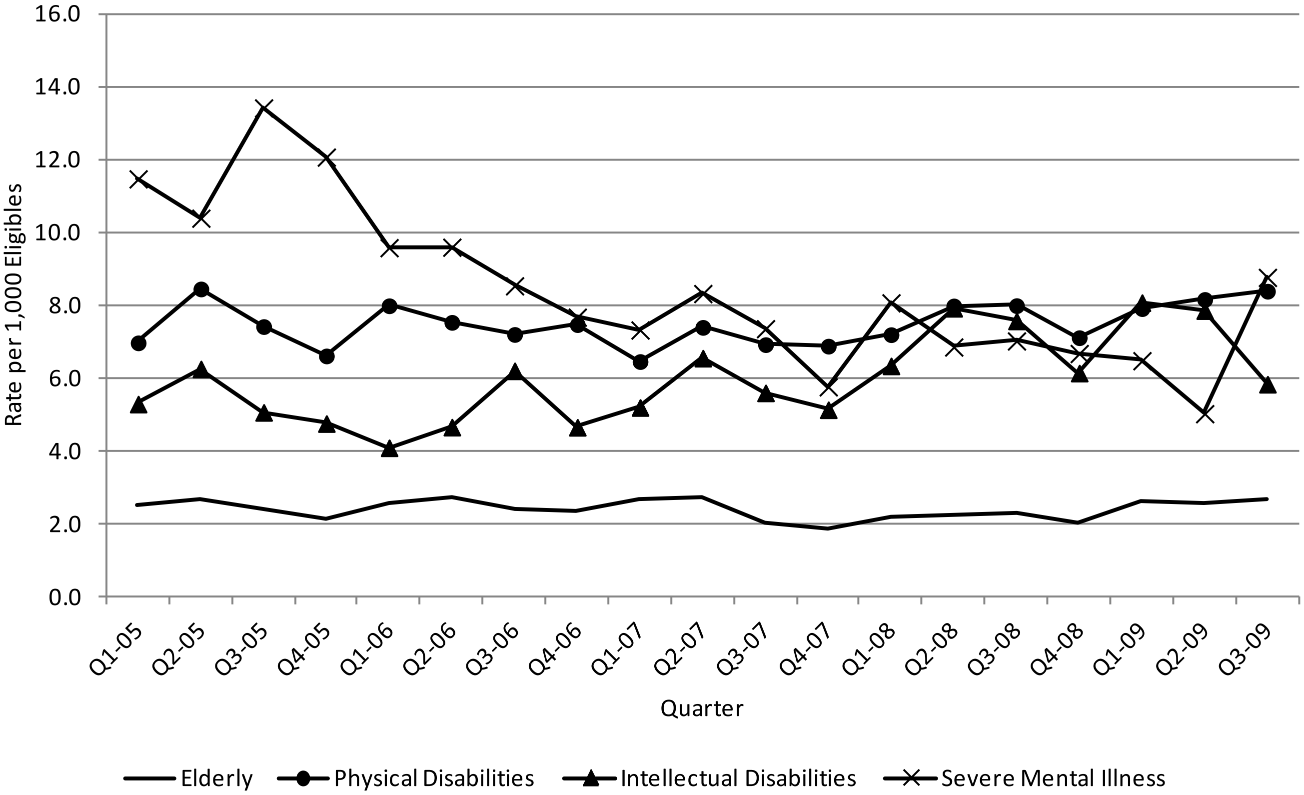
[28] For this chapter, we refer to the 2005–2007 period as the “pre-MFP” period, and the 2008–2009 period as the “post-MFP” period. Although some states did begin their MFP programs in 2007, a very small number (seven) of MFP transitions occurred in 2007. Therefore, for simplicity, we treated 2007 as a “pre-MFP” year and 2008 as the beginning of the “post-MFP” time period, when states began ramping up their program efforts.

Figure V.2. Trends in Transition Rates to HCBS, by Target Population, 2005–2009



Source: Mathematica analysis of 2005–2009 MAX data for 18 MFP grantee states.

Figure V.2 provides mixed evidence that the MFP program may have increased transition rates among the MFP-eligible population. For example, it appears that the quarterly transition rate for those with intellectual disabilities was higher, on average, in the years after MFP was launched. As noted above, however, the transition rate for this target population was already trending upward before the implementation of the MFP program, particularly in 2006. The nonelderly with physical disabilities experienced an increase in their transition rate in 2009; without more data, however, it is not clear if that growth indicates a temporary fluctuation or a long-term change. It also appears that the transition rate among the elderly may have slowed, or even declined, starting in 2008. These differences in the trajectories in transition rates experienced by the target populations underscore the importance of controlling for these trends when estimating the impact of the MFP program on transition rates.

2. Regression Analysis

The descriptive evidence presented above suggests that, if the MFP program affected rates of transition to the community, there were heterogeneous impacts across target populations. To formally test for changes in transition rates, we estimated regression models that control for preexisting trends in transition rates within each target population, which tells us whether transition rates changed markedly after the launch of the MFP program in 2008, or if they essentially continued to follow their preexisting trajectories.

The regression models build on previous analyses of transition rates in two ways. First, the regression models contain trend terms, which account for any preexisting trends in transition rates that were occurring in the years leading up to the implementation of the MFP program (that is, in the 2005–2007 time period). We used the estimated coefficients on the trend terms (and on other covariates) to estimate counterfactual rates and counts of transitions, or the rates and counts of transitions that would have occurred if the pre-MFP trend had continued into 2008 and 2009. We then tested whether the number of transitions deviated from this trend starting in 2008, which would represent "new" transitions that could be plausibly attributed to the launch of the MFP program.

The regression models for nursing home residents also included a rich set of patient-level information taken from the NF-MDS assessment. [29] The NF-MDS contains detailed information on patients' limitations with ADLs, behavioral problems, depression, pain, and cognitive function. These factors may influence a person's ability to make a transition to the community. In addition, we controlled for basic patient characteristics like age, race, and gender, available from the Medicaid administrative data. If the prevalence of these factors in the long-term institutionalized population was changing, then failing to include them in the analysis could lead to biased estimates of program impacts on transition rates.

The unit of analysis was a person-quarter, and we estimated the probability that a person transitioned to the community in a given calendar quarter in which the person was eligible for MFP. Therefore, the regression yields an estimate for the average change in quarterly transition rates in 2008 and 2009. We then used these estimates to compute (1) the regression-adjusted count of transitions in 2008 and 2009; and (2) the expected number of transitions in 2008 and 2009, if transition rates had followed their pre-MFP trajectories. The difference between these two counts is the change in the number of transitions in 2008 and 2009, above what we would have predicted, given preexisting trends. We estimated models separately by target population. Within each group, we then estimated three sets of regressions: one for the full set of 18 MFP grantee states in our analytic data, another for the sample of eligibles from Texas only, and a third set estimated on the set of eligibles from the 17 other states excluding Texas. We consider Texas separately because the state had a formal MFP program several years before the national demonstration, so we allowed its transition rates to follow its own pre-MFP trend. (For additional details about the regression model, control variables, and data structure, see Appendix A.)

Figures V.3, V.4, and V.5 depict the results from the regression analyses for the elderly, those with physical disabilities, and those with intellectual disabilities, respectively. For brevity, we display the results from the full sample of 18 states in our data. In each figure, the solid black line shows the observed quarterly rate of transitions per 1,000 eligibles, after controlling for patient characteristics. The dotted line in each figure shows what the transition rate would have been if the preexisting trends in transition rates from the pre-MFP period (2005–2007) had

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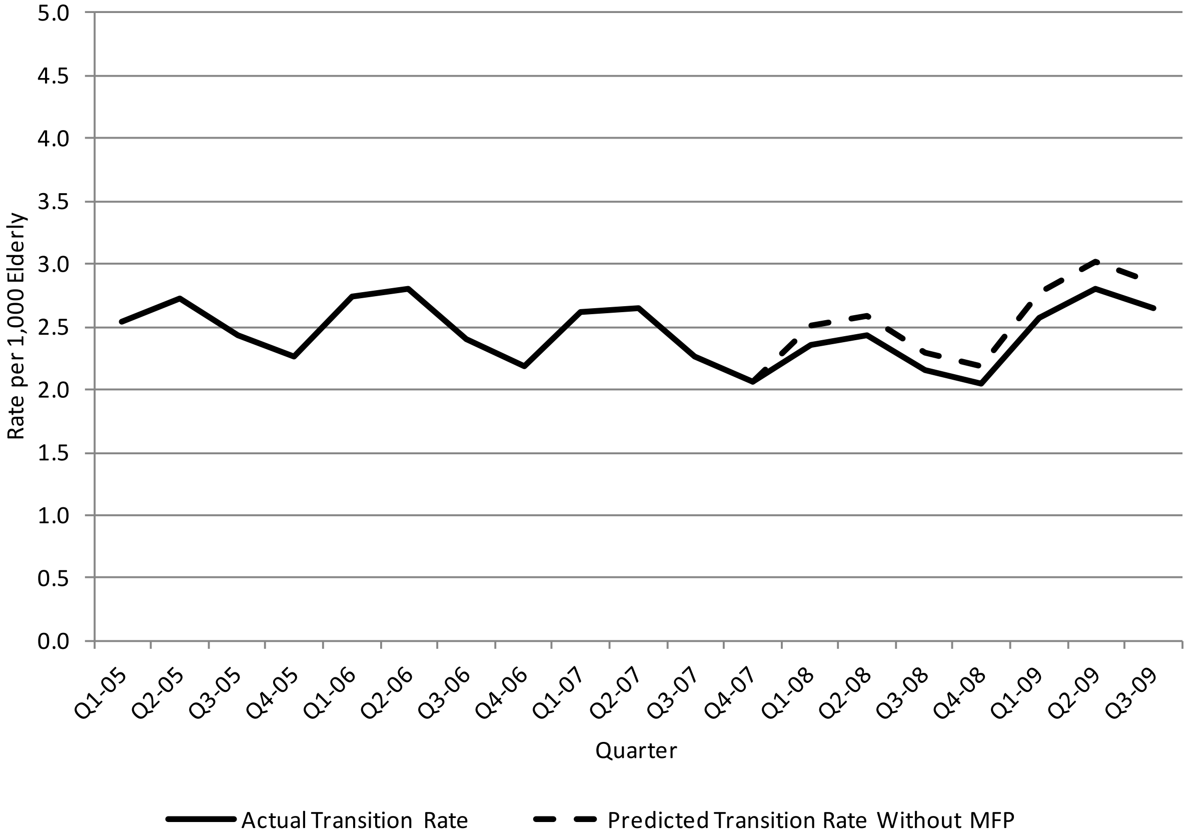
[29] Because the NF-MDS is administered in nursing homes, we use the NF-MDS information when we estimate models for the elderly and nonelderly with physical disabilities groups. The NF-MDS information is not available for those residing in ICFs-MR, so in the models for those with intellectual disabilities, we control only for the demographic information available in the Medicaid administrative data (age, gender, and race).

carried through into 2008 and 2009. The vertical distance between the solid and the dotted line is the estimated change in overall quarterly transition rates that occurred after the launch of the MFP program in 2008. The figures display the overall transition rate, which reflects both MFP and non-MFP transitions to HCBS.

Figure V.3 shows, that among the elderly, transition rates in 2008 and 2009 were slightly lower than we would have predicted given preexisting trends; however, the estimated change in transition rates was not statistically different than zero in 2008 or 2009. This lack of statistical significance implies that among the 18 states in our sample, overall transition rates among the elderly were not affected by the launch of MFP in 2008. In particular, this finding suggests that, among the elderly in 2008 and 2009, MFP participants were people who would have transitioned to HCBS anyway.

Figure V.3. Regression-Adjusted Trends in Transition Rates: Elderly



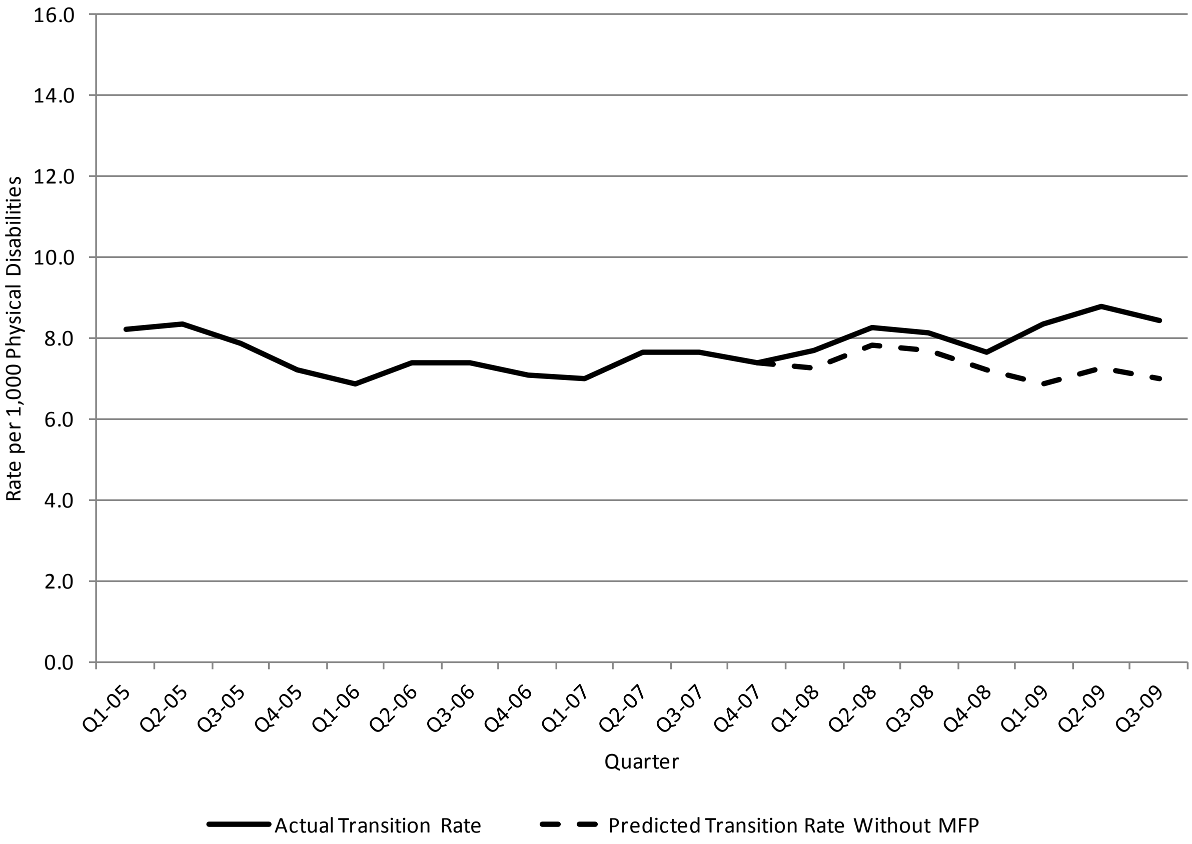
Source: Mathematica analysis of 2005–2009 MAX data for 18 MFP grantee states.

Note: The actual transition rate reflects both MFP and non-MFP transitions to HCBS. The estimated change in transition rates is not statistically significant in 2008 (p-value = .217) or in 2009 (p-value = .494).

The result among the elderly suggest that some MFP programs may have transitioned elders who would have moved back to the community regardless as a way of developing and testing their processes and procedures. If this theory is true, then MFP would not be expected to affect overall transition rates among the elderly until later years when the programs are more mature and have more experience transitioning people with higher care needs.

Among the nonelderly with physical disabilities, transition rates increased above the pre-MFP trend line after MFP started (Figure V.4), suggesting that the launch of MFP was positively associated with the probability of transitioning this population from nursing homes to HCBS. The difference between the observed transition rate and the counterfactual transition rate was not statistically significant in 2008 (p = .151) but was statistically significant in 2009. This finding was not unexpected; 2008 was the first year of MFP activity for most states, so if these estimated changes reflect impacts of the MFP program, then it is plausible that the impacts would not be observed in the data until after states ramp up their transitions of this target population (in 2009).

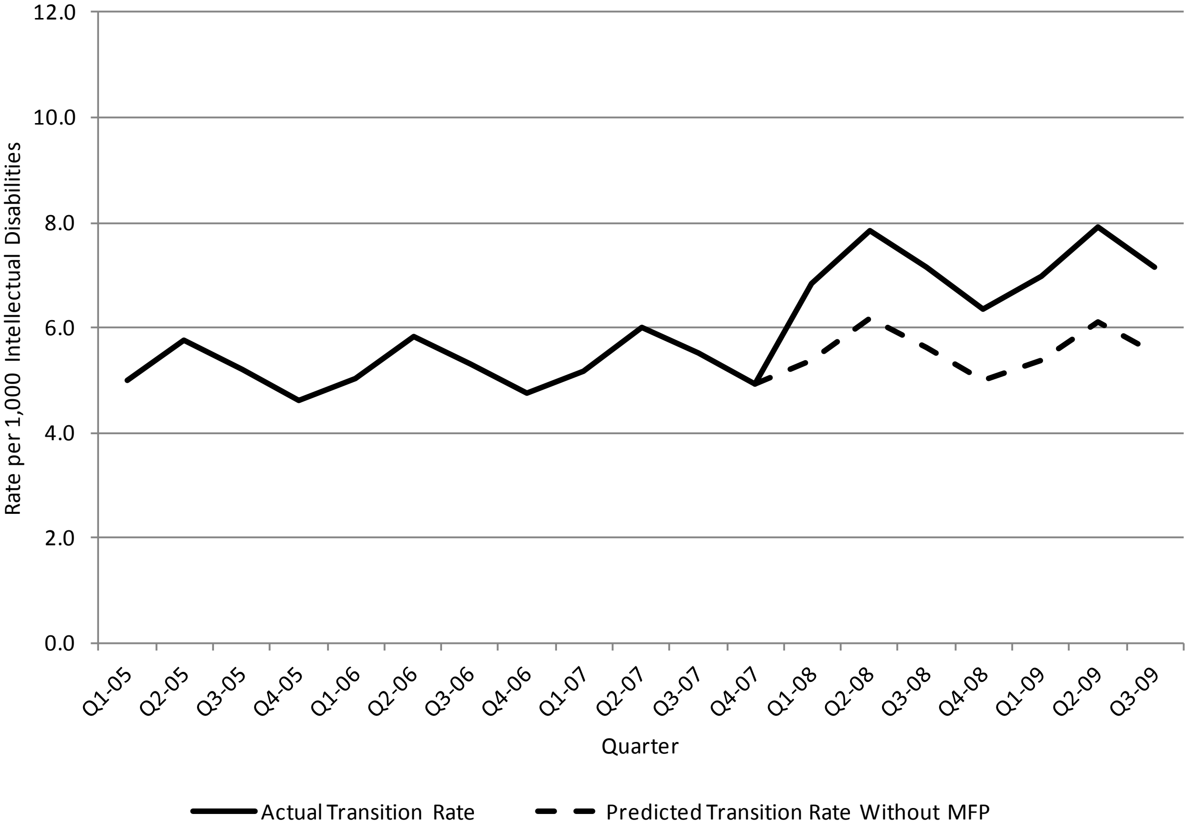
Figure V.4. Regression-Adjusted Trends in Transition Rates: Physical Disabilities



Source: Mathematica analysis of 2005–2009 MAX data for 18 MFP grantee states.

Note: The actual transition rate reflects both MFP and non-MFP transitions to HCBS. The estimated change in transition rates is not statistically significant in 2008 (p-value = .151). The estimated change in transition rates is statistically significant in 2009 (p-value < .001).

Figure V.5. Regression-Adjusted Trends in Transition Rates: Intellectual Disabilities



Source: Mathematica analysis of 2005–2009 MAX data for 18 MFP grantee states.

Notes: The actual transition rate reflects both MFP and non-MFP transitions to HCBS. The estimated change in transition rates is statistically significant in both 2008 (p-value < .001) and in 2009 (p-value < .001).

In Figure V.5, the transition rate among those with intellectual disabilities appears to have increased significantly from its preexisting trajectory in 2008 and 2009. Previous research has shown that the share of MFP participants with intellectual disabilities was much higher than their share of non-MFP transitions in pre-MFP years, suggesting that states were particularly responsive to transitioning this target population (Schurrer and Wenzlow 2011). With this in mind, it is plausible that the change in transition rates among those with intellectual disabilities observed in Figure V.5 represent true program impacts. However, the regressions for this target population do not include the rich set of covariates available when estimating impacts for those in nursing homes; failing to control for these variables could lead to biased estimates of MFP impacts.

Table V.2. Changes in the Number of Transitions, by Target Population

	Elderly (a)		Physical Disabilities (a)		Intellectual Disabilities	
Estimation Sample	2008	2009	2008	2009	2008	2009
A. All States						
Change in number of transitions	-181.1	-180.7	128.4	341.8	330.4	271.9
p-value	0.217	0.494	0.151	0.000	0.000	0.000
Number of Eligibles in Sample	386,637	353,078	90,166	88,512	57,988	55,920
B. Texas						
Change in number of transitions	66.1	213.3	76.5	146.0	225.0	199.9
p-value	0.028	0.000	0.034	0.000	0.000	0.000
Number of Eligibles in Sample	50,131	45,480	11,809	11,732	11,675	11,194
C. All States Except Texas						
Change in number of transitions	-241.3	-263.9	49.6	189.1	83.7	17.8
p-value	0.048	0.282	0.531	0.034	0.180	0.808
Number of Eligibles in Sample	336,506	307,598	78,357	76,780	46,313	44,726

Source: Mathematica analysis of 2005–2009 MAX data for 18 MFP grantee states

Note: The numbers in the table come directly from the regression estimation samples. The data only reflect eligibles and transitions as of the end of the third quarter of 2009. Separate regression models were estimated for the “all states” sample, the Texas-only sample, and the “non-Texas” sample. Therefore, the sum of the change in transitions in panels B. and C. of the table do not necessarily equal the change in transitions reported in panel A.

(a) Among the elderly and those with physical disabilities, the sample is restricted to people who had valid NF-MDS assessment data.

Table V.2 shows the regression-adjusted change in the number of transitions that occurred in 2008 and 2009, following the launch of the MFP program. The table presents the results for the full sample (all 18 states), as well as the results from separate regression models estimated for Texas and the group of 17 states that exclude Texas. The results suggest that, among the elderly, there were fewer transitions in 2008 and 2009 than expected given the preexisting trajectory in transition rates, but these estimates are statistically indistinguishable from zero (see panel A of

Table V.2). When the numbers were broken out for Texas, we found a statistically significant increase in the number of transitions among the elderly in 2008 and 2009 (panel B of the table), which was not seen in the rest of the states (panel C of the table). [30]

The results for those with physical disabilities are consistent with the results displayed in Figure V.3. In the full sample, there was an increase in the number of transitions, although only the 2009 estimate was statistically significant. Unlike the elderly, it appears that the increase in transitions in this target population was not isolated to Texas: there was a statistically significant increase in the other states as well in 2009. In addition, the magnitude of the change increased from 2008 to 2009, which is again consistent with the idea that the potential impact of the MFP program may not be detected until 2009 (or later) in this target population as states ramp up their program activities and efforts.

Among the full sample of eligible individuals with intellectual disabilities, there were significant increases in the numbers of transitions in 2008 and 2009, above the counterfactual number of transitions estimated by the regression model. In 2008, there were approximately 330 "new" transitions that were not predicted by preexisting trends in transition rates. The number of new transitions in 2009 is lower (about 272), but because our data period ends at the end of the third quarter of 2009, the total does not include any new transitions that may have occurred in the last quarter of 2009. Texas accounted for a large share of these new transitions, suggesting that the launch of the MFP program may have had large and immediate impacts on the ICF-ID population in that state.

3. Sources of New Transitions

The evidence presented above suggests that the MFP program may have generated new transitions among the nonelderly with physical disabilities (in 2009) and those with intellectual disabilities, but had little impact on the overall transition rate among the elderly. In this section, we break out the overall number of transitions that we observe in the data into MFP transitions and non-MFP transitions, and estimate what percentage of the change in the overall number of transitions (presented above) were due to MFP transitions.

Table V.3 reports the observed (regression-adjusted) number of non-MFP transitions, the observed number of MFP transitions, the total observed number of transitions, and the expected total number of transitions given preexisting trends in transition rates. This breakout of the data allows us to infer how much of the change in the total number of transitions can be attributed to MFP, when the change in the number of total transitions was statistically different from zero. For example, among the elderly in the regression sample, we observed 258 and 467 MFP participants in 2008 and 2009, respectively. However, the total number of transitions (sum of MFP and non-MFP transitions) did not change in either year. This lack of growth in the total number of

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[30] In fact, we found a statistically significant decrease in the number of transitions among the elderly in 2008 in the sample of states that excluded Texas. This decrease may represent an anomalous deviation from the expected trend, though, as the change in transitions in 2009 for this subsample was not statistically different from zero.

HCBS even if the MFP program had not launched in 2008, meaning that the MFP program did not generate any "new" transitions in 2008 and 2009 among the elderly. This lack of impact could be due to self-selection into the program, or could reflect selective targeting by MFP programs in the initial years to learn what it takes to transition the elderly. Future research is needed to better understand the mechanisms underlying this finding.

Table V.3. Breakout of the Change in Number of Transitions

	Elderly		Physical Disabilities		Intellectual Disabilities	
Transition Estimate	2008	2009	2008	2009	2008	2009
Adjusted Number of non-MFP Transitions	2,431.1	1,905.4	1,992.6	1,309.2	1,175.6	675.2
Adjusted Number of MFP Transitions	258.1	467.1	376.5	670.1	380.1	514.3
Adjusted Number of Total Transitions	2,689.2	2,372.6	2,369.1	1,979.3	1,555.7	1,189.5
Expected Number of Total Transitions (a)	2,870.3	2,553.2	2,240.7	1,637.5	1,225.3	917.6
Change in Total Number of Transitions (b)	n/s	n/s	n/s	341.8	330.4	271.9
Percentage of MFP Transitions That Are "New" Transitions	0%	0%	0%	51.0%	86.9%	52.9%

Source: Mathematica analysis of 2005–2009 MAX data for 18 MFP grantee states.

Note: The counts of transitions in the table have been regression-adjusted for patient characteristics. The number of transitions reported for 2009 reflect transitions that occurred in the first quarters of 2009.

(a) The expected number of total transitions refers to the number of transitions that would have resulted had MFP not been implemented in 2008.

(b) n/s = "Not statistically significant at 5 percent level." The lack of statistical significance indicates that the change in the total number of transitions by the baseline period was not statistically different from zero.

Among the nonelderly with physical disabilities, there were roughly 375 MFP participants in 2008 and an additional 670 program participants in the first three quarters of 2009. In 2008, there was no statistically detectable increase from the baseline in the number of overall transitions; this finding suggests that at the start of MFP, participants with physical disabilities during this first year of the program would have transitioned to the community even without the program. In 2009, however, there was a statistically significant increase in the overall number of transitions: there were 342 new transitions above what we would have expected given the pre-MFP trend. The numbers suggest that in 2009, approximately one-half of those with physical disabilities would have transitioned to the community anyway, and that the other half of MFP participants represented “new” transitions (341.8 / 670.1 = 51.0 percent).

Among those with intellectual disabilities, it appears that the MFP program resulted in “new” transitions in both 2008 and 2009. In 2008, there were 380 MFP participants and 330 new overall transitions, suggesting that approximately 87 percent of MFP transitions were transitions that would not have occurred without the program. That percentage decreased in 2009: only 53 percent of the 514 MFP transitions in 2009 represent “new” transitions to the community. It is not immediately clear why that percentage decreased from 2008 to 2009. However, these numbers are predictions from regression models, so the decrease may reflect some level of statistical “noise” around each of the estimates.

E. Characteristics of Those Who Transitioned

Previous research has shown that MFP participants have been, on average, younger and more likely to be male, compared to individuals who transitioned to HCBS in the pre-MFP period (Schurrer and Wenzlow 2011). The availability of the NF-MDS assessment data now allows for a comparison of MFP participants to other people in nursing home care who transition without the benefits of MFP along a comprehensive set of measures of health and well-being. [31]

Table V.4 breaks out the elderly who transitioned into four groups: the data in column 1 reflect those who transitioned to HCBS before the MFP national demonstration began; the data in column 2 reflect those who transitioned to HCBS after the MFP national demonstration began, but without the benefit of the MFP program; the data in column 3 reflect MFP participants; and the data in column 4 reflect all who transitioned to HCBS after the MFP national demonstration began (MFP and non-MFP transitions combined). The data indicate that the pre-MFP transitioners and the non-MFP transitioners in the MFP period (shown in columns 1 and 2) were similar to one another, on average, along many dimensions of demographic and health-related characteristics. The data in column 3 indicate that the MFP participants were different in their makeup than non-MFP transitioners. For example, they were younger and less likely to be female than their non-MFP peers (column 3 compared to column 2). MFP participants also had fewer needs for assistance with ADLs (as indicated by their lower ADL scores), were less likely to have cognitive impairment, and were less likely to have had behavioral problems or symptoms of depression. In general, MFP participants appear to be younger and “healthier” than people who transitioned without MFP program assistance.

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31 For people with intellectual disabilities, we can only make comparisons along the limited demographic variables available in the Medicaid administrative data because the NF-MDS is only administered in nursing homes.

Table V.4. Characteristics of Transitioners: Elderly

Characteristic	(1) 2005–2007 (Non-MFP)	(2) 2008–2009 (Non-MFP)	(3) 2008–2009 (MFP)	(4) 2008–2009 (Total)
Mean Age	80.0	79.2	77.0	78.8
Race/Ethnicity				
White	68.6%	64.2%	65.3%	64.4%
Black/African American	19.3%	20.3%	22.1%	20.6%
Hispanic/Latino	8.2%	9.8%	10.7%	9.9%
Other	3.9%	5.7%	1.8%	5.1%
Female	71.8%	69.7%	67.6%	69.4%
Mean Total ADL Score	12.8	12.7	11.0	12.4
Cognitive Performance Scale				
0–1 (no or low impairment)	36.8%	40.2%	43.1%	40.6%
2–4 (mild to moderate impairment)	52.1%	52.7%	52.4%	52.7%
5–6 (severe or very severe impairment)	11.1%	7.1%	4.5%	6.7%
Level of Care Needs				
Low	20.8%	19.4%	22.7%	19.9%
Medium	45.4%	42.9%	43.0%	42.9%
High	33.1%	37.1%	33.7%	36.6%
Uncategorized	0.8%	0.6%	0.7%	0.6%
Presence of Pain Symptoms	40.6%	41.4%	41.4%	41.4%
Presence of Behavioral Problems	25.2%	24.2%	15.6%	22.8%
Presence of Depressive Symptoms	41.3%	39.9%	35.9%	39.3%
Number of Transitioners	9,814	3,955	763	4,718

Source: Mathematica analysis of 2005–2009 MAX data for 18 MFP grantee states.

Note: Sample restricted to those who transition from nursing homes and have an NF-MDS assessment.

ADL=activities of daily living.

Among those with physical disabilities, there were fewer differences between the MFP participants and non-MFP transitioners than we observed among the elderly (Table V.5) For example, althogh the group of MFP participants was approximately the same age and had the same gender and racial makeup as the non-MFP participants (column 3 compared to column 2), MFP participants had lower ADL scores, were more likely to have had no or low cognitive impairment, and were less likely to have had behavioral problems or depressive symptoms than their non-MFP peers. Note that, without the NF-MDS assessment data, we may have falsely concluded that MFP participants with physical disabilities were similar in makeup to non-MFP transitioners because the two groups had approximately the same age, race, and gender profiles (the data available in Medicaid administrative records). Clearly, there were important differences in health-related characteristics between the group of MFP participants and the group of those who transitioned without the benefit of the MFP program.

Table V.5. Characteristics of Transitioners: Physical Disabilities

Characteristic	(1) 2005–2007 (Non-MFP)	(2) 2008–2009 (Non-MFP)	(3) 2008–2009 (MFP)	(4) 2008–2009 (Total)
Mean Age	49.3	50.5	50.7	50.6
Race/Ethnicity				
White	57.4%	56.2%	56.1%	56.2%
Black/African American	28.7%	30.2%	32.8%	30.8%
Hispanic/Latino	8.9%	9.4%	8.0%	9.1%
Other	5.0%	4.2%	3.2%	4.0%
Female	48.5%	49.4%	46.8%	48.8%
Mean Total ADL Score	11.0	11.5	9.6	11.1
Cognitive Performance Scale				
0–1 (no or low impairment)	61.1%	60.7%	65.9%	61.9%
2–4 (mild to moderate impairment)	30.5%	31.9%	29.6%	31.4%
5–6 (severe or very severe impairment)	8.4%	7.4%	4.5%	6.7%
Level of Care Needs				
Low	23.5%	20.6%	26.1%	21.9%
Medium	45.7%	44.8%	45.3%	44.9%
High	29.8%	33.5%	26.9%	31.9%
Uncategorized	0.9%	1.1%	1.7%	1.2%
Presence of Pain Symptoms	50.0%	48.7%	50.4%	49.1%
Presence of Behavioral Problems	24.8%	23.9%	19.0%	22.7%
Presence of Depressive Symptoms	43.1%	43.0%	35.6%	41.2%
Number of Transitioners	6,112	2,812	867	3,679

Sources: Mathematica analysis of 2005–2009 MAX data for 18 MFP grantee states.

Note: Sample restricted to those who transition from nursing homes and have an NF-MDS assessment.

ADL=activities of daily living.

The differences in the characteristics of those who transition will have an impact on post-transition outcomes. For example, if those who transition without the benefit of the MFP program require more care at the time of their transition to the community than the MFP group, then they may also have differentially higher rates of negative post-transition outcomes, like mortality and readmission to the nursing home.

Therefore, using others who transition to estimate counterfactual post-transition outcomes of the MFP participants requires controlling for all the differences in baseline characteristics exhibited in Tables V.3 and V.4. However, there may be additional unobserved differences between MFP and non-MFP transitioners, which could lead to selection bias in such estimates unless additional statistical approaches (such as instrumental variables) are used to eliminate bias in the estimates. On the other hand, the similarity of characteristics between those who transitioned in the period before MFP and those who transitioned in the 2008–2009 period without MFP suggests that these biases might be reduced by comparing post-transition outcomes for all transitioners in the two periods.

F. Analysis of Post-Transition Outcomes

In this section, we test whether the launch of the MFP program has affected post-transition outcomes within six months of an individual’s transition to the community, including reinstitutionalization, mortality, and remaining in the community or having a “successful” transition. When more years of data become available, we will assess these outcomes during the first 12 and 24 months after the transition.

Previous research provides descriptive evidence that MFP participants had lower rates of mortality and reinstitutionalization within six months of their transition to the community than people who transitioned to the community without the benefit of the MFP program (Schurrer and Wenzlow 2011). However, because Tables V.4 and V.5 suggest that MFP participants were, on average, different (healthier, in general) than others who transitioned, the observed difference in mortality and reinstitutionalization rates may have been due to the differences in baseline demographic and health-related factors between the two groups that were associated with post-transition outcomes. With this in mind, we estimated regressions that controlled for these differences in person-level characteristics to isolate the impact of the MFP program on the post-transition outcomes.

The regression models also controlled for any preexisting trends in outcomes that were present before the launch of the MFP program. Similar to the models estimated for the transition rate analyses, we estimated the regressions separately by target population and tested whether rates of post-transition outcomes deviated from preexisting trends in 2008 and 2009. Because mortality was a relatively rare event among those with physical disabilities and intellectual disabilities, we only model six-month reinstitutionalization rates and rates of successful transitions for these two subgroups. For the elderly, we considered six-month mortality as an additional outcome. For this particular outcome, we also limited our analysis to the elderly who were dually eligible for Medicare and Medicaid to ensure the analysis was based on a consistent data source for the date of death; see Appendix A for more details. Finally, for the regression analyses of the elderly and those with physical disabilities, we limited the analysis to individuals who had a valid NF-MDS assessment before transitioning to the community.

Table V.6 shows the results of the regressions. Among the elderly, mortality rates declined by 2.7 percentage points in 2008 and 2.9 percentage points in 2009 (on a base of 12.6 percentage points). Rates of reinstitutionalization among the elderly who transitioned did not change in 2008 or 2009. The rate of successful transitions increased in 2009 (a 4.1 percentage point increase), but the estimated impact in 2008 was not statistically significant. On the whole, it appears that the increase in the number of successful transitions among the elderly in 2009 was generated by the decline in mortality rates in the post-MFP years.

Among those with physical or intellectual disabilities who transitioned, we did not observe any statistically significant changes in the rates of successful transitions or reinstitutionalizations in either 2008 or 2009. This finding is plausible, given the relatively high rate of successful transitions in the baseline period (90 and 97 percent among those with physical or intellectual disabilities, respectively). Improvements in post-transition outcomes will be more difficult to attain, given the high rate of success at baseline.

These results, especially those for the elderly, need to be interpreted with caution. First, the group of post-MFP transitioners is comprised, in part, of MFP participants who may have been different along a set of unobservable characteristics that would create bias in our estimates. Despite controlling for a rich set of patient covariates in the regression models, it is still possible that MFP participants were healthier along unmeasured dimensions, which could explain the decrease in mortality rates that we observed in 2008 and 2009. In addition, because of data constraints, we were limited to modeling outcomes within a six-month post-transition window. We could therefore be missing program impacts that occur in the medium to long run. For these reasons, future research and more data are needed to test whether the MFP program is actually affecting mortality rates among the elderly, and to model longer-run impacts of the MFP program on who transitions to community living.

Table V.6. Changes in Six-Month Post-Transition Outcomes

Outcomes by Target Group	2008	2009 (a)	Baseline Rate (2005 – 2007)
A. Elderly (b)			
Still in community	2.1%	4.1%	76.2%
p-value	0.115	0.047	
Return to institution	0.6%	-1.3%	11.2%
p-value	0.592	0.391	
Mortality	-2.7%	-2.9%	12.6%
p-value	0.003	0.042	
Number Who Transitioned	2,796	1,653	
B. Physical Disabilities (b)			
Still in community	1.2%	2.4%	89.6%
p-value	0.320	0.195	
Return to institution	-0.6%	-2.4%	7.5%
p-value	0.562	0.142	
Number Who Transitioned	2,299	1,271	
C. Intellectual Disabilities			
Still in community	-0.1%	-0.5%	96.8%
p-value	0.939	0.687	
Return to institution	0.0%	0.4%	2.7%
p-value	0.977	0.695	
Number Who Transitioned	1,546	856	

Source: Mathematica analysis of 2005–2009 MAX data for 18 MFP grantee states.

(a) The 2009 results reflect transitions as of June 30, 2009 to allow for a full six-month follow-up window.

(b) The regression samples for the elderly and those with physical disabilities were restricted to those who transitioned and had a valid NF-MDS assessment before the transition.

G. Discussion

This chapter presents evidence on the impact of the MFP program on rates of transitions to the community and on post-transition outcomes. It builds on previous research by controlling for preexisting trends in transition rates and rates of outcomes, and by using the rich set of characteristics available in the NF-MDS. The results imply that transition rates increased among those with physical disabilities (in 2009) and those with intellectual disabilities (in 2008 and 2009) after the launch of the MFP program, but that there was little net effect on the overall rate of transitions among the elderly. The absence of effects on transition rates among the elderly suggests that most or all MFP participants in this targeted population likely would have transitioned, regardless of the MFP program. However, this result may reflect how states approached the testing of program processes and protocol. We also found a statistically significant decrease in post-transition mortality rates among the elderly who transitioned, but we are skeptical that this estimate reflects a true program impact, given notable differences in baseline characteristics between pre-MFP transitioners and MFP participants. We did not observe any changes in the rate of reinstitutionalization among those with physical or intellectual disabilities, but the lack of estimated impacts could be due to the relatively high rate of "successful" transitions at baseline.

Our work has several limitations: some are methodological, others are due to the timing of the analysis. The most serious methodological caveat is the lack of a credible comparison group. This analysis developed inferences about MFP impacts by comparing projected pre-MFP trends to actual experience during the MFP period. Clearly, other changes could be occurring between the pre-MFP years (2005–2007) and the post-MFP years (2008–2009) that affected transition rates and the mortality of those who transitioned. Such changes could include (1) the quality of nursing home care, (2) the availability of alternatives to nursing homes (such as assisted living or group homes), (3) the quality of HCBS care, (4) treatment of some medical conditions, or (5) the group characteristics of individuals eligible for MFP. The effect of these and other factors on transitions and post-transition outcomes will be confounded with the effects of MFP. In addition, the regression models implicitly assume that each state's program launched in the same manner; there is likely heterogeneity in program design and early experiences across states that we did not address.

The projections of what transition rates or rates of post-transition outcomes would have been in 2008 and 2009 without MFP were based on linear or cubic trends, which may be inaccurate and unknowable. The estimates had sizable confidence intervals, even if there were no concurrent changes responsible for the observed differences in outcomes or model misspecifications. Future analyses will include robustness tests concerning the sensitivity of the findings to the model specifications.

Other limitations were due more to data limitations and data lags; only data for the first two years of MFP were available for this study. Future research will need to cover more recent years to estimate mid- and long-run impacts of the MFP program. Because the NF-MDS data were only available for the elderly and those with physical disabilities who transitioned from nursing homes, we also lacked more detailed information on the health status of those with intellectual disabilities who transitioned from ICFs-ID.

VI. PARTICIPANT-LEVEL IMPACTS OF MFP ON HEALTH CARE UTILIZATION

A. Introduction

Both before and on the day they transition to the community, MFP participants begin receiving a package of home and community-based services (HCBS) financed by the state's MFP grant funds for up to one year after the date of transition. (See Chapter IV for a discussion of the types of services MFP programs provide.) Community residence offers the promise of more independence and self-determination, but institutional care provides important safeguards to ensure the safety and well-being of individuals.

One question that arises for transition programs such as MFP is whether those who move to community living are at greater risk for acute events such as emergency department (ED) visits or inpatient hospitalizations because they are no longer under the constant supervision of an institution. Conditional on health need and other characteristics, higher hospitalization rates or ED visits among MFP participants than among a comparison group of people who transitioned to the community without the benefits of the MFP program could indicate that the quality of care or monitoring MFP participants received was insufficient relative to their needs. Conversely, after transitioning to the community MFP participants may be less likely to develop problems such as bedsores or infections, because they receive higher quality HCBS than others who transition. Therefore, as part of the evaluation of the MFP program, it is important to understand the acute care utilization patterns of those who have been transitioned by MFP programs. By mid-2009, state MFP programs had transitioned enough people to allow for an analysis of Medicaid and Medicare claims to estimate the impact of the program on post-transition physician visits, hospitalizations, and ED use.

Key Findings

This chapter provides preliminary estimates of the effect of the MFP program on service use for medical care among those who transition from institutional-based care to community-based care. Our approach compared MFP participants' health care utilization in the six months after transitioning to that of matched comparison groups selected from Medicaid beneficiaries who transitioned to the community from long-term care facilities before the national MFP demonstration was implemented.

- We found large differences between MFP participants and the pool of comparison group members along many important observable characteristics, suggesting that individuals who participated in MFP programs were a select sample of people among all who transitioned to community living.
- Elderly MFP participants who transition from nursing homes were more likely to use physician services in the six months after returning to the community than other elderly who transitioned (77 percent, compared to 66 percent).
- Those with physical disabilities were more likely to use physician services after transitioning (72 percent, compared to 66 percent); however, this and other results for those with physical disabilities were not robust when subgroup analyses were conducted.

These early findings must be viewed with caution, as they might not accurately represent the effect of MFP on service use over a longer period. Because more current data were not available, the analysis was only able to look at service use six months after the transition to community living, while MFP program benefits were available to participants for up to one year. Moreover, our sample of MFP participants was limited to those who transitioned during the first 18 months of the national demonstration. As the program matures, states may enroll people with different characteristics, which may in turn affect participant outcomes. Finally, the comparisons may yield biased estimates of the effects of MFP, because we did not have data on some factors that could affect service use and may differ between MFP participants and the comparison group, such as housing options, family and informal supports, and attitudes toward health care.

B. Data and Methods

To rigorously evaluate the impact of MFP on health care utilization, we use a quasi-experimental approach, comparing MFP participant's health care utilization in the six months after transitioning to that of carefully matched comparison groups selected from others who transitioned to community living in the pre-MFP period without the benefits of the MFP program. Next, we briefly summarize this design, focusing on the data sources and the general methods for developing a comparison group and conducting the estimation.

1. Data Sources

The analyses presented in this chapter draw on data from the Medicaid Analytic eXtract (MAX) data system, MFP enrollment records, [32] the nursing facility minimum data set (NF-MDS), and Medicare claims files. MAX data [33] for calendar years 2004 through 2009 were the chief source of information for a person-level research file of institutionalized enrollees who transitioned to the community. MAX eligibility and claims files provide Medicaid data in a uniform format across all states and include demographic and eligibility characteristics and Medicaid service use for every Medicaid enrollee. Medicare claims files [34] were used to supplement service utilization and health status information obtained from the MAX claims for those individuals dually enrolled in Medicare and Medicaid.

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[32] In our analyses we use both the MFP program participation data file and the MFP finders file.

[33] Specifically, the MAX Person Summary, Other, and Long-term Care files were used. Beta-MAX files (early release versions of MAX data) were used only when MAX data were not available. The 20 states with available MAX 2009 data when the analyses were conducted were Arkansas, California, Connecticut, Delaware, Georgia, Iowa, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, North Carolina, Nebraska, New Jersey, Ohio, Oregon, Pennsylvania, Texas, and Virginia. One state (Michigan) only had Beta-MAX data available for 2009.

[34] Medicare Outpatient, MEDPAR, Part B Carrier, Skilled Nursing, and Home Health files were used.

We further augmented our analytic file by including data from the NF-MDS for participants who transitioned from nursing homes. The NF-MDS contains more than 300 individual assessment items and is collected at least quarterly on nearly all nursing home residents. The domains covered by the NF-MDS include communication, cognition, physical function, mood, behaviors, diagnoses, and treatments received. These data were used to infer pre-transition level of care based on the Resource Utilization Groups (RUG-III), [35] in addition to providing information on physical and mental impairment.

Sample

To maintain consistency across our MFP and comparison groups, we use MAX data to identify all transition information, including the date of transition to the community and the facility from which the individual transitioned. We identified transitions among individuals during two distinct periods: (1) the pre-MFP period (January 1, 2005, through June 30, 2007) and (2) the 18 months after MFP was implemented (January 1, 2008, through June 30, 2009). Our MFP participant group was drawn from this latter period. The comparison group was made up of Medicaid enrollees who had at least 180 consecutive days of Medicaid-financed institutional care [36] during calendar years 2004–2007 and transitioned to the community and used Section 1915(c) waiver services or state-plan HCBS (not including hospice) during the period January 1, 2005, through June 30, 2007.

To account for idiosyncrasies in service dates on institutional facilities records, we limited both groups to people who lived in the community for at least 60 days following the transition. [37] MFP participants whose transitions could not be confirmed in the MAX data were excluded from the analyses presented in this chapter. [38] We also excluded individuals who used hospice in the first two calendar months or who died within the first two calendar months after the

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35 RUG-III assignment is based on the anticipated time needed to provide care for an individual and is based on impairment level in assistance with the activities of daily living (ADL), cognition, and mood, as well as receipt of therapy, special treatments, and the presence of selected clinical conditions.

36 Before April 2010, when new eligibility requirements were implemented, MFP had a 180-day length of stay requirement, which could have been satisfied with any combination of Medicare-, privately-, and Medicaid-financed care. In addition, participants were required to be eligible for Medicaid during the 30 days before the transition to the community. Because information about the non-MFP participants comes from MAX data, they had to have at least 180 days of Medicaid-financed institutional care to be included in the analysis.

37 Because we occasionally find that institutional claims in the long-term care files were missing for a given month and state in MAX, to define a break in a long-term care stay we required two calendar months without a long-term care claim for an individual.

38 We excluded 380 MFP participants whom we matched to the MAX data but for whom we did not find a break in their institutional stay within 32 days of the MFP transition date provided by the state or within 32 days of any part of the quarter in cases where the MFP transition date was based on the MFP Finders file information rather than the MFP program participation data file, which contains more detailed information on the transition date.

transition. Although hospice is a covered MFP service, MFP programs do not appear to target individuals for community-based end-of-life care.

For the analyses conducted for this chapter, we report findings for two mutually exclusive target populations:

- The elderly: age 65 or older and transitioned from a nursing facility
- People with physical disabilities (PD): age 64 and younger and transitioned from a nursing facility

Individuals with intellectual disabilities (ID) are often targeted for transition by many state MFP programs. However, this group was not included in the impacts analyses because we could not draw a valid comparison group due to the relatively small number of people with intellectual disabilities who, before the implementation of the national MFP demonstration, had transitioned to the community and then used HCBS.

Our final analytic sample includes MFP participants and members from the potential comparison group in 13 of the 30 MFP grantee states that had approved programs by the end of 2009. MAX data for calendar year 2009 were unavailable for nine states at the time we conducted our analyses, so these states were necessarily excluded from the analysis. [39] Delaware, Illinois, Indiana, Iowa, Louisiana, Nebraska, New Jersey, and North Carolina were also excluded from the analyses, as we could verify in the MAX data transitions for only 10 or fewer MFP participants by June 30, 2009. We also excluded from the analysis anyone who had missing data on variables used in our matching process. Table VI.1 notes exclusions from the analytic sample.

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[39] At the time the analysis was conducted MAX data for calendar year 2009 were not available for nine states: District of Columbia, Hawaii, Missouri, New Hampshire, New York, North Dakota, Oklahoma, Washington, and Wisconsin.

Table VI.1. Analytic Sample Exclusions

Exclusions	Potential Comparison	MFP Participants
Start	23,293	1,826
Exclude 8 states due to sample size restrictions (a)	-4,636	-42
Age less than 18 or missing	-129	-6
No NF-MDS assessment in 365 days prior to transition	-1,157	-71
Missing NF-MDS variables	-89	-4
Level of care undefined	-106	-19
Rural indicator missing	-20	-1
Total	17,155	1,683

Source: MAX and Beta-MAX data, 2004–2009; NF-MDS 2004–2009; Medicare claims files, 2004–2009.

(a) Delaware, Illinois, Indiana, Iowa, Louisiana, Nebraska, New Jersey, and North Carolina.

NF-MDS = nursing home minimum data set, 2.0.

2. Selection of Comparison Groups

The key methodological challenge in estimating the effects of program participation on health service utilization is approximating the counterfactual—the outcomes that would have happened in the absence of the program. The approach used to measure program impacts compares outcomes of MFP participants with outcomes of a comparison group of Medicaid beneficiaries who would have been eligible for MFP but had transitioned before the national program was established. As Tables VI.2 and VI.3 indicate, the pool of potential comparison group members was very different from the sample of MFP participants. To approximate an experimental design, we used nonparametric regression to construct a comparison group using a matching procedure commonly referred to as propensity score matching (Rosenbaum and Rubin 1983). This approach assumes that the decision to participate is random conditional on a set of observable characteristics. To select individuals to serve as comparisons with similar demographic characteristics, patterns of health service use, health status, and level of care needs as those of MFP participants, we implemented the matching process in three steps: (1) estimated a model of the probability of transitioning from an institution to the community, (2) selected the potential comparison group member with the closest absolute propensity score to serve as the MFP participant's comparison (nearest neighbor), and (3) assessed the quality of our matches using post-matching statistical tests. We performed these steps separately for the elderly and people with physical disabilities to account for differences in the characteristics of these populations. [40] (See Appendix B for a more complete description of the matching procedure.)

Table VI.2. Characteristics of Elderly and Comparison Group Members

		Comparison Group	
Characteristic	Participants	Selected	Potential
Age (years)	76.92	76.65	81.43***
Male	32.42%	29.93%	24.69%***
Race: White	65.10%	68.10%	74.21%***
Race: Black	22.35%	19.48%	17.68%***
Race: Other	12.55%	12.42%	8.11%***
Rural	25.36%	27.06%	22.52%*
Dually eligible for Medicare and Medicaid	94.51%	98.95%***	98.06%***
Less than 1 year of Medicaid-financed institutional care	60.39%	63.01%	34.20%***
ADL summary score (0-28)	11.02	10.67	16.21***
Disruptive behavior	4.18%	2.88%	12.83%***
Physically abusive	1.44%	0.78%	6.92%***
Resist care	10.98%	9.41%	25.30%***
Verbally abusive	4.05%	3.14%	10.55%***
Wanders	2.35%	2.22%	7.19%***
Depression scale (0-14)	0.79	0.85	1.55***
Cognitive Performance Scale (0-6)	1.67	1.73	2.50***
Level of Care: Low	22.61%	23.01%	11.28%***
Level of care: Medium	43.40%	43.92%	44.46%
Level of care: High	33.99%	33.07%	44.26%***
Pain scale = 0	58.56%	55.29%	58.30%
Pain scale = 1	29.28%	30.85%	26.74%
Pain scale = 2	12.16%	13.86%	14.96%**
Presence of severe chronic condition	51.24%	52.81%	41.87%***
Number of chronic conditions	10.97	10.97	10.65***

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[40] Small sample sizes prevented us from conducting matching within individual states. Sample sizes were large enough to specify separate models for the elderly in Michigan and in Texas, and for transitioners with physical disabilities in Texas. A single model with state dummies was specified for the other states for each group.

Table VI.2 (continued)

		Comparison Group	
Characteristic	Participants	Selected	Potential
Physician visits in the 12 months before transition	11.31	11.34	10.15***
IP visits in the 12 months before transition	1.05	1.06	0.84***
ED visits (non-IP) in the 12 months before transition	1.10	1.08	1.09
ED visits (IP) in the 12 months before transition	0.87	0.90	0.75**
Sample Size	765	765 (a)	12,196

Source: MAX and Beta-MAX data, 2004–2009; NF-MDS 2004–2009; Medicare claims files, 2004–2009.

Note: The ADL summary score captures a beneficiary's ability to perform the following ADLs independently: personal hygiene, locomotion, toilet use, eating, dressing, bed mobility and transferring. The measure ranges from 0 to 28, with lower scores representing greater independence. The CPS combines information on memory impairment, level of consciousness, and executive function, with scores ranging from 0 (intact) to 6 (very severe impairment). The depression scale screens for depression. The measure contains seven items and is on a scale from 0 to 14, with higher scores representing more severe depression.

(a) 612 unique individuals.

ADL = activities of daily living; ED = emergency department visit; IP = inpatient admission.

*Significantly different from zero at the .10 level, two-tailed test.
**Significantly different from zero at the .05 level, two-tailed test.
***Significantly different from zero at the .01 level, two-tailed test.

Table VI.3. Characteristics of Those with Physical Disabilities and Comparison Group Members

		Comparison Group	
Characteristic	Participants	Selected	Potential
Age (years)	51.04	50.57	50.89
Male	52.68%	51.92%	50.71%
Race: White	57.94%	58.05%	62.27%**
Race: Black	32.09%	31.87%	27.10%***
Race: Other	9.97%	10.08%	10.63%
Rural	16.10%	14.68%	19.71%**
Dually eligible for Medicare and Medicaid	47.43%	47.21%	50.63%*
Less than 1 year of Medicaid-financed institutional care	45.24%	42.61%	47.12%
ADL summary score (0-28)	9.60	9.85	11.97***
Disruptive behavior	7.34%	6.57%	12.59%***
Physically abusive	1.53%	1.20%	3.33%***
Resist care	12.49%	13.03%	18.06%***
Verbally abusive	8.76%	8.43%	11.16%**
Wanders	1.42%	1.64%	2.96%***
Depression scale (0-14)	1.09	1.03	1.35***
Cognitive Performance Scale (0-6)	1.19	1.35**	1.45***
Level of Care: Low	25.52%	25.41%	18.88%***
Level of care: Medium	47.32%	47.43%	46.90%
Level of care: High	27.16%	27.16%	34.22%***
Pain scale = 0	49.29%	50.71%	47.08%
Pain scale = 1	27.16%	23.77%*	27.96%
Pain scale = 2	23.55%	25.52%	24.96%
Presence of severe chronic condition	50.16%	49.29%	51.71%
Number of chronic conditions	8.52	8.42	8.38
Physician visits in the 12 months before transition	11.99	11.42	10.09***
IP visits in the 12 months before transition	0.58	0.56	0.63
ED visits (non-IP) in the 12 months before transition	2.65	2.54	2.60
ED visits (IP) in the 12 months before transition	0.70	0.67	1.01***
Sample Size	913	913 (a)	4,900

Table VI.3 (continued)

Source: MAX and Beta-MAX data, 2004–2009; NF-MDS 2004–2009; Medicare claims files, 2004–2009.

Note: The ADL summary score captures a beneficiary's ability to perform the following ADLs independently: personal hygiene, locomotion, toilet use, eating, dressing, bed mobility and transferring. The measure ranges from 0 to 28 with lower scores representing greater independence. The CPS combines information on memory impairment, level of consciousness, and executive function, with scores ranging from 0 (intact) to 6 (very severe impairment). The depression scale screens for depression. The measure contains seven items and is on a scale from 0 to 14, with higher scores representing more severe depression.

(a) 705 unique individuals.

ADL = activities of daily living; ED = emergency department visit; IP = inpatient admission.

*Significantly different from zero at the .10 level, two-tailed test.
**Significantly different from zero at the .05 level, two-tailed test.
***Significantly different from zero at the .01 level, two-tailed test.

Selected Comparison Groups

For both the elderly and people with physical disabilities, the selected comparison groups were similar to MFP participants on observed characteristics. To assess the quality of the matching, we conducted statistical tests (t-tests) to assess differences in the characteristics between the participants and the matched comparison groups across observed characteristics. For the elderly, with the exception of dual eligibility status, the selected comparison group members were statistically similar to MFP participants at the $p < 0.05$ significance level (Table VI.2). After matching, the only remaining significant differences among those with physical disabilities were in measures of cognitive performance and pain level ($p < 0.10$) (Table VI.3). These small differences are in stark contrast to the differences between MFP participants and the pool of comparison group members. For example, among the elderly, we note significant differences between MFP participants and potential comparison group members among a number of important characteristics—such as age, length of time in the institution, level of care needs, presence of severe chronic conditions, and three of four pre-transition health service utilization measures. Results for those with physical disabilities also suggest that MFP participants differed significantly from the average potential comparison group member across most observable characteristics.

3. Methods for Measuring Impacts

To assess the impact of MFP on health care utilization, we estimated multivariate regression models for three measures of health care utilization: (1) inpatient hospitalizations, (2) ED visits, and (3) physician visits in an ambulatory setting. Table VI.4 presents average utilization in the six months after transitioning for MFP participants. For each measure, we examined whether the individual had at least one visit in the first six months after transitioning from institutional-based care to community-based care. Specifically, to assess the impact of MFP on the probability of having any visit, we estimated probit regression models of the form:

$$y_i = \beta_0 + \beta_1 MFP_i + \gamma' X + \varepsilon_i$$

where y_i took the value of 1 if the individual had at least one visit for the specified type of care in the six months after transferring and zero otherwise. The main explanatory variable was MFP, which took the value of 1 if the individual was an MFP participant and 0 if the individual was in the comparison group. β_1 was therefore the main coefficient of interest—the impact of transferring under the MFP program on the probability of the outcome. To control for any remaining observed differences between the two groups, the vector X included the same constructed measures used in the matching process above, including state of residence (see Tables VI.3 and VI.4 for the specific measures that make up the vector X).

Table VI.4. Health Care Utilization Among MFP Participants During the First Six Months After Transition

Outcome Measure	Percentage of Participants with at Least one Visit or Admission	Average Number of Visits or Admissions
Elderly (N = 1,530)		
Physician visits	77.59	4.05
Inpatient admission	34.21	0.63
ED visits (non-IP)	34.58	0.83
ED visits (IP)	29.71	0.57
People with Physical Disabilities (N = 1,826)		
Physician visits	72.34	3.80
Inpatient admission	20.71	0.46
ED visits (non-IP)	48.41	1.50
ED visits (IP)	23.28	0.50

Source: MAX and Beta-MAX data, 2004–2009; NF-MDS 2004–2009; Medicare claims files, 2004–2009.

ED = emergency department visit; IP = inpatient admission.

To facilitate interpretation, all results from all models are reported as mean predicted probabilities for sample members, first assuming they were in MFP and then assuming they were in the comparison group. All regressions were estimated using outcome-specific weights to account for truncated post-transition periods. We developed weights that reflected the ratio of months an individual contributed to the analysis (out of six months) for observations censored before having the event. We used STATA's robust option to obtain robust standard errors for the parameter estimates to account for the relaxation of the assumption that the variance equals the mean.

We estimated each model separately for each target population: the elderly and people with physical disabilities. We pooled states together to obtain a sample size that was large enough to detect impacts. We then presented separate estimates for Texas alone and for all states excluding Texas. [41] Texas-specific impact estimates allowed us to explore the potential effects of MFP in a state with an established transition program, as it had considerable experience transitioning people to the community under its own state-run programs similar to MFP.

C. Results

1. Elderly

Table VI.5 reports results on the probability of any service use in the six months after transitioning for the elderly group. Findings for the pooled 13 state models are presented in the top panel, the Texas-only group in the middle panel, and the pooled 12 non-Texas states in the lower panel. Dlderly MFP participants were more likely than the matched comparison group to have a physician visit after transitioning, with no apparent differences in inpatient admission or ED visits between the two groups.

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[41] Ideally, we would estimate separate impacts for each state; however, state-specific sample sizes by subgroup provide insufficient power to detect even large impacts in all states except Texas. Therefore, we pooled data across states.

Table VI.5. Estimated Impacts of Transitioning Under MFP on the Likelihood of Service Use Within Six Months Post-Transition: Elderly

	Predicted Mean (percent/visits)		
Outcome Measure	MFP Participants	Comparison Group	MFP Impact
All States (N = 1,530)			
Had at least one physician visit	77.43	66.37	11.06**
Had at least one inpatient admission	33.67	34.26	-0.59
Had at least one ED visit (non-IP)	34.34	32.41	1.93
Had at least one ED visit (IP)	29.13	31.00	-1.84
Texas Only (N = 804)			
Had at least one physician visit	80.84	65.05	15.79**
Had at least one inpatient admission	32.46	30.36	2.10
Had at least one ED visit (non-IP)	33.76	31.01	2.75
Had at least one ED visit (IP)	26.48	27.16	-0.68
Non-Texas States (N = 726)			
Had at least one physician visit	73.04	67.87	5.18*
Had at least one inpatient admission	35.19	38.77	-3.58
Had at least one ED visit (non-IP)	35.15	34.55	0.60
Had at least one ED visit (IP)	32.24	35.28	-3.04

Source: MAX and Beta-MAX data, 2004–2009; NF-MDS 2004–2009; Medicare claims files, 2004–2009.

Note: Regression models include the following control variables: age at transition, female indicator, race (3 categories), rural indicator, state (up to 13 categories), indicator for whether the person was in the institution for less than 1 year prior to transitioning, number of chronic conditions, indicator for having at least one severe chronic condition; five measures of Medicaid and Medicare service use in the past 12 months: number of physician visits, emergency room visits with inpatient stay, emergency room visits without inpatient stay, inpatient visits, and days in hospital; and the following measures taken from individuals' last NF-MDS assessment: level of care (3 categories: high, medium, low), physical function scale (0-28) entered as continuous, CPS (7 categories), depression rating scale (0-14) entered as continuous, pain level scale (4 categories), and five indicators for whether the individual demonstrated the following behaviors: wandering, verbal abuse, physical abuse, disruptive behaviors, and resistance to care.

ED = emergency department visit; IP = inpatient admission.

*Significantly different from zero at the .10 level, two-tailed test.
**Significantly different from zero at the .05 level, two-tailed test.

For the full sample of 13 states, 77 percent of MFP participants had a physician visit after transitioning, compared to only 66 percent of those who transitioned without the benefit of MFP.

This difference implies an increase over the control group predicted mean of approximately 17 percent. For inpatient admissions and ED visits of any type regardless of subsequent admission to inpatient care, there was no evidence of any differences between the two groups in the probability of having these acute events post-transition. For example, the predicted mean probability of an inpatient admission visit post-transition was approximately 32 to 34 percent for both MFP and the comparison groups.

Turning to the subgroup models, there was some evidence that the large difference in the probability of physician visits was driven by Texas. Although estimates from both groups suggest an impact of MFP on the probability of having a physician visit, we find a relatively small, marginally significant difference in physician visits in the 12-state subgroup (73 versus 68 percent), whereas in Texas alone we find a 16 percentage point difference between the two groups (81 versus 65 percent).

2. People with Physical Disabilities

Turning to the nonelderly group with physical disabilities, we again found a significant difference by MFP participation in the probability of having a physician visit (top panel of Table VI.6); however, the magnitude of the difference was considerably smaller than that of the elderly group (6 percentage points, compared to an 11 point difference for the elderly group). As in the elderly group, we found no evidence that the MFP group differed from the comparison group in the likelihood of having an inpatient admission or an ED visit. However, the results for ED visits were not consistent across the different subgroup analyses, and we could not draw any firm conclusions.

Table VI.6. Estimated Impacts of Transitioning Under MFP on the Likelihood of Service Use Within Six Months Post-Transition: People with Physical Disabilities

	Predicted Mean		
Outcome Measure	MFP Participants	Comparison Group	MFP Impact
All States (N = 1,828)			
Had at least one physician visit	72.34	66.41	5.93**
Had at least one inpatient admission	20.59	19.07	1.52
Had at least one ED visit (non-IP)	48.29	49.55	-1.27
Had at least one ED visit (IP)	23.20	25.44	-2.25
Texas Only (N = 766)			
Had at least one physician visit	69.94	66.48	3.45
Had at least one inpatient admission	22.61	21.83	0.79
Had at least one ED visit (non-IP)	42.28	49.69	-7.41**
Had at least one ED visit (IP)	26.18	26.99	0.81
Non-Texas States (N = 1,062)			
Had at least one physician visit	73.61	66.87	6.74**
Had at least one inpatient admission	19.63	17.18	1.85
Had at least one ED visit (non-IP)	52.64	49.38	3.26
Had at least one ED visit (IP)	20.80	24.53	-3.73*

Source: MAX and Beta-MAX data, 2004–2009; NF-MDS 2004–2009; Medicare claims files, 2004–2009.

Note: Regression models include the following control variables: age at transition, female indicator, race (3 categories), rural indicator, state (up to 13 categories), indicator for whether the person was in the institution for less than 1 year prior to transitioning, number of chronic conditions, indicator for having at least one severe chronic condition; five measures of Medicaid and Medicare service use in the past 12 months: number of physician visits, emergency room visits with inpatient stay, emergency room visits without inpatient stay, inpatient visits, and days in hospital; and the following measures taken from individuals' last NF-MDS assessment: level of care (3 categories: high, medium, low), physical function scale (0-28) entered as continuous, CPS (7 categories), depression rating scale (0-14) entered as continuous, pain level scale (4 categories), and five indicators for whether the individual demonstrated the following behaviors: wandering, verbal abuse, physical abuse, disruptive behaviors, and resistance to care.

ED = emergency department visit; IP = inpatient admission.

*Significantly different from zero at the .10 level, two-tailed test.
**Significantly different from zero at the .05 level, two-tailed test.

3. Robustness Checks

During the time period we examined, Medicaid beneficiaries were required to have 180 days of institutional care to be eligible for MFP. According to the Medicaid institutional claims records used in the analysis, however, many MFP participants did not meet the 180-day criteria.[42] Potential explanations for this discrepancy are that some programs used days covered by Medicare, private coverage, or out-of-pocket to count toward the 180-day requirement; lax implementation of the 180-day rule by some MFP programs; or CMS waivers of this requirement for some states (for example, Texas was allowed to waive the length of stay requirement after a hurricane destroyed some institutions along the Gulf Coast). Because we were unable to mimic the exact criteria that the individual MFP programs used, there was a concern that the actual length of stay of our comparison group members might differ systematically from the sample of MFP participants and that length of stay would have important implications for the outcome measures. To test whether our results were sensitive to imprecisely measured length of stay, we re-estimated all models excluding the subset of MFP participants who did not meet the 180-day requirement according to the Medicaid institutional claims records. Similarly, to test whether our results were sensitive to differential mortality between the two groups, we re-estimated all the models excluding those individuals who died in the six months after transitioning. In both cases, our general findings were robust to these exclusions. The exception to this was ED visits in the group with physical disabilities, where results were highly sensitive to changes in the sample, further suggesting that no conclusions could be drawn regarding MFP’s impact on emergency room care among those with physical disabilities.

D. Discussion

Several limitations of this study merit discussion. First, MFP participants may be fundamentally different than people who transitioned before MFP along important unobservable characteristics. This was a non-experimental study based on administrative data and self-selection into MFP may bias our findings. To address the selection issue, we employed a propensity score matching strategy to approximate an experimental design, assuming the decision to participate was random conditional on a set of observable characteristics. However, even after accounting for observable characteristics of participants and comparison group members, unobservable differences between the two groups that were related to the health services outcomes may have remained. For example, we do not have information on the amount of family support available to people who transferred to the community. One might imagine that MFP program staff focused resources on people who had existing housing or family members who were enthusiastic about the program, to better ensure positive post-transition outcomes. To the extent that family support was also related to health services utilization (for example, having assistance to help arrange for and get to visits to the doctor or other providers, identifying a symptom that warrants a physician or emergency room visit, or reminding/encouraging their relative to make and keep physician appointments), our estimates would reflect both the impact of MFP and any unobserved differences in family support between the two groups. Alternatively, there may have been a widespread change in attitudes between the pre- and post-MFP periods,

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[42] Among the MFP participants in the sample, 11 percent of those with physical disabilities and 24 percent of the elderly did not meet this 180-day threshold.

with family members and case managers being more willing to let Medicaid beneficiaries take a greater risk of personal injury or health care incidents by returning to the community rather than remaining in the nursing home. If so, people transitioning in the pre-MFP period might have received more informal services, on average, than a true counterfactual for those who transitioned under MFP. This type of unobservable difference might account, at least in part, for the absence of stronger effects.

Second, data lags produced small sample sizes which constrained our ability to conduct matching. Although the number of people transitioning under MFP continues to grow, our data come from the period when many states were just starting to implement their programs. Propensity score matching is generally thought of as a large sample method, and, given the small sample sizes, we were unable to conduct the matching within states, leading to many matched pairs residing in different states. [43] Because access to services or supply of providers might differ across states, drawing a comparison group from different locations is less than ideal, as it adds to the potential for unobservable differences between the two groups.

The data lags and the resulting small sample sizes also meant that we were unable to estimate separate impacts for each state by target population, as small samples for most states would hinder our ability to detect meaningful differences in the outcome measures. Therefore, our main results were pooled estimates—the average effect of MFP participation across all 13 states in the study. We know that the implementation of MFP varies widely across the states and that how the program is implemented may potentially influence participant’s use of health services.

Finally, to account for inaccuracies in service dates in the institutional claims records, we required individuals to have at least a two-month gap in their institutional care before identifying them as a transition—meaning we could compare outcomes only for people who successfully remained in the community for at least 60 days. If the outcomes assessed in this analysis differed between the two groups in the first two months after transitioning, our estimates will not accurately reflect overall differences in six-month post-transitions outcomes. Given these design decisions, it is important to exercise caution when generalizing the results from this chapter outside the samples used in these analyses.

Despite these limitations, the findings provide new information on the post-transition outcomes of MFP participants. The results in this chapter suggest that MFP participants, particularly in the elderly subsample, were substantially more likely to use physician services than they would have without the program. It is unclear why we are finding such a result, and whether it is a credible inference from the estimates, given the possible biases. To the extent that participating in MFP improves one’s ability to access providers, such as help arranging for appointments or managing transportation, we might expect to see an increase in physician visits due to MFP. This effect is likely to be small, however, and one would hope that better access to primary care would reduce the likelihood of preventable hospitalization and emergency room

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[43] The balancing tests conducted rely on adequate sample sizes. Small sample sizes result in few treated cases in some of the propensity score strata, making it difficult to detect imbalances within the propensity score strata.

visits, which we do not detect in the pooled sample. For the nonelderly group with physical disabilities, the results were less conclusive, and we do not draw any conclusions at this time due to the sensitivity of the results to sample inclusion and exclusion criteria.

The analyses presented in this chapter will be extended in several directions. The simplest extensions will occur when we have a longer follow-up period to assess impacts. In future reports, we will present estimates for the full 12 months post-transition and the subsequent 12 months following MFP participation, to address what happens after eligibility for the MFP program ends. We also expect to expand our list of outcome measures to include quality of care indicators, such as restricting the analyses of hospitalizations and emergency room visits to those for ambulatory-sensitive conditions or that are potentially preventable with appropriate community-based care, indicators of whether certain preventive care is received (such as annual physical examinations), and health expenditures. Understanding the types of services participants are receiving and participants’ overall expenditures will better inform policymakers about the impact of transition programs like MFP on health services utilization, quality of care, and costs of care. Finally, as participation in MFP increases, we hope to have an adequate sample size available in most states to allow for estimating state-specific impacts.

We are also exploring alternative approaches to modeling program effects as a way to check the robustness of our findings. We can test the sensitivity of our estimates to alternative forms of matching by re-selecting the comparison groups using alternatives to nearest neighbor matching (such as kernel matching). In addition, rather than using a matching strategy, we will develop estimates based on the entire pool of MFP eligibles from the pre-MFP period, dividing the results by the MFP participation rate to obtain an estimate of the impact of MFP that would not suffer from selection bias.

VII. CHANGES IN MFP PARTICIPANT EXPERIENCE AND OTHER POST-TRANSITION PARTICIPANT-LEVEL OUTCOMES

Institutional care provides important safeguards to ensure the safety and well-being of individuals. At the same time, institutional safeguards can reduce one's sense of autonomy and satisfaction with life. An operating premise of the MFP program is that many Medicaid beneficiaries who reside in institutions would rather live in their communities; that doing so will contribute to an increased sense of life satisfaction; and that this increased life satisfaction is a function of enhancements to areas of life quality. [44] However, people transitioning from the institution to the community may not realize the improved quality of life that they were expecting, if the home care services they receive are not adequate, the housing they can find and afford is poor, or family members cannot provide the support they need. Therefore, monitoring changes for participant-reported measures in these areas is fundamental to testing the premise that living in the community improves the quality of life for people who transition from institutional settings to the community.

Previous reports have examined the extent to which MFP participant quality of life changed during the first year of community living (Simon and Hodges 2011; Irvin et al. 2011). This chapter continues and expands this line of inquiry, using a larger sample of participants and additional data to provide a more comprehensive understanding of MFP participant quality of life, particularly post-transition. In addition to reporting quality of life change during the first year, we show:

- Post-transition work status and its association with life satisfaction
- The relationship between community integration and access to personal care
- The relationship between pre-transition level of care needs and change in participant quality of life

We report findings for all participants and, where applicable, include results for three distinct MFP target populations: (1) aged participants (defined as age 65 or older) transitioning from nursing facilities; (2) participants with physical disabilities (age 64 and younger) transitioning from nursing facilities; and (3) those with intellectual disabilities transitioning from intermediate care facilities for those with intellectual disabilities (ICFs-ID). [45]

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[44] These areas—or "domains"—include quality of care and access to care; living arrangements and community involvement; a sense of autonomy and being treated well by providers; and overall health and well-being.

[45] Analyses also include information for participants transitioning from institutions for mental diseases (IMDs)—whose results are combined with people transitioning from institutions characterized as "other"—while participant records lacking data for qualified institution are characterized as "missing."

Key Findings

Results presented in this chapter are consistent with previous findings based on earlier, smaller samples of participants (Simon and Hodges 2011; Irvin et al. 2011). Our findings this time include the following:

- Quality of life generally improves upon transition to the community. Four out of five participants were satisfied with the way they live their lives after one year of community living, compared to three out of five participants pre-transition. Among those who reported they were not happy with their lives in an institution, about three out of four (73 percent) reported being satisfied with life in the community.
- Participants reported enhanced quality of life across most measures. Participants' satisfaction with where they live exhibited the largest increase (nearly 40 percentage points). In addition, after a year of community living, more participants reported a greater sense of choice and control and community integration, being treated well by their providers, and having fewer unmet care needs compared with institutional care. Satisfaction with care in the community remained high and did not change significantly.
- Although improvement in participant-reported outcomes after one year in the community was significant and broad-based, several findings may warrant further attention from program administrators. Specifically, more than one-third of participants continue to report barriers to community integration and low mood status [46] after one year of community living.
- Approximately 31 percent of participants reported working or not working but wanting to do so after one year of community living. Life satisfaction was higher among those working than (1) those not working but wanting to do so, and (2) those not working nor wanting to do so.
- After one year of community living, participants who worked for pay or were satisfied with their lives had the highest levels of community integration, whereas those with unmet special equipment needs or had any unmet personal care needs were the least integrated into their communities.

A. Background

The following key research questions guided the analyses presented in this chapter.

- Overall and for each target population, how do key aspects of MFP participants' experience change after a year of community living, and how does change vary by level of care needs? [47] MFP programs enroll participants with a wide variety of

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[46] Defined as feeling sad or "blue" in the past week.

[47] Pre-transition care needs are assessed for participants who transitioned from a nursing home and therefore had a pre-transition nursing home minimum data set (NF-MDS 2.0) assessment to identify care needs. A definition of residents with low-care needs was described

needs (Lipson and Williams 2011). We examine how participant-reported outcomes vary by pre-transition care needs.

- To what extent are MFP participants engaged in work after one year of community living, and what characteristics differentiate those who are working from those who are not working but want to? Working for pay post-transition represents one facet of community integration and inclusion. We examine the percentage of participants working for pay, the percentage not working but wanting to, and the percentage neither working nor wanting to do so. We then assess the characteristics that distinguish those who are interested in working from those who are not, and the factors associated with being successful in finding work.
- To what extent are measures of community involvement associated with access to personal care assistance and other community-based services and supports? Although MFP is designed to foster community integration and inclusion, some participants still report barriers to community integration post-transition. If community integration is linked to someone's need for personal care assistance, grantees who can ensure adequate access to personal care assistance may be able to improve participant-reported outcomes over grantees who struggle to meet the personal care needs of participants. The degree of community involvement for other survey indicators—work and volunteer status, life satisfaction, and mood status—provides further context for this inquiry.

1. Quality of Life Survey

Quality of life is measured using the MFP-Quality of Life (MFP-QoL) survey administered by grantees. The instrument is based largely on the Participant Experience Survey, although a few items are drawn from other instruments (Sloan and Irvin 2007). [48] The MFP-QoL instrument captures three areas of participant quality of life around which the findings in this chapter are organized: (1) life satisfaction, (2) quality of care, and (3) community life. Simon and Hodges (2011) previously addressed details concerning grantee responsibility for the survey and the timing of its administration relative to participant transition.

2. Analytic Data

The analytic sample for this report consists of 1,990 MFP participants. Each participant has a baseline survey that was conducted before the transition to the community and that matched to a one-year post-transition survey. (One-year follow-up surveys included only those conducted

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(continued)
by Mor et al. (2007), Ross et al. (2012) describe how this definition was operationalized for the MFP evaluation. We describe the definitions of medium and high care needs in the data section of this chapter. Precautions concerning the use and interpretation of these data—due to a limited amount of MF-MDS data—are also addressed.

[48] These include ASK ME!, Cash and Counseling, National Core Indicator Survey, Quality of Life Enjoyment and Satisfaction Questionnaire–Short Form, and Nursing Home Consumer Assessment of Health Plans Survey.

between 8 and 16 months after transitioning from a qualified institution.) [49] These data represent survey and administrative data—including demographic information and details concerning program participation—submitted to CMS through February 2012.

The analyses presented in this chapter are based on data from 23 MFP grantee states. [50] Data for six states (Connecticut, Missouri, Ohio, Oklahoma, Pennsylvania, and Texas) comprise nearly two-thirds of all participants included in the analytic sample.

Table VII.1 shows the analytic sample construction and the number of cases excluded because of (1) missing participant identifiers in the survey data, or (2) an inability to match administrative and survey data. Overall, the analytic sample represents about 10 percent of participants who transitioned to community living by March 31, 2011. [51] Several reasons may have contributed to the low rate at which records were matched for analysis. First, Medicaid identifiers in the quality-of-life data are not always recorded properly, and without accurate identifiers, these data cannot be linked to administrative data. [52] Second, some states had trouble submitting their data according to the schedule established for the evaluation, and such difficulties can affect the availability of either the quality-of-life data or the administrative data. Third, at program startup, the survey was not administered to many of the first MFP participants and some grantees lagged behind in establishing formal procedures for identifying and gaining access to participants before transitions; where possible, baseline surveys were later administered to participants who had already transitioned. Mathematica and CMS continue to work with grantees to improve the timeliness of data collection and submission and the quality of the Medicaid identifiers.

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49 Grantees are asked to administer the one-year follow-up survey approximately 11 months after transition; however extenuating circumstances, such as the administrative burden of coordinating and administrating the survey result in survey administration earlier or later than the target administration date.

50 Six grantees (Delaware, Indiana, Louisiana, Michigan, North Carolina, and North Dakota) submitted baseline and follow-up quality-of-life data. However, either their baseline and follow-up surveys could not be paired, or their paired baseline/follow-up surveys could not be matched with program participation data. Virginia has not submitted readable program participation data.

51 The enrollment records MFP grantees submit quarterly in the MFP program participation data file indicated that they had transitioned nearly 18,700 individuals.

52 For privacy concerns, CMS chose to keep identifiable data to a minimum on the MFP-QoL instrument. Therefore, Medicaid identifiers are the only method used to track participants in the quality-of-life data.

Table VII.1. Analytic Sample Construction

Number of Records	Description
2,722	Participants with baseline and one-year follow-up surveys submitted to CMS
2,306	Participants with baseline and one-year follow-up surveys who could be linked to program participation records
1,990	Participants with matched baseline and one-year follow-up surveys who could be linked to program participation records and had a follow-up assessment completed between 8 and 16 months after the baseline survey

Source: MFP Quality of Life surveys and program participation data submitted to CMS through February 2012.

Note: Excludes data from Delaware, Indiana, Louisiana, Michigan, North Carolina, North Dakota, and Virginia.

In addition to using MFP-QoL and administrative data, we included data from the NF-MDS 2.0 data for the subset of participants who transitioned from nursing homes and had nursing home stays of 180 or more days. We used these data to infer pre-transition level of care, using Resource Utilization Groups (RUG-III). [53] Low care nursing home residents are those who require no physical assistance in any late-loss activity of daily living (ADL), which includes bed mobility, transferring, toilet use, and eating.

Table VII.2 presents demographic characteristics of the analytic sample. About one of every three participants in the analytic sample (36 percent) was nonelderly with a physical disability, while nearly one in four (24 percent) was aged, and one in five (20 percent) had an intellectual disability. A very small percentage of participants (2 percent) transitioned from either an IMD or an institutional setting of unknown type, and nearly one of every five participants (19 percent) was missing data on type of qualified institution at the time of transition.

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[53] RUGs assignment is based on the anticipated time needed to provide care for an individual and on impairment level in ADLs, cognition, and mood, as well as receipt of therapy, special treatments, and the presence of selected clinical conditions.

Table VII.2. Sample Demographics

Characteristics	Number	Percentage
Total	1,990	100.0
Targeted Population		
Aged	472	23.7
PD	708	35.6
ID	404	20.3
Other	30	1.5
Unknown	376	18.9
Age Group		
< 21	49	2.5
21 to 44	358	18.0
45 to 64	828	41.6
65 to 74	272	13.7
75 to 84	178	8.9
> = 85	110	5.5
Missing	195	9.8
Sex		
Female	971	48.8
Male	1,018	51.2
Missing	1	0.1
Level of Care Need Pre-Transition		
Low	85	4.3
Medium	250	12.6
High	201	10.1
Missing	1,454	73.1
Reinstitutionalization Post-Transition		
Yes	150	7.5
No	1,840	92.5

Source: MFP Quality of Life surveys and program participation data submitted to CMS through February 2012.

Note: Excludes data from Delaware, Indiana, Louisiana, Michigan, North Carolina, North Dakota, and Virginia.

ID = Participants with intellectual disabilities who transitioned from an ICF-ID; PD = Participants with physical disabilities who transitioned from nursing homes.

About one-quarter (27 percent) of the sample transitioned from a nursing home and had an NF-MDS assessment, which could be used to compute pre-transition level of care. Our analysis of pre-transition care needs was limited to the subset of participants whose transitions occurred in 2008 and 2009. Therefore, our findings relying on this data should be considered preliminary.

Among participants with NF-MDS data, 16 percent were characterized as having low care needs, and nearly half (47 percent) were categorized as having medium level of care needs. This distribution is similar to prior studies of MFP participants' pre-transition level of care (Ross et al. 2012). Fewer than 1 in 10 participants (eight percent) were re-institutionalized within the first year after transition to the community.

B. Change in Quality of Life After Transition to Community Living

The MFP-QoL survey reflects the view that quality of life is multidimensional and a function of life satisfaction, quality of care received, and community integration. This section describes the differences in reported quality of life across several domains between the pre-transition period and the first year post-transition. We present results for each measure of quality of life for all respondents and by target population. Table VII.3 summarizes the magnitude of the percentage point change for each measure of quality of life except reported choice and control, which is a count of six elements over which the respondent has choice (results for this measure are reported separately in Table VII.4). Appendix Table C.1 displays the pre-transition and one-year post-transition results for all participants and by target population. All findings reported as significant were significant at $p < .01$.

Table VII.3. Percentage Point Change: Quality of Life Measures, by Target Population

Quality of Life Measures	All Participants	Aged	PD	ID	Other/ Unknown
Overall Life Satisfaction	++	+++	+++	+	+++
Mood Status	+	++	+	0	+
Satisfaction with Care	+	-	-	+	+
Access to Personal Care	+	++	++	+	+
Respect and Dignity	+++	++	+++	++	+++
Satisfaction with Living Arrangements	++++	+++++	+++++	++	+++++
Community Integration	++	++	++	+	++
Number of Observations	1,990	472	708	404	406

Source: MFP Quality of Life surveys and program participation data submitted to CMS through February 2012.

- indicates decline of fewer than 5 percentage points.
0 indicates no change.
+ indicates improvement up to 10 percentage points.
++ indicates improvement of 11–20 percentage points.
+++ indicates improvement of 21–30 percentage points.
++++ indicates improvement of 31–40 percentage points.
+++++ indicates improvement of more than 40 percentage points.

Note: Appendix Table C.1 provides absolute values for participant responses to each measure assessed at baseline and follow-up.

Excludes data from Delaware, Indiana, Louisiana, Michigan, North Carolina, North Dakota, and Virginia.

ID = Participants with intellectual disabilities who transitioned from an ICF-ID; PD = Participants with physical disabilities who transitioned from nursing homes.

1. Life Satisfaction

To assess the overall status of participant quality of life, the MFP-QoL survey instrument includes a question measuring life satisfaction, a key concern for MFP stakeholders. [54]

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[54] This question reads, “Taking everything into consideration, during the past week have you been happy or unhappy with the way you live your life?”

Compared to life satisfaction measured in institutional settings, more participants reported life satisfaction after one year in the community (80 percent post-transition versus 60 percent pre-transition). Among those unsatisfied with their lives pre-transition, three out of four (73 percent) reported satisfaction with their lives after transition. Improved life satisfaction was observed across each of the target populations.

When asked about mood status, the percentage of participants reporting feeling sad or blue decreased between assessments at pre-transition (44 percent) and post-transition (37 percent). Except for satisfaction with care—which was already high pre-transition and remained so post-transition—mood status exhibited the least change between pre- and post-transition living, improving only slightly for each target population except for those with intellectual disabilities (who remained essentially unchanged).

2. Quality of Care

Participants' rating of quality of care improved across all three assessed areas. Participant satisfaction with personal care was high pre-transition and remained so one year later (90 percent pre-transition, compared to 91 percent post-transition). [55] Satisfaction with care did decline slightly for two target populations: (1) aged participants (for whom reported satisfaction decreased from 89 to 87 percent) and (2) nonelderly participants with physical disabilities (for whom reported satisfaction decreased from 91 to 88 percent). In both cases, these differences were not significant. Among participants not satisfied with their care in institutional settings, four out of five (81 percent) reported being satisfied with care in the community.

In general, pre-transition access to care was high, but still exhibited some improvement after one year in the community. Pre-transition, 14 percent of participants reported one or more unmet care needs for personal assistance (with one or more of four ADLs for eating, bathing, toileting, and medication administration), compared to 5 percent post-transition. Gains were consistent across each of the target populations, except for participants with intellectual disabilities, among whom very few reported unmet care needs either before or one year after transitioning (with rates of three and two percent, respectively). Among participants who reported unmet care needs in institutional settings, 9 out of 10 (89 percent) no longer reported unmet needs after transitioning.

Reported treatment with respect and dignity by providers exhibited the largest improvements in the area of care quality. Before transitioning, only two of every three participants (68 percent) reported being treated the way they wanted and listened to carefully by people who helped them with their care needs. Post-transition, that rate increased to 9 of every 10 participants (90 percent). Although improvement was significant overall and by each of the target populations, the greatest percentage point gains occurred among the nonelderly with physical disabilities, of whom 61 percent reported treatment with respect and dignity pre-transition, compared to 90 percent post-transition.

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[55] To assess satisfaction with personal care, the survey asks: "Taking everything into consideration, during the past week, have you been happy or unhappy with the help you get with things around the house or getting around your community?"

3. Community Life

Among measures of MFP participant quality of life, none exhibited more improvement between pre- and post-transition assessments than reported satisfaction with one's living arrangement. Satisfaction with living arrangements among all participants increased nearly 40 percentage points (from 53 percent pre-transition to 93 percent post-transition). This increase was even more pronounced among nonelderly participants with physical disabilities, whose gain was more than 50 percentage points (from 42 to 93 percent). Participants with intellectual disabilities had a relatively higher initial rate of satisfaction with their living arrangements (76 percent), but the rate of satisfaction at one-year follow-up (94 percent) was comparable to that of other target populations.

The quality of life measure for barriers to community integration also exhibited improvement overall and by each target population. Pre-transition, nearly one in two participants (49 percent) reported an inability to do things outside the facility or home, whereas about one in three (36 percent) reported the same inability post-transition. The relative magnitude of percentage point improvement was comparable among target populations. At both time periods, nonelderly with physical disabilities reported the highest rate of barriers to community integration (61 percent pre-transition, 46 percent post-transition) compared to other target populations.

Reported areas of choice and control improved significantly overall and for each target population. [56] Pre-transition, participants reported having choice and control over an average of 3.6 areas (out of 6 areas), compared to an average of 4.9 areas post-transition. Table VII.4 illustrates the average number of areas of reported choice and control for all participants and by target population.

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[56] The MFP-QoL survey assesses six areas of choice and control: being able to go to bed when one desires, the ability to be alone when one chooses, the ability to eat food of one's choice and when one chooses, and the ability to use the telephone or watch television when one chooses.

Table VII.4. Average Number of Areas of Choice and Control Reported by MFP Participants, Pre-Transition and Post-Transition

	Reported Areas of Choice and Control	
Target Population	Pre-Transition	Post-Transition
All Participants (N = 1990)	3.6	4.9
Aged (N = 472)	3.8	4.7
PD (N = 708)	3.7	5.0
ID (N = 404)	3.3	4.6
Other/Unknown (N = 406)	3.6	5.2

Source: MFP Quality of Life surveys and program participation data submitted to CMS through February 2012.

Note: Reported choice and control accounts for six areas of autonomy: being able to go to bed when one desires, the ability to be alone when one chooses, the ability to eat food of one's choice and when one chooses, and the ability to use the telephone or watch television when one chooses.

Excludes data from Delaware, Indiana, Louisiana, Michigan, North Carolina, North Dakota, and Virginia.

ID = Participants with intellectual disabilities who transitioned from an ICF-ID; PD = Participants with physical disabilities who transitioned from nursing homes.

4. Relationship Between the Level of Care Need and Change in Quality of Life

A subgroup of the analytic sample had information on pre-transition level of care needs. Using data available for 536 participants (or 27 percent of the sample) we used a methodology described by Mor et al. (2007) and later adapted by Ross et al. (2012) to classify MFP participants into those with low, medium, and high pre-transition care needs. Level of care is primarily a function of ADL dependency; however, the hierarchy of care needs also takes into account use of special services (such as therapies) and clinical complexities. As Figure VII.1 shows, five of six measures of quality of life representing various domains exhibit a positive relationship between the level of care needs and quality of life improvement—that is, compared to participants with the lowest care needs, those with the highest care needs experienced the greatest percentage point gains in quality of life. Respect and dignity is the only domain that did not follow this pattern, as those with the lowest care needs saw the largest improvement. Due to the restricted sample sizes used for this analysis (85 participants with low care needs and 201 with high care needs), none of the six reported differences in means (between post-transition quality of life for those with low versus high level care needs) was significant. [57]

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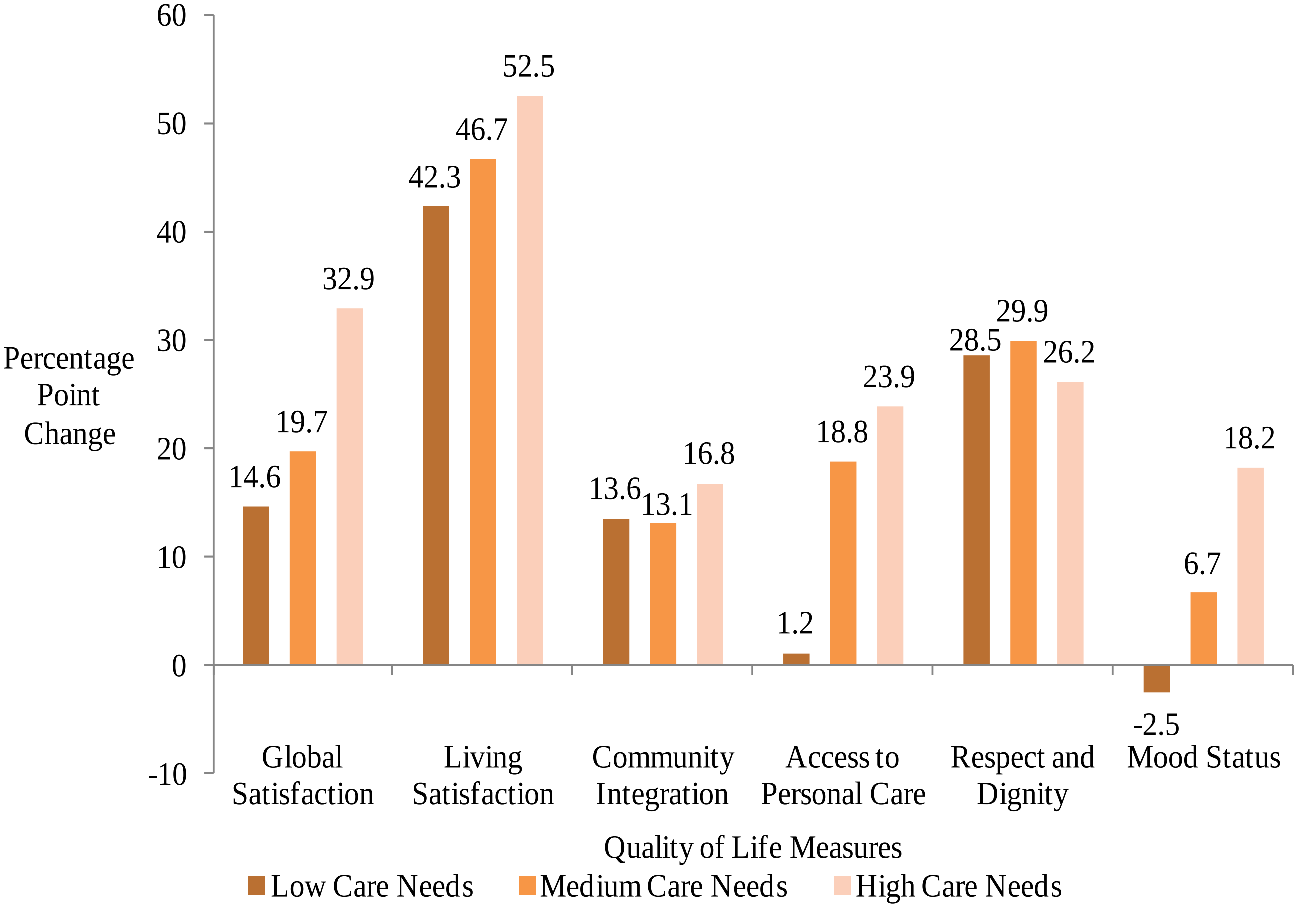
[57] Compared to the 6 out of 10 participants (59 percent) who are known to have transitioned from a nursing home, fewer than 3 out of 10 (27 percent) transitioned from a nursing home and

Figure VII.1. Magnitude of Change in Quality of Life Measures, by Level of Care Needs (Nursing Home Residents Only, N = 536)



Source: MFP Quality of Life surveys and program participation data submitted to CMS through February 2012.

Note: Each percentage point change reflects the difference between pre-transition and one-year post-transition results for each measure. Appendix Table C.2 provides these values for all participants and by level of care need.

(continued)
had a matching NF-MDS assessment to compute pre-transition level of care. We anticipate future analyses will include more complete data.

Post-transition outcomes across each of the three levels of care need were comparable. (Appendix C provides data on the pre-transition and one-year post-transition results for all participants by level of care need.) However, some measures exhibit notable differences. Compared to other nursing home participants with level of care data, those with the highest care needs were less likely to report being satisfied with life pre-transition (47 percent, compared to 59 percent among those with the lowest level of care needs). Improvement in mood status among those with the highest level of care needs was notable (an improvement of 18 percentage points, compared to a decline of 2 percentage points among those with the lowest care needs). Finally, satisfaction with care declined among all three levels of care needs: low (from 92 to 83 percent), medium (from 90 to 88 percent), and those with highest care needs (from 89 to 83 percent).

Participants with the highest level of care needs also exhibited the greatest gains in life satisfaction, which increased 33 percentage points, compared to 20 percentage points for those with medium care needs and 15 percentage points for those with low care needs. Although this group of 536 is a subset of participants in our analytic sample, the overall increase in life satisfaction across all levels of care is comparable to the improvement observed for the full sample.

C. Work Status and Its Association with Quality of Life After The Return to Community Living

Some participants, upon transitioning to community living, may opt to work. Others may have a desire to work but are currently not doing so. The MFP-QoL survey addresses both circumstances at the one-year follow-up.

About 1 in 10 participants (11 percent) reported working for pay after transitioning (see Table VII.5). In addition, one in five (20 percent) reported not working for pay but wanting to do so and one-half (52 percent) reported neither working for pay nor wanting to do so. [58] Although the percentage of participants working for pay or having an interest in paid work varied by target population, those with intellectual disabilities were nearly three times as likely to work for pay as any other group. Most of the aged and nonelderly with physical disabilities did not report working for pay (only 1 and 2 percent, respectively, reported working for pay); however, some expressed a desire to do so (13 percent of aged participants and 30 percent of nonelderly with physical disabilities). Those working for pay were younger than those not working but wanting to do so and those neither working nor wanting to do so (mean ages of 41, 52, and 60, respectively).

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[58] A subset of participants (17 percent) had missing responses for one or more questions on the MFP-QoL survey—either a missing response or refusal to respond—that limited the ability to accurately characterize work status. Excluding those with missing data, 14 percent of participants reported working for pay, while 24 percent reported not working but wanting to do so.

Table VII.5. Work Status at Follow-Up, by Target Population (Percentages Unless Noted Otherwise)

Targeted Population	N	Working for Pay (N = 223)	Not Working for Pay, Want to Work for Pay (N = 395)	Not Working for Pay, Not Interested (N = 1,031)	Missing Data or Refusal to Respond (N = 341)
Total	1,990	11.2	19.8	51.8	17.1
Aged	472	0.6	12.7	63.3	23.3
PD	708	2.3	29.9	45.8	22.0
ID	404	37.6	11.4	44.3	6.7
Other	30	3.3	26.7	56.7	13.3
Unknown	376	13.6	18.4	56.4	11.7

Source: MFP Quality of Life surveys and program participation data submitted to CMS through February 2012.

Note: Excludes data from Delaware, Indiana, Louisiana, Michigan, North Carolina, North Dakota, and Virginia.

ID = Participants with intellectual disabilities who transitioned from an ICF-ID; PD = Participants with physical disabilities who transitioned from nursing homes.

Employment not only suggests a higher level of community integration for MFP participants, but is also associated with high rates of life satisfaction. As data in Table VII.6 indicate, 86 percent of those working were satisfied with the way they were living their lives, compared to 76 percent among those who are not working but would like to do so.

Table VII.6. Paid Work Status and Association with Participant Experience at Follow-Up (Percentages Unless Noted Otherwise)

Element of Quality of Life	Working for Pay (N = 223)	Not Working for Pay, Want to Work for Pay (N = 395)	Not Working for Pay, Not Interested (N = 1,031)
Overall Life Satisfaction	86.4	75.9	82.1
Receives ADL Assistance	76.6	69.5	88.9
Any Unmet ADL Need	2.2	7.1	5.6
Does Not Receive Informal Support	81.1	58.2	55.6
Wants to Do Things Outside Home But Cannot	33.2	52.1	30.1
Cannot Get Places	2.3	4.9	6.5

Source: MFP Quality of Life surveys and program participation data submitted to CMS through February 2012.

Note: Excludes data from Delaware, Indiana, Louisiana, Michigan, North Carolina, North Dakota, and Virginia.

ADL=activities of daily living.

One plausible difference to help explain a participant's work status and desire to work is the relative barriers that disability poses for each group. When exploring whether such barriers exist, we found mixed results. Overall, participants who worked for pay were more likely to receive assistance with ADLs, had fewer unmet needs for ADL assistance, and were less likely to have informal supports than participants who were not working but wished to do so. This group was also more likely to be able to get around their communities and do the things they wanted to do than those who wanted to work. This pattern suggests that needing assistance with ADLs may not necessarily hinder someone's ability to work and that having needs for such assistance are surmountable, at least for some MFP participants. All these findings confirm what had been reported previously for a smaller representative sample (Irvin et al. 2011).

Compared to those working or at least wanting to do so, participants not interested in working were more likely to receive personal care assistance and informal supports. Aside from these issues—which, as described above, may not necessarily be barriers to working—this group was not demonstrably different. They were less satisfied with life in general and more likely to have unmet personal care needs than those working, but not when compared to those not working but wanting to do so. These results suggest that each group is unique in its own ways. Furthermore, the comparatively lower level of life satisfaction and higher rate of barriers to getting to needed places among those who do not work but wish to do so may warrant further exploration to establish whether MFP programs should do more to help interested participants find work.

D. Community Integration and Its Association with Personal Care Assistance After The Return to Community Living

As reported in Section B.3 above, about one-third of participants (36 percent) reported an inability to perform activities outside the home once they were living in the community. [59] This is a particularly important issue among participants with a physical disability, as nearly one-half (46 percent) reported such a barrier. To help foster a greater sense of participant community integration and inclusion, grantees may benefit from knowing—and potentially addressing—factors that may contribute to participants' inabilities to get out into the community when they want to. Here, we examine the relationship between community involvement and personal care assistance, because participants' needs for such assistance may adversely affect their ability to participate in the community. For added context, we examined the degree of community involvement for other survey indicators; work and volunteer status, life satisfaction, and mood status.

To establish a broad measure of community integration and inclusion, we created a count of five MFP-QoL survey questions explicitly linked to community involvement. [60] The integration summary score is the sum of participant endorsement for all five questions assessed after one year in the community. An integration summary of score of 5 represents high community integration, while a value of 0 represents low community integration. As Table VII.7 shows, the mean integration summary score for all participants was 3.7. Participants with intellectual disabilities had a higher mean integration summary score (4.1) than aged participants (3.6) or nonelderly participants with physical disabilities (3.4).

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[59] This question—which assesses barriers to community integration and inclusion—asks respondents, "Is there anything you want to do outside your home that you can't do now?"

[60] These questions are: (1) "Can you see your friends and family when you want to see them?" (2) "Can you get to the places you need to go, like work, shopping, or the doctor's office?" (3) "Do you go out to do fun things in your community?" (4) "Do you miss things or have to change plans because you don't have a way to get around easily?" and (5) Is there anything you want to do outside [the facility/your home] that you can't do now?"

Table VII.7. Indicators of Community Integration Post-Transition (Percentages Unless Noted Otherwise)

Community Integration Indicator	All Participants	Aged	PD	ID	Other/ Unknown
Can Do Fun Things in the Community	71.2	55.0	67.8	90.5	74.9
Able to See Friends and Family	86.9	89.4	86.7	82.7	88.8
Able to Get to Needed Places	93.7	91.6	92.1	98.4	94.0
Does Not Miss Events Due to Lack of Transportation	61.8	66.3	49.7	74.5	64.7
Able to Do Everything They Want to Do in the Community	62.3	64.4	52.7	73.2	66.2
Mean Integration Summary Score (sum of 5 items)	3.7	3.6	3.4	4.1	3.7

Source: MFP Quality of Life surveys and program participation data submitted to CMS through February 2012.

Note: Because of variation in participant responses to each item, the mean summary score for community integration will not always equal the sum of individual measures.

Excludes data from Delaware, Indiana, Louisiana, Michigan, North Carolina, North Dakota, and Virginia.

ID = Participants with intellectual disabilities who transitioned from an ICF-ID; PD = Participants with physical disabilities who transitioned from nursing homes.

The relationship between the integration summary score and post-transition measures of personal care assistance and other survey indicators revealed varying degrees of community inclusion, displayed in Table VII.8 in order of descending magnitude. After one year in the community, people who worked for pay and reported satisfaction with their lives had the highest rates of community integration (mean community integration scores of 4.0 and 3.9, respectively). Community integration was lowest for people who, after a year in the community, reported feeling sad or blue, had unmet special equipment needs, or unmet personal care needs (mean community integration scores of 3.2, 2.8, and 2.6, respectively).

Table VII.8. Community Integration Among Subgroups of MFP Participants

Elements of Quality of Life	N	Community Integration Index (mean)
All Respondents	1,866	3.7
Works for Pay	222	4.0*
Satisfied with Life	1,473	3.9*
Volunteers	154	3.7
Requires ADL Assistance	1,503	3.6
Receives Informal Support	641	3.5*
Feels Sad or Blue	687	3.2*
Has Unmet Special Equipment Needs	124	2.8*
Has Any Unmet Personal Care Need	96	2.6*

Source: MFP Quality of Life surveys and program participation data submitted to CMS through February 2012.

Note: The minimum possible value for the integration summary score is 0; the maximum possible value is 5, which indicates the highest level of community integration.

Excludes data from Delaware, Indiana, Louisiana, Michigan, North Carolina, North Dakota, and Virginia.

* Community integration index significantly different from those not endorsing the respective item, p <. 01 level.

E. Conclusions and Limitations

Our results confirm previous findings that the transition to the community under MFP is associated with broad-based improvements in quality of life. [61] Among the quality of life indicators examined, the largest gains over the one-year period between baseline (in an institutional setting) and one year follow-up were in satisfaction with living arrangements and being treated with respect and dignity. Overall, our sample of MFP participants reported neither an increase in unmet care needs nor a decrease in satisfaction with their care once they were living in the community.

For participants with available pre-transition assessments of level of care needs, data suggest that participation in MFP may offer the greatest benefit—in terms of improved quality of life—to those with highest care needs. However, given that these results are from a subset of the analytic sample, a broader representation of MFP participants is needed to establish more conclusive findings, as our results may not be representative of the overall population leaving nursing homes.

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[61] Future analyses will include results of surveys administered two years post-transition, and can substantiate whether enhanced quality of life persists.

A small segment of MFP participants (11 percent) reported working for pay, with a larger percentage (20 percent) not working but expressing interest. The percentage of participants working for pay is lower than what has been previously reported (Irvin et al. 2011), due in part to the shifting distribution of target populations, with the proportion having intellectual disabilities, for whom work is more common, decreasing relative to the other target populations. Nonelderly individuals with a physical disability comprised more than half of all those who were not working but wished to do so (54 percent, data not shown). Not surprisingly, MFP participants who worked for pay were more likely to report satisfaction with the way they lived their lives compared to those who wanted to work but were not doing so. Receipt of ADL assistance was common among working participants, indicating that ADL limitations need not make work impossible.

Analyses examining community integration of MFP participants revealed findings that suggest that lower levels of community integration are one implication of unmet care needs. Assessment of MFP participants' care needs is likely to be a linchpin for successful transitions. Taken together with our preliminary findings on pre-transition care needs and quality of life gains, assessing and addressing care needs appears to be one way MFP grantees are ensuring successful transitions.

Several important limitations apply to the data and analysis for the findings reported in this chapter. First, the findings should be viewed with caution because our analytic sample represents only a small portion of all people who had transitioned by 2011 (about 10 percent). The solution to this limitation is two-fold: (1) replicating these findings with larger, more representative samples; and (2) getting states to improve the quality of their data reporting. Both will contribute to enhancing the external validity of future findings.

Second, program administration will always vary by state, affecting the method, timing, and quality of survey administration. Each grantee has established a unique set of goals for transitioning target populations—such as which beneficiaries will be the focus of their program and how many in each target population will be transitioned—and other related objectives. When transition coordinators or case managers administer the survey, participants might feel compelled to emphasize reports of satisfaction or to conflate feelings of satisfaction with their living arrangement with feelings about the program. Although there is no evidence that this occurred, it cannot be ruled out as a bias in the data. Frequency of data collection may also be a concern, because the planned timing for the first year follow-up assessment (11 months) often is not attainable.

Third, in our findings to date, we have not controlled for a range of unmeasured program and individual-level factors that are likely to affect a participant's reported quality of life and changes to quality of life. Future analyses will explore how quality of life changes vary with participants' characteristics, as well as with program-level characteristics, such as model of caregiver employment and survey administration.

Finally, because the MFP-QoL survey can be administered with assistance or even by a proxy respondent, data reported may not always accurately capture the perceptions and experiences of participants. Proxy respondents and survey assisters provided information on community-based quality of life for 12 and 34 percent, respectively, of all participants. [62] The use of proxies also varied widely by target population; rates of proxy use were significantly higher among those with intellectual disabilities, where proxies completed 24 percent of all post-transition interviews. Proxy use was considerably lower among nursing home residents (four percent of those under 65 and nine percent of those 65 and older). Rates of survey assistance followed the same pattern as proxy use: highest among those with intellectual disabilities (57 percent) and lowest among younger nursing home residents (14 percent). Although proxy respondents and participants provided equivalent ratings of satisfaction for both administrations of the survey, some researchers question the validity of proxy responses for subjective questions, such as quality of life (Elliott et al. 2008). Future analyses could further explore the effect on our findings of using proxy respondents.

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[62] A proxy respondent is defined as someone who responds to survey questions on behalf of a participant. A survey assister is defined as someone who assists the participant in interpreting and providing responses to survey questions or serves as a proxy respondent.

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APPENDIX A

CHAPTER V METHODS

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CHAPTER V METHODS

A. Data Sources and Methods

1. Medicaid Analytic eXtract (MAX) Data and Selection of States

The primary data sources for the analysis are the 2005–2009 MAX and/or Beta-MAX data files for the 30 original MFP grantee states. [63] Of the 30 original grantee states, 21 had either MAX or Beta-MAX data available for these years. [64] Among the 21 grantee states with available MAX or Beta-MAX data, we excluded three (Kentucky, Ohio, and Virginia) from the analysis because of apparent data anomalies that introduced bias into our estimates. In each of these states, visual inspection of the data suggested data quality issues that would potentially undermine the validity of the analysis. In particular, all three states exhibited anomalous patterns in reinstitutionalization rates, which would suggest data quality issues in the MAX data for these states and years.

2. Identifying the MFP Eligible Population

Using the MAX data, we defined an individual as “MFP eligible” if he or she resided in an institution for 180 continuous days (or more). [65] Although the MFP program did not begin until 2008, we refer to all individuals with 180 days or more of institutional residency as MFP eligible.

3. Groups of Interest

Using information from MAX data, we divided the MFP eligible population into four mutually exclusive target subgroups: (1) the elderly, (2) individuals with physical disabilities, (3) individuals with intellectual disabilities, and (4) individuals with severe mental illness. We expect that the MFP program affects individuals in these target groups in different ways, as each group has unique needs.

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63 “Beta-MAX” data files are exactly like MAX files, except that they have gone through fewer validation checks than final MAX data. Beta-MAX data were only used when final MAX data were not available for a state in 2009.

64 The 20 states with available MAX 2009 data were: Arkansas, California, Connecticut, Delaware, Georgia, Iowa, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maryland, North Carolina, Nebraska, New Jersey, Ohio, Oregon, Pennsylvania, Texas, and Virginia. We used Beta-MAX for one state (Michigan) for 2009.

65 During this time period, MFP eligibility required a six-month stay in an institution. The Affordable Care Act decreased the required amount of time in the institution to 90 days, not including Medicare-covered skilled nursing days. For this chapter, we use the six-month requirement to flag individuals as being eligible for the MFP program in a given year

4. Identifying Transitions

We defined a transition as any instance in which an MFP eligible ended his or her institutional stay for more than 2 calendar months and also received home- and community based services (HCBS).

To identify MFP participants in the MAX data, we first used the 2008 and 2009 MFP program participation data files to identify MFP participants and their transition dates. To maintain consistency with data sources, we "flagged" MFP participants in the MAX data in the following way:

- For individuals who appear in the MFP program participation data files, we looked for evidence of the end of an institutional stay in MAX. If the transition date listed on in the MFP program participation data file fell within 32 days of the end of an institutional spell in MAX, then we retained that individual and coded him or her as a MFP participant.
- If we could not verify a MFP participant using the MAX data using this algorithm, then the person was not retained in the analysis. [66]

Finally, transitions identified in MAX data were not considered transitions if the person died within two calendar months of transitioning.

5. Characteristics of the MFP-Eligible Population

We used MAX data to determine demographic characteristics of MFP eligibles, including age, race/ethnicity, and gender. We used data from the NF-MDS to identify additional characteristics of members of the MFP-eligible population who resided in nursing homes. The RUG grouper was applied to the NF-MDS data and used to determine scores related to activities of daily living (ADLs), cognitive performance, and behavior problems. A "level of care" score (high, medium, low, or unknown level of care needed) was determined using a Mathematica-created algorithm that utilized RUG grouper categories. Both the MAX variables and NF-MDS characteristics were used in the regression models as control variables, when available.

6. Six-Month Post-Transition Outcomes

Among the group of transitioners in our analytic sample (which includes both MFP participants and non-MFP transitioners), we assign each individual to one of three mutually exclusive outcome categories: (1) reinstitutionalization within six months of transition, (2) death

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[66] This matching algorithm between the MFP files and the MAX data yielded a match rate of 90 percent. Therefore, 10 percent of individuals who are identified as MFP participants in the MFP program participation data files are excluded from the analysis because the MAX claims data cannot confirm their reported date of transition.

within six-months of transition, or (3) still in the community at six months post-transition. [67] Because of the six-month window, we restrict the post-transition outcome analysis to those transitions that occurred by June 30, 2009. In addition, because we rely on MAX data to flag outcomes, our analysis is also restricted to individuals who maintained Medicaid eligibility for the full six months following their transition.

Reinstitutionalizations

A transitioner is coded as becoming reinstitutionalized if we observe an institutional claim in MAX within 180 days of his or her transition date.

Mortality

MAX data include three sources of death dates. For individuals with dates of death available in more than one of these sources, we used the death dates in the following order: (1) the Social Security Administration (SSA) Death Master File, (2) the Medicare Enrollment Database (EDB), and (3) the Medicaid Statistical Information System (MSIS). The SSA data were only available for 2007 on. The EDB date of death is available for people dually eligible for Medicare and Medicaid. The MSIS date of death is considered to be the least reliable source of death dates among these three data sources. To ensure consistency and accuracy of the death date information, any analysis that modeled mortality as an outcome is limited to the dually eligible population, because this is the only group for which we had a reliable and stable source of death date information across all years of the study.

Still in Community (“Successful” Transitions)

If a person neither died nor returned an institution within six months of transition, then we code the person as being a “successful” transition. Note that if a person loses Medicaid eligibility after his or her transition, it is possible that he or she could return to an institution and we would not observe that readmission in the MAX data. Although this is a relative rare occurrence, we require a person to maintain Medicaid eligibility during the entire six month post-transition period to avoid potentially misclassifying that person as a successful transition.

B. REGRESSION METHODS

1. Introduction

The regression analyses are aimed at estimating the impact of the implementation of the MFP program on the number of people who transition from institutions to the community, as well as the effect of the program on post-transition outcomes. The approach relies on controlling for preexisting trends in transition rates and post-transition outcomes that were present in the years before the rollout of the MFP program in the 18 grantee states in the analysis. We test whether transition rates and post-transition outcomes change in the years when MFP was in place

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[67] A small number of transitioners become reinstitutionalized and then die with six months of their transition. In these cases, we assign them to the reinstitutionalized category, because that is the first outcome we observe for the person.

(2008 and 2009), controlling for the pre-MFP trend. We describe the regression methods and models here.

2. Probability of Transitioning to HCBS

- **Estimation sample.** We consider the MFP-eligible population from 2005 through 2009 from three target subgroups: (1) the elderly, (2) individuals with physical disabilities, and (3) individuals with intellectual disabilities. We estimate regression models separately for each target population.
- **Outcome of interest/dependent variable.** Probability of transitioning to HCBS in a calendar quarter. The dependent variable is an indicator variable that equals 1 if a person transitions to HCBS in quarter q (q = 1 for Q1-2005, 2 for Q2-2005, etc) and 0 otherwise. MFP participants are considered to have transitioned to HCBS.
- **Unit of analysis.** The unit of analysis is a person-quarter for each calendar quarter that a person is eligible for MFP. A person can be eligible for MFP across quarters. We treat each observation as a separate observation (no person fixed-effects), and cluster on the person-year level to adjust the standard errors.
- **Control variables.** We take control variables from the MAX data (age, race, and gender), and from the NF-MDS. NF-MDS control variables include measures of ADL assistance, level of care needs, cognitive functioning, presence of depression, presence of behavioral problems, and levels of patient pain. NF-MDS information is not available for people living in ICFs-ID, so the regressions for those with intellectual disabilities only included MAX control variables. We also include a squared term in age, quarter of year indicators to control for "seasonality" in transition rates, and the quarter in which the person became MFP-eligible (and its square).
- **Time trend.** We include a cubic time trend term for the elderly regression model, and a linear time trend term in each of the regression models for individuals with physical and intellectual disabilities. More details on the selection of the trend term appear below.
- **Variables of interest.** In addition to the time trend variable, we include an indicator variable for whether the observation is from 2008, and another indicator variable for whether the observation is from 2009. The coefficients on these two indicator variables represent the average change in quarterly transition rates in 2008 and 2009, respectively, holding constant the trend in transition rates during baseline (2005–2007).
- **Model specifications:**

  Specification for the elderly population:

  $$y_{it} = \beta_0 + \sum_{j=1}^{3} \beta_j \mathrm{Trend}^j + \gamma' X + \beta_3 i_{2008} + \beta_4 i_{2009} + \varepsilon_{it}$$

  Specification for individuals with physical or intellectual disabilities:

$$y_{it} = \beta_0 + \beta_1 \mathrm{Trend} + \gamma' X + \beta_2 i_{2008} + \beta_3 i_{2009} + \varepsilon_{it}$$

Each model also includes dummy variables for quarter of the year to control for "seasonality" in transition rates in any given year. [68]

- **Estimation.** We estimate the model using a probit specification, and cluster standard errors on the person-by-year level.
- **Choice of polynomial order in trend term.** For each target population, we began by estimating models with a linear trend term. Visual inspection of the data and trends supported the choice of the linear trend for individuals with physical disabilities and for individuals with intellectual disabilities. Among the elderly, however, the linear specification appears to overstate the counterfactual transition rate. Visual inspection of the data indicated that a cubic specification was appropriate.
- **Calculating Counts of Transitions.** The chapter displays both regression-adjusted counts of transitions and counterfactual counts of transitions: the difference between the two represents "new" transitions that occurred in 2008 and 2009. Here are the steps we took to calculate those counts:
    - Estimate the model within a target population.
    - Retain estimated coefficients.
    - Calculate predicted probability of transitioning to HCBS for each observation.
    - Set the 2008 and 2009 indicator dummies to 0 for all observations.
    - Use the retained coefficients on the transformed data to calculate predicted counterfactual probability of transitioning to HCBS.
    - Sum both sets of predicted values (observed and counterfactual) by year of eligibility.
    - Calculate the difference between these two counts.
    - Compute standard errors and confidence intervals using the bootstrap method.

3. Six-Month Post-Transition Outcomes

We consider three mutually exclusive post-transition outcomes in our regression analyses: (1) reinstitutionalization within six months of transition, (2) death within six months of transition, and (3) "still in community" at six months post-transition. Because death is a

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[68] There appears to be "seasonality" in the descriptive transition rates whereby transition rates are generally lower in the third and fourth quarters of any year, compared to the first and second quarters of that year. Part of this phenomenon could be data driven: because we link MAX data across years, we may lose follow-up for some individuals. Because we look forward from an observed end of spell of institutionalized care for (1) lack of any additional institutional claims and (2) HCBS utilization to determine a true transition, loss of follow-up could drive down transition rates in the second half of a year.

relatively rare event among transitioners with physical or intellectual disabilities, we do not model six-month mortality as a post-transition outcome for these populations. As with the transition analysis, we estimate regressions separately for each target population.

We consider all transitioners to HCBS (including MFP participants) with transition dates between January 1, 2005 and June 30, 2009. Because we are using a six-month window to look for outcomes, we cannot use transitions that occur in the second half of 2009 (the available MAX data ends December 31, 2009). Because we model mortality for the elderly but not for individuals with physical or intellectual disabilities, we make additional sample restrictions for the population of elderly transitioners; we describe these additional restrictions in more detail below.

The general framework of these analyses is similar to the one used to model transitions: we control for preexisting trends in the rates of post-transition outcomes and then test whether these rates changed in 2008 and 2009, after the implementation of the MFP program. In each model, a linear trend term appeared to best fit the data. Therefore, the general specification is given by:

$$y_{it} = \beta_0 + \beta_1 \mathrm{Trend} + \gamma' X + \beta_2 i_{2008} + \beta_3 i_{2009} + \varepsilon_i$$

The exact form of the dependent variable, the estimation approach, and the set of control variables depend on the target population being analyzed. We explain these details below.

Elderly Population

- **Outcome variable and estimation.** We assign each elderly transitioner into one of the three post-transition outcome categories. Therefore, the dependent variable in the estimating equation takes on the following values:

  $$yit = \begin{cases} 1 \text{ if still in community} \\ 2 \text{ if reinstitutionalized} \\ 3 \text{ if died} \end{cases}$$

  We then use a multinomial probit model to estimate the change in the probability of each outcome that occurred in 2008 and 2009, holding constant preexisting trends in rates of post-transition outcomes.

- **Sample restrictions and control variables.** The only reliable date of death information available for all years (2005–2009) is the EDB date of death, which is available for dually eligible individuals. Therefore, we limit the sample of elderly transitioners to the dually eligible. [69] We also use information from the NF-MDS as control variables in the regression. Therefore, our analytic sample of elderly transitioners is limited to the dually eligible who transitioned between January 1, 2005 and June 30, 2009 and have a valid NF-MDS assessment.

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[69] More than 97 percent of elderly transitioners are dually eligible, so this restriction does not omit many transitions from the analysis.

Individuals with Physical Disabilities

- **Outcome variable and estimation.** We estimate two probit models separately for individuals with physical disabilities. In one model, the outcome of interest is whether the person was readmitted to an institution within 180 days of his or her transition. In the other model, the outcome of interest is whether the person remained in the community for at least six months post-transition. We then use the estimated coefficients to test whether the rate of either outcome changed in 2008 or in 2009, given preexisting trends.
- **Sample restrictions and control variables.** As with the elderly regression, we use information from the NF-MDS as control variables in the regression for individuals with physical disabilities. Therefore, our analytic sample of transitioners with physical disabilities consists of people who transitioned between January 1, 2005 and June 30, 2009, and had a valid NF-MDS assessment.

Individuals with Intellectual Disabilities

- **Outcome variable and estimation.** We estimate two probit models separately for individuals with intellectual disabilities. In one model, the outcome of interest is whether the individual was readmitted to an institution within 180 days of his or her transition. In the other model, the outcome of interest is whether the person remained in the community for at least six months post-transition. We then use the estimated coefficients to test whether the rate of either outcome changed in 2008 or in 2009, given preexisting trends.
- **Sample restrictions and control variables.** Unlike the elderly and individuals with physical disabilities, individuals with intellectual disabilities are not administered a NF-MDS. Therefore, our analytic sample of transitioners with intellectual disabilities consists of individuals who transitioned between January 1, 2005, and June 30, 2009; there is no additional requirement that they have a NF-MDS assessment. We use control variables available from MAX (age, race, and gender) in these regressions.

APPENDIX B

CHAPTER VI METHODS

METHODS USED TO ASSESS POST-TRANSITION OUTCOMES AT THE PARTICIPANT LEVEL

The key methodological challenge in estimating the effects of program participation on health service utilization is approximating the counterfactual: the outcomes that would have happened in the absence of the program. Our proposed approach for doing so was to compare key outcomes of MFP participants in our two target populations of interest with outcomes of a comparison group made up of Medicaid beneficiaries who would have been eligible for MFP services and had demographic characteristics, patterns of health service use, health status, and level of care needs similar to those of MFP participants. We use non-parametric regression to construct a comparison group using a matching procedure commonly referred to as propensity score matching (Rosenbaum and Rubin 1983). Matching allows for an approximation of an experimental design by assuming that the decision to participate is random conditional on a set of observable characteristics.

A. Comparison Group Selection

To select individuals to serve as MFP participants’ counterfactuals, we implemented the matching process in three steps: [70]

1. **Estimate the propensity score.** We estimated a model of the probability of transitioning from an institution to the community using MFP services. We did so separately for each of our two target populations, using MFP participants and all potential comparison group members. After estimating each propensity score, we test the model’s balance by assessing whether the distribution for each of variables used in the matching process is the same for both the MFP participants and the potential comparison group members. If a comparison group did not pass the balancing test, we re-specified the probability model and reselected the comparison group until we obtained a group that passed.
2. **Select the single nearest neighbor (with replacement).** Using the results from the above models, for each participant we select the potential comparison group member with the closest absolute propensity score to serve as their counterfactual. To minimize potential bias in our estimates, the matching process is conducted with replacement, so potential comparison group members can form the counterfactual for more than one participant. [71]

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[70] The propensity score estimation, matching, and testing algorithms were implemented using Stata’s pscore (Becker and Ichino (Stata Journal 2: 358–377)), and Leuven and Sianesi’s (2003) psmatch2 and ptest routines.

[71] Matching with replacement potentially leads to a single control group member matching to more than one treatment member. In the elderly group, 82.5 percent of control group members (505 observations) matched to a single treatment member. Among people with physical disabilities, 78 percent (550 observations) matched to a single treatment member.

3. Determine bias reduction after matching. To determine the quality of our matches, we compared the means and standardized bias of the matching variables for the MFP participants to those of all members of the potential comparison group and then to the matched members. Statistically insignificant differences in the means and a reduction in absolute bias suggest that our matching produced a reasonable comparison group, given our set of covariates.

Using matching to select a comparison group will produce unbiased estimates if two assumptions are met: (1) the set of observable characteristics used in the matching procedure includes all the factors that are related to both participation and the outcomes and (2) participants and comparison group members are "balanced" on observable characteristics conditional on their propensity score–that is, for each participant, there needs to be matched comparison group member(s) similar to the participant on observed characteristics (Rosenbaum and Rubin 1985). To help increase the likelihood that the former condition was met, we included in our matching process measures from the following domains: (1) service utilization in the year prior to transition, (2) presence of severe medical conditions, (3) demographics, and (4) health status and level of need measured prior to transition. To determine whether the latter condition was met, we performed several statistical tests to assess the quality of our matches.

Characteristics Used in the Matching Process

The demographic characteristics used in the matching process are age at transition, sex, race, rural status, and for people with physical disabilities, dual eligibility. We also included an indicator for whether the person was in the institution for less than one year prior to transitioning as measured using Medicaid long-term care claims data.

Measures of service utilization, such as inpatient hospitalizations, reflect the type of care received in the year before transition. We use Medicare and Medicaid claims to construct measures of service use by type of service (inpatient hospital, ED visits resulting in inpatient hospitalization, ED visits not resulting in a hospitalization, and physician visits in an ambulatory setting). Because the same service could appear in both Medicare and Medicaid claims for dually eligible beneficiaries, we included unique encounters as defined by non-overlapping dates of service.

To account for the presence of individuals' medical conditions, we adapted the Chronic Illness and Disability Payment System (CDPS) software developed by researchers at the University of California, San Diego, to construct indicators of conditions relevant to our study population. [72] The CDPS is a hierarchical diagnostic classification system developed to describe the severity of illness among Medicaid beneficiaries (Kronick et al. 2000). Using ICD-9 diagnosis codes, the CDPS constructs major categories based on body systems (such as cardiovascular), or condition (such as diabetes). Each category is then stratified by level of severity. We included the total count of conditions and a flag for whether the individual had at least one severe condition.

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[72] We excluded conditions not relevant to our population (such as low birth weight).

Finally, we constructed measures (Appendix Table B.1) that captured an individual's health status and level of care need, using the most recently completed NF-MDS assessment before a beneficiary's transition to the community.

Appendix Table B.1. Description of Health Status and Level of Care Measures Derived from NF-MDS Data

Measure	Description
Level of Care	Three level (low, medium, and high) measure based on the 44 groups constructed by the CMS RUG-III grouper.
Physical Functioning Scale	Summary measure capturing a beneficiary's ability to perform the following ADLs independently: personal hygiene, locomotion, toilet use, eating, dressing, bed mobility and transferring. The measure ranges from 0 to 28 with lower scores representing greater independence.
Cognitive Performance Scale	Summary measure that combines information on memory impairment, level of consciousness, and executive function, with scores ranging from 0 (intact) to 6 (very severe impairment).
Pain Level Scale	Four level measure capturing the frequency and intensity of pain to a pain level scale from 0 (no pain) to 3 (intense and frequent pain).
Depression Rating Scale	Summary measure that can be used to screen for depression. The measure contains seven items and is on a scale from 0 to 14 with higher scores representing more severe depression
Behavioral Problems Measures	Five measures that indicate whether a beneficiary demonstrated the following behaviors: wandering, verbal abuse, physical abuse, socially inappropriate/disruptive behaviors, and resistance to care.

Assessing the Matching Quality

Following Caliendo and Kopeinig (2008), we examined the propensity scores, as well as the means, standardized bias, [73] and joint significance of the variables used in the matching process. We found that our matching models produced matches that looked similar across the characteristics included in the model, as well as across a larger set of characteristics, and the differences in the propensity score between the MFP participant and matched comparison group members were small (Appendix Table B.2).

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[73] The difference of sample means in the treated and matched control subsamples as a percentage of the square root of the average of sample variances in both groups (Rosenbaum and Rubin [1985]).

Appendix Table B.2. Differences in Propensity Score, by Target Group

Sample	Mean	Median	Standard Deviation	Min	Max
Difference in propensity score for the elderly	0.000834	0.000102	0.005062	0	0.077442
Difference in propensity score for those with physical disabilities	0.000393	0.000087	0.001552	0	0.030976

Second, we verified that the matching procedure produced few differences in the mean values between the control and treatment groups for the observed variables. To do so, for each of the five matching procedures, we compare the means after conditioning on the propensity score to see if there were any statistically significant differences between the treatment and matched comparison group in any of the covariates used in the matching procedure. Overall, few significant differences remained between the treatment and matched comparison group after matching. After matching, we find significant differences ($p < 0.05$) across the two groups in cognitive performance (elderly, other states and PD, other states), gender (elderly, Texas), and age at transition (PD, Texas). No significant post-matching differences remain in the Texas elderly group.

Third, we found that our models successfully reduced the overall differences in means between the two groups, as measured by the standardized bias, in each of the five matching models.

Finally, we conducted a likelihood ratio test on the joint significance of all characteristics included in the model. We found the differences between participants and the potential comparison pool to be statistically significant before matching, but the differences between participants and the matched comparison cases were small and not statistically significant (Appendix Table B.3).

Appendix Table B.3. Joint Significance Test

Sample	Unmatched		Matched	
	LR chi2	p-value	LR chi2	p-value
Elderly				
Michigan Only	305.24	0.000	22.13	0.682
Texas Only	63.84	0.000	22.47	0.713
Other 11 States	725.76	0.000	33.59	0.630
People with Physical Disabilities				
Texas Only	49.32	0.008	25.82	0.583
Other 12 States	535.82	0.000	39.93	0.428

APPENDIX C

DETAILED QUALITY OF LIFE DATA TABLES

Appendix Table C.1. Quality of Life Measures by Target Populations, Pre- and Post-Transition (a)

	All Participants (N = 1,990)			Aged (N = 472)			PD (N = 708)			ID (N = 404)		
Measure	Pre	Post		Pre	Post		Pre	Post		Pre	Post	
Global life satisfaction	60.4	80.4	*	56.5	81.0	*	55.9	78.5	*	76.8	84.1	
Satisfaction with care	89.7	90.8		88.8	86.7		91.0	88.4		91.9	95.1	
Unmet personal care needs	13.8	4.8	*	15.9	4.4	*	20.2	6.8	*	2.7	2.2	
Respect and dignity	68.0	89.8	*	71.4	90.9	*	61.4	89.9	*	76.7	89.4	*
Satisfaction with living arrangements	53.3	93.1	*	50.7	93.7	*	42.4	92.6	*	75.9	94.2	*
Barriers to community integration	49.4	35.5	*	49.5	34.1	*	60.5	46.0	*	31.3	23.8	*
Choice and control[a]	3.6	4.9	*	3.8	4.7	*	3.7	5.0	*	3.3	4.6	*
Sad mood	43.9	37.2	*	46.8	32.9	*	51.6	44.7		28.8	28.7	

Source: Mathematica analysis of linked MFP-QoL surveys and MFP program participation data submitted through December 2011.

* Results significant at the p < .01 level.

Note: Excludes data from Delaware, Indiana, Louisiana, Michigan, North Carolina, North Dakota, and Virginia.

(a) All measures are expressed in percentages except for reported choice and control, which accounts for up to six areas of autonomy: being able to go to bed when one desires, the ability to be alone when one chooses, the ability to eat food of one's choice and when one chooses, and the ability to use the telephone or watch television when one chooses.

ID = Participants with intellectual disabilities who transitioned from an ICF-ID; PD = Participants with physical disabilities who transitioned from nursing homes.

Appendix Table C.2. Quality of Life Measures by Level of Care Need, Pre- and Post-Transition (a)

	All Participants (N = 1,990)			Low (N = 85)			Medium (N = 250)			High (N = 201)		
Measure	Pre	Post		Pre	Post		Pre	Post		Pre	Post	
Global life satisfaction	60.4	80.4	*	59.0	73.7		53.1	72.8	*	47.2	80.1	*
Satisfaction with care	89.7	90.8		92.3	82.7		89.3	97.6		88.5	83.3	
Unmet personal care needs	13.8	4.8	*	7.1	5.9		26.4	7.6	*	28.9	5.0	*
Respect and dignity	68.0	89.8	*	58.6	87.1	*	59.8	89.8	*	61.3	87.5	*
Satisfaction with living arrangements	53.3	93.1	*	48.6	90.9	*	46.2	92.9	*	44.4	96.9	*
Barriers to community integration	49.4	35.5	*	53.6	40.0		55.3	42.2	*	54.8	38.0	*
Choice and control (a)	3.6	4.9	*	3.9	5.0	*	3.6	5.1	*	3.5	4.5	*
Sad mood	43.9	37.2	*	41.0	43.4		50.0	43.3		54.1	35.8	

Source: Mathematica analysis of linked MFP-QoL surveys and MFP program participation data submitted through December 2011.

* Results significant at the p < .01 level.

Note: Excludes data from Delaware, Indiana, Louisiana, Michigan, North Carolina, North Dakota, and Virginia.

(a) All measures are expressed in percentages except for reported choice and control, which accounts for up to six areas of autonomy: being able to go to bed when one desires, the ability to be alone when one chooses, the ability to eat food of one's choice and when one chooses, and the ability to use the telephone or watch television when one chooses.

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