

# REPORT

FINAL REPORT

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## **Money Follows the Person 2015 Annual Evaluation Report**

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May 11, 2017

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Contract Number: HHSM-500-2010-000261/HHSM-500-T0010

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## **ACKNOWLEDGEMENTS**

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This research was conducted by Mathematica Policy Research under contract with the Centers for Medicare & Medicaid Services (HHSM-500-2010-000261/HHSM-500-T0010). The authors wish to thank Dr. Effie George for her guidance and input. We also thank Bob Schmitz for providing extremely useful comments on an earlier draft that strengthened and improved the final version and Randy Brown for his guidance on the approach to measure cost and utilization outcomes. We appreciate all the help provided by Mathematica’s editing staff, and Sharon Clark, Abigail Mosca, and Molly McGlone, who helped with the production of the report. This work would not be possible without the assistance of the Money Follows the Person (MFP) grantees. We rely on their diligence in preparing their semiannual progress reports and quarterly data files. Without the information they provide and their dedication to ensuring high quality information, we would not be able to evaluate this demonstration in such detail. We thank the MFP grantees for their hard work serving Medicaid enrollees who need long-term services and supports. Finally, we acknowledge the resolve and determination of the over 63,000 individuals and the people that supported their transition to the community.

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## EXECUTIVE SUMMARY

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The national Money Follows the Person (MFP) rebalancing demonstration continues to grow; the 11,661 MFP transitions during calendar year 2015 marked the largest annual number transitioned since the inception of the demonstration and represented 97 percent of the number grantees targeted for the year. Cumulative MFP enrollment increased to 63,337 transitions by the end of December 2015, a 23-percentage-point increase over the total number at the same point in 2014. The national evaluation has continued to assess demonstration outcomes, but for the first time has estimated cost savings associated with the demonstration. Estimates indicate that the transitions through the end of 2013 (the sixth year of MFP transitions) generated health care cost savings in the range of \$204 to \$978 million depending on the number of transitions that can be attributed to the MFP demonstration. In addition, consistently throughout the demonstration, MFP participants have reported significant improvement in the quality of their lives while state grantees have benefited from the flexibility afforded by the grant funding to develop transition programs, expand community-based LTSS offerings, design new services, and remove programmatic barriers to transition.

This report is the seventh in a series of annual reports that Mathematica Policy Research is producing for the national evaluation of the MFP demonstration funded by the Centers for Medicare & Medicaid Services (CMS) (CMS Contract Number HHSM-500-2010-00026I/HHSM-500-T0010). It provides basic information about the program, how it grew and changed since transitions began in 2007. It also presents estimates of program outcomes and provides the underlying information needed for a report to congress.

### **MFP transition programs**

Since 2012, MFP grantees have been transitioning over 10,000 beneficiaries each year, or about 1 percent of the eligible population and as the volume of MFP transitions has increased the estimated size of the MFP-eligible population has decreased slightly. The estimate of the demonstration's penetration into the eligible population assumes that everyone who met MFP's length-of-stay requirement could transition to an eligible community setting, which may be unrealistic if some beneficiaries do not want to transition to community services or some communities do not have the resources (such as, a sufficient number of community-based LTSS, providers, or affordable and accessible housing) to serve long-term institutional residents.

Nevertheless, this volume of transitions reflects the demonstration's level of funding. The \$4 billion allotment for MFP, although significant in its amount, will eventually be spread over 14 years (covering all demonstration costs, including start-up costs, from 2007 through 2020, the last year grantees can expend their grant funds). In addition, between 2008 and 2014, MFP expenditures across the grantee states represented less than 0.5 percent of total expenditures these states spent on community-based LTSS. This percentage would be much smaller if we also factored in state expenditures for institutional care.

Analyses of transition rates in 17 states that started to receive MFP grant funding in 2007 indicate that MFP is associated with higher rates of transition than what we would have predicted among older adults residing in nursing homes and beneficiaries residing in intermediate care facilities for individuals with intellectual disabilities. Among older adults, the overall transition

rate was on a downward trend before the MFP demonstration began and we predicted that the downward trend would continue after the MFP demonstration. Estimates suggest that the decline would have been steeper if not for the MFP demonstration and that the MFP demonstration appears to have moderated the downward trend in transitions observed in this population. We estimate that among older adults residing long-term in nursing homes, about 25 percent of transitions in the most recent years can be attributed to MFP, representing people who would not have transitioned had MFP not been implemented. Similarly, the transition rates among people with intellectual disabilities were higher than what we would have expected in most quarters after the implementation of MFP and we estimate that about 50 percent of new transitions in this population can be attributed to MFP during periods when the number of transitions surged.

The evaluation does not find an association between the MFP demonstration and a change in transition rates for either younger adults residing in nursing homes and beneficiaries with severe mental illness who transition from long-term psychiatric facilities. Similar to the trends over time for older adults in nursing homes, the transition rates for younger adults with physical disabilities in nursing homes also declined during the years analyzed. Transition rates in post-MFP quarters for this target group were slightly lower but very similar to what we would have predicted given pre-MFP trends. These results suggest that, among people with physical disabilities, the launch of MFP did not affect transition rates in the post-MFP period, which is contrary to what was reported in the 2014 annual evaluation report for the national demonstration (Irvin et al. 2015). An inability to replicate earlier findings suggests results are sensitive to the states included in the analysis and the methodology used and cannot be considered conclusive.

### **Expenditures on community-based LTSS**

In addition to operating a transition program, every MFP grantee state also operates a rebalancing program with the purpose of shifting the focus of state Medicaid programs from institutional to community-based LTSS. The federal statute that created the MFP demonstration requires that grantee states track and report their total community-based LTSS expenditures each year. The 44 grantee states that actively transitioned participants during 2015 showed continued growth in total community-based LTSS expenditures, with grantees reporting \$74.5 billion in such expenditures for the year. This level of spending represents a 3 percent increase over 2014 (\$72.4 billion), and an 8 percent increase over 2013 (\$69.2 billion).

Grantee states have also accelerated spending of their MFP rebalancing funds, the enhanced matching funds they receive for most community-based LTSS they provide to MFP participants during the first year of community living (the first 365 days after the date of transition). MFP rebalancing fund expenditures have continued to increase since the demonstration was launched. Total spending grew to almost \$240 million by the end of 2014, a 114 percent increase from 2013, when 22 MFP grantee states reported spending \$112 million. Among the MFP grantees that reported rebalancing fund expenditures, state spending through 2014 ranged from \$3,750 in Vermont to \$54.5 million in Michigan. Grantee states use their MFP rebalancing funds to finance additional community-based LTSS, including additional slots in 1915(c) waiver programs; enhance their transition and housing supports services; and finance staff trainings, outreach activities, assessment tools, and information system upgrades.



## Cost savings associated with the MFP demonstration

Among MFP participants, the transition to community living appears to save health care costs.<sup>1</sup> On average, monthly per beneficiary expenditures declined by \$1,840 among older adults transitioning from nursing homes, which translates to average health care costs savings of \$22,080 during the first year someone transitions to community-based LTSS (see Table ES.1). Similarly, the monthly expenditures for younger adults with physical disabilities declines on average by \$1,783 per beneficiary, which represents total health care cost savings during the first year after the transition to the community of \$21,396 per beneficiary. For the population with intellectual disabilities, we estimate a decline in monthly expenditures of \$4,013 per beneficiary, or total savings of \$48,156 for each person for the first year after the transition.

**Table ES.1. Per-beneficiary, per-month total Medicaid and Medicare expenditures pre- and post-transition to community services, by target population**

Period	Older adults	Younger adults with physical disabilities	Individuals with intellectual disabilities
Pre-transition expenditures	\$8,079	\$7,759	\$13,469
Post-transition expenditures	\$6,239	\$5,976	\$9,456
Change in expenditures	\$1,840	\$1,783	\$4,013

NOTE: Cost estimates were not created for individuals who transitioned from psychiatric facilities because of small sample size issues.

Combining all three population groups, we estimate that MFP participants transitioned through 2013 generated approximately \$978 million in cost savings (or about \$27,000 per person) during the first year after the transition to community-based LTSS. This estimate assumes that MFP participants would have maintained their pre-transition level of spending.<sup>2</sup> When broken out into Medicaid and Medicare costs and savings, we find \$1,003 million in cost savings for Medicaid, but \$25 million in additional costs for Medicare. Medicare costs increase because of increased Medicare enrollment over time as some participants age into Medicare coverage or beneficiaries of the Social Security Disability Insurance program complete their two-year waiting period. This upper bound estimate on total cost savings is based on beneficiaries who elected to enroll in MFP because they wanted assistance returning to the community, however, even conservative estimates would include significant cost savings.

The decline in expenditures that occurs when an MFP participant transitions from institutional care to community-based LTSS is not unique to this group of Medicaid beneficiaries. When other Medicaid beneficiaries experience the same transition, their Medicaid and Medicare expenditures also decline in the same way. MFP participants have higher Medicaid costs after the transition compared to other transitioners, primarily because of the additional transition services they receive. Given the cost savings that occur when a Medicaid beneficiary transitions from institutional care to community-based LTSS are not unique to the MFP

<sup>1</sup> Per-beneficiary cost savings are based on those with available data, but the number of MFP participants used to assess total cost savings use all MFP participants regardless of data availability.

<sup>2</sup> In a sample of Medicaid beneficiaries with 24 continuous months of institutional LTSS use between 2006 and 2011, expenditures increased by 3.8 percent per year on average.

demonstration, it is possible the MFP demonstration will only generate additional cost savings above what would have occurred without the demonstration if MFP increases transition rates and helps people move who would not have otherwise done so. If 25 percent of older adults and 50 percent of individuals with intellectual disabilities would not have transitioned without the MFP demonstration, then the lower bound estimate of the additional savings the MFP demonstration generated is \$249 million. Through this analytical approach, the MFP demonstration can be credited for generating these additional savings because they would not have occurred if this demonstration had not been implemented. These estimates should be considered conservative because they represent cost savings only after the first year of the program and they do not incorporate the compounded cost savings that occur when someone remains in the community longer than a year.

These cost savings estimates do not account for administrative costs of running an MFP demonstration. We do not have estimates of the administrative costs associated with monitoring a Medicaid beneficiary in institutional care, and it would be inappropriate, therefore, to adjust for the costs of operating an MFP demonstration. MFP administrative costs include salaries for paid staff, such as a full-time project director and transition coordinators and housing specialists in some states; outreach and education activities and materials; upgrades to information systems; and establishment and maintenance of critical incident reporting systems. MFP administrative expenditures vary from state to state, but using budget worksheets that MFP grantees submitted to CMS, we estimate that administrative costs were about 14 percent of the costs for the community-based LTSS provided to MFP participants during the first year after the transition. That is, for every dollar spent on community-based LTSS for MFP participants, grantee states spent about \$0.14 administering the demonstration.<sup>3</sup>

### **Changes in the post-transition quality of life of MFP participants**

The national evaluation of the MFP demonstration continues to find notable improvements in the post-transition quality of life of MFP participants. These improvements were reported across all target groups and were largely sustained two years later, suggesting that participants experience a higher quality of life in the community than they do in institutional settings, and that this improvement persists one year after participants exit the demonstration. Of all domains assessed, the largest improvement was in satisfaction with living arrangements; nearly all participants (92 percent) reported satisfaction with where they lived after one year in the community, compared to 62 percent reporting liking where they lived while in the institution (pre-transition). Participants also reported large improvements in community integration, overall life satisfaction, and being treated with respect and dignity.

The personal care needs (bathing, meals, medications, and toileting) of MFP participants are met at significantly higher levels in the community than in institutional settings. Before moving to the community, 18 percent of participants reported at least one unmet need for personal assistance services in the four care areas assessed by the survey. One year after transitioning,

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<sup>3</sup> This estimate did not include the reimbursement state grantees received for each completed MFP quality-of-life survey submitted.

only 8 percent reported an unmet need for these services. These data suggest that MFP is successfully ensuring that participants are able to access the care they need in the community.

The finding that personal care needs were met at a higher level in the community was true across MFP participants with a wide variety of care needs; for each of the most common diagnoses among MFP participants, levels of unmet needs for personal assistance services declined between pre-transition and one-year post-transition. This decline suggests that MFP services are successfully reaching all participants, regardless of care needs or conditions.

## **Conclusions**

The MFP rebalancing demonstration continued to grow in calendar year 2015, the eighth year since the first states began transitioning Medicaid beneficiaries from institutional care to community-based LTSS. The demonstration was still experiencing year-over-year increases in the volume of transitions and grantee states continued to increase their spending on community-based LTSS. In addition, grantee states aggressively increased their spending of MFP rebalancing funds between 2013 and 2014, the most recent year of data available. In 2014, grantee states reported spending \$240 million in MFP rebalancing funds; more than double what they spent in 2013 (\$112 million).

The national evaluation of MFP estimated important health care cost savings attributable to the MFP demonstration, as well as to transitions to community-based LTSS more generally. The evaluation continued to have difficulties detecting improvements in many outcomes that are measurable with Medicaid and Medicare enrollment and claims records. The most recent empirical analyses based on data from 17 grantee states suggest that MFP is associated with higher rates of transition among older adults and individuals with intellectual disabilities and that approximately 25 percent of older adult MFP participants and 50 percent of MFP participants with intellectual disabilities would not have transitioned if MFP had not been implemented. Earlier evaluation results suggested that MFP was associated with an increase in transition rates among people with physical disabilities residing in nursing homes (Irvin et al. 2015). However, these particular results were not replicable when the sample of grantee states in the analysis and the estimation methodology changed and suggest that the analyses of transition rates are still not robust and the results cannot be considered conclusive. It is important to note that overall grantee spending on community-based LTSS for MFP participants was \$1.2 billion during the period used for the estimates of cost savings, which suggest these were important savings regardless of the comparison to either the lower or upper bound estimates.

Descriptive analyses suggest that MFP participants that volunteer to enroll in this demonstration are a select group. MFP participants transitioning from nursing homes tend to have lower care needs when compared to the entire nursing home population eligible for MFP. However, nearly 70 percent of MFP participants who transitioned had moderate to severe care needs and between 30 and 50 percent, depending on the population, were identified as people with moderate to severe cognitive limitations. The ability to help beneficiaries with low care needs who can easily be served in the community live in a more appropriate or preferred setting is an important achievement of the demonstration. Similarly, the ability to serve beneficiaries with significant care needs in a community setting indicates that some communities have the capacity to support individuals with high care needs.

When working to identify a comparison group—a group of Medicaid beneficiaries who also transitioned from institutional care to community-based LTSS, but did not participate in the MFP demonstration—we noted important differences between MFP participants and these other transitioners. MFP participants appear to have longer institutional stays before the transition, are less likely to use hospice services near the time of transition, and are less likely to have previous experience with community-based LTSS compared to others who also transitioned. This descriptive evidence suggests that grantee states may be disproportionately helping beneficiaries who have fewer connections to community services than others; which suggests that exposure to living in the community with supports—such as what a diversion program might provide—may influence the likelihood of returning to the community when a stay in an institution is necessary. A program like the MFP demonstration can then specialize in helping beneficiaries who have little or no prior experience with community-based LTSS and who may find it very difficult to relocate to the community without the support of a formal transition program.

### **Study limitations**

As with any program evaluation, the national evaluation of the MFP rebalancing demonstration has faced several limitations and all results need to be interpreted with these constraints in mind. For example, the analysis of older adults who transition to community-based LTSS suggests their mortality rate was higher after the MFP demonstration started than what we would have predicted, but the analysis did not fully control for key factors such as receipt of hospice care. More research is required to better understand this and other issues explored in the national evaluation. The limitations range from concerns about the attribution of program impact to difficulties developing creditable comparison groups. The MFP demonstration has also operated during a very dynamic period for state LTSS systems and several factors external to the MFP demonstration likely affected the outcomes analyzed; including the great recession that had important effects on state budgets and Medicaid programs, and the Affordable Care Act of 2010, which provided new opportunities for states to expand and enhance their LTSS systems. Nevertheless, the volume of MFP transitions and spending on community-based LTSS have continued to grow and demonstration outcomes appear to be positive or heading in the desired direction overall.

## **I. INTRODUCTION AND BACKGROUND**

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The national Money Follows the Person (MFP) rebalancing demonstration continues to grow: the 11,661 MFP transitions during calendar year 2015 marked the largest annual number transitioned since the inception of the demonstration. Cumulative MFP enrollment increased to more than 63,000 transitions by the end of December 2015, a 23-percentage-point increase over the total number at the same point in 2014. As of December 31, 2015, the Centers for Medicare & Medicaid Services (CMS) had awarded 47 MFP demonstration grants; Florida and New Mexico received MFP grants in 2011 but rescinded them in 2012. Oregon, one of the original grantees, withdrew in 2014 after suspending program operations in 2010 to redesign its operations. During 2015, 43 states and the District of Columbia (referred to as the 44 grantee states throughout this report) were actively transitioning participants through their MFP demonstrations.

This report is the seventh in a series of annual reports that Mathematica Policy Research is producing for the national evaluation of the MFP demonstration funded by CMS (CMS Contract Number HHSM-500-2010-000261/HHSM-500-T0010). It provides basic information about the program, how it grew and changed since transitions began in 2007. It also presents estimates of program outcomes and is the basis for a report to congress.

### **A. Background**

Through federal fiscal year 2016, CMS had provided the grantee states (including Oregon), approximately \$3.7 billion in grant funding, which includes nearly \$3 million in planning grants that were awarded in 2011. Grantee states used funds for administrative costs, as well as for services provided to MFP participants. Administrative costs included those for (1) designing and planning each state's MFP demonstration, (2) salaries for a full-time project director and other necessary administrative staff, (3) enhancements to information systems needed to comply with the national evaluation data requirements and to track MFP participants, (4) development and deployment of systems for monitoring critical incidents, and (5) outreach and provider and consumer education materials and initiatives. Some states also used grant funds to hire transition coordinators, housing specialists, behavioral health specialists, and case managers. In all states, a small portion of the grant funds were used to help offset the costs of a quality-of-life survey that all grantee states implemented. In 2014, CMS also awarded nearly \$1.5 million to five grantee states to plan and implement MFP transition programs for tribal communities (Minnesota, North Dakota, Oklahoma, Washington, and Wisconsin).

#### **1. Basic features of the MFP demonstration**

Each state in the MFP demonstration must establish a program that has (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 more Medicaid long-term care expenditures to flow to community services and supports. MFP demonstrations (like Medicaid programs in general) are subject to general federal grant requirements, but the design and administration of each MFP demonstration are unique and tailored to states' needs.

**Transition programs.** By statute, the MFP demonstration is for people residing in an inpatient facility for not less than 90 consecutive days, where *inpatient facility* is defined as “a hospital, nursing facility, or intermediate care facility for the mentally retarded.” The statute also allows residence in an institution for mental diseases “to the extent medical assistance is available under the State Medicaid plan for services provided by such institution.”<sup>4, 5, 6</sup> Therefore, to be eligible for MFP, an individual must have been institutionalized in a nursing home, hospital, intermediate-care facility for individuals with intellectual disabilities (ICFs/ID), or long-term psychiatric facilities. Participants must have been in institutional care for at least 90 days and eligible for Medicaid coverage.<sup>7</sup>

On the day they transition to the community, MFP participants begin receiving a package of community-based long-term services and supports (LTSS) that align with their needs and with what the state grantee makes available. Federal matching payments for these services are financed by the state’s MFP grant funds. MFP-financed services can continue for as long as 365 days after the date of transition. After exhausting their 365 days of eligibility for the MFP demonstration, participants continue to receive the community-based LTSS they need through a 1915(c) waiver program or state plan service, depending on their continued eligibility for these services.

MFP demonstrations can provide up to three categories of services: (1) qualified community-based LTSS, (2) demonstration services, and (3) supplemental services. Qualified community-based LTSS are services that beneficiaries would have received regardless of their status as MFP participants, such as personal assistance services available through a 1915(c) waiver program or the Medicaid state plan. Demonstration services are either allowable Medicaid services not currently included in the state’s array of community-based LTSS (such as assistive technologies) or qualified services above what would be available to non-MFP Medicaid beneficiaries (such as 24-hour personal care, 7 days a week). The statute that established the MFP demonstration requires that states maintain needed services after participants leave the program as long as they maintain Medicaid eligibility, known as the *continuity of service* provision. This requirement means that any demonstration or supplemental

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<sup>4</sup> 42 U.S.C. 1396a.

<sup>5</sup> Because the terminology has changed since the passage of the Deficit Reduction Act of 2005, this report refers to *intermediate care facilities* as *intermediate care facilities for individuals with intellectual disabilities (ICFs/ID)*.

<sup>6</sup> *Institution for mental diseases (IMD)* is defined in statute (Subpart K of 42 CFR Section 435.1010) as “a hospital, nursing facility, or other institution of more than 16 beds that is primarily engaged in providing diagnosis, treatment or care of persons with mental diseases...” State Medicaid programs may provide care in this type of facility for people 65 and over (Subpart C of 42 CFR Section 441), and they may provide inpatient psychiatric hospital services for people under 21 (Subpart D of 42 CFR Section 441). The IMD exclusion prohibits federal matching funds for medical assistance under Title XIX for services provided to anyone who is under age 65 and is a patient in an IMD, unless the payment is for inpatient psychiatric services for people under 21 (Subpart K of 42 CFR Section 435.1009).

<sup>7</sup> The DRA of 2005 set forth eligibility requirements for the MFP demonstration, including beneficiaries reside in institutional care for at least 6 months. The Affordable Care Act reduced the length of stay requirement to the current requirement of 90 days, not counting days for short-term rehabilitation services [Affordable Care Act §2403(1)A-B].



service the MFP participant was receiving at the end of the 365 days of eligibility needs to continue after they leave the demonstration. As a result, demonstration services tend to be short-term services aimed at helping people adjust to community living. States can also provide MFP participants with supplemental services that are not typically reimbursable outside waiver programs but facilitate an easier transition to a community setting (such as a trial visit to the proposed community residence). States receive an enhanced Federal Medical Assistance Percentage (FMAP) through the grant for either qualified or demonstration community-based LTSS.<sup>8</sup> The enhanced matching funds are known as the grantee's rebalancing funds. Grantees receive MFP demonstration funding at the regular FMAP rate for supplemental services. In general, the MFP rebalancing demonstration allows states to provide a richer mix of community services for a limited time to help facilitate a successful transition to the community.

**Rebalancing programs.** An MFP rebalancing program is subject to fewer requirements than the transition program. States must use the enhanced matching funds they receive when MFP participants use qualified or demonstration services, known as rebalancing funds, to invest in their LTSS system with the objective of increasing the availability of community-based LTSS. Rebalancing funds are only available for expenditures that enhance or expand access to community-based LTSS, or build community infrastructure and capacity, or related activities. States may use the enhanced funds in a variety of ways, including (1) financing the provision of services; (2) expanding the availability of community-based LTSS services (such as increasing the number of Medicaid beneficiaries the state's 1915(c) waiver programs can serve or adding state plan services); (3) improving access to community-based LTSS, including supporting transitions of people not eligible for MFP<sup>9</sup>; and (4) supporting providers with workforce initiatives, trainings, and incentives, as well as facility closures and right-sizing. Rebalancing funds may not be used for programs or activities that do not enhance or expand access to community-based LTSS. In addition, they are not to be used to supplant existing state, local, or private funding of infrastructure or services (such as staff salaries). Grantee states may also not use these funds for expenses that do not primarily benefit individuals of any age who have a disability or long-term care need. Each state sets benchmarks for measuring the success of its selected rebalancing strategy.

## 2. MFP grant awards

CMS began awarding MFP demonstration grants in January 2007 with 17 initial awards, followed by 14 additional awards in May 2007. In January 2011, another 13 states received MFP grants, and Alabama, Montana, and South Dakota received planning grants in 2012, bringing the total number of states with MFP grants to 46, plus the District of Columbia by the end of 2012 (Figure I.1). New Mexico and Florida formally rescinded their awards in 2012 and 2013 respectively, and Oregon withdrew in 2014 after operating a demonstration for several years. As

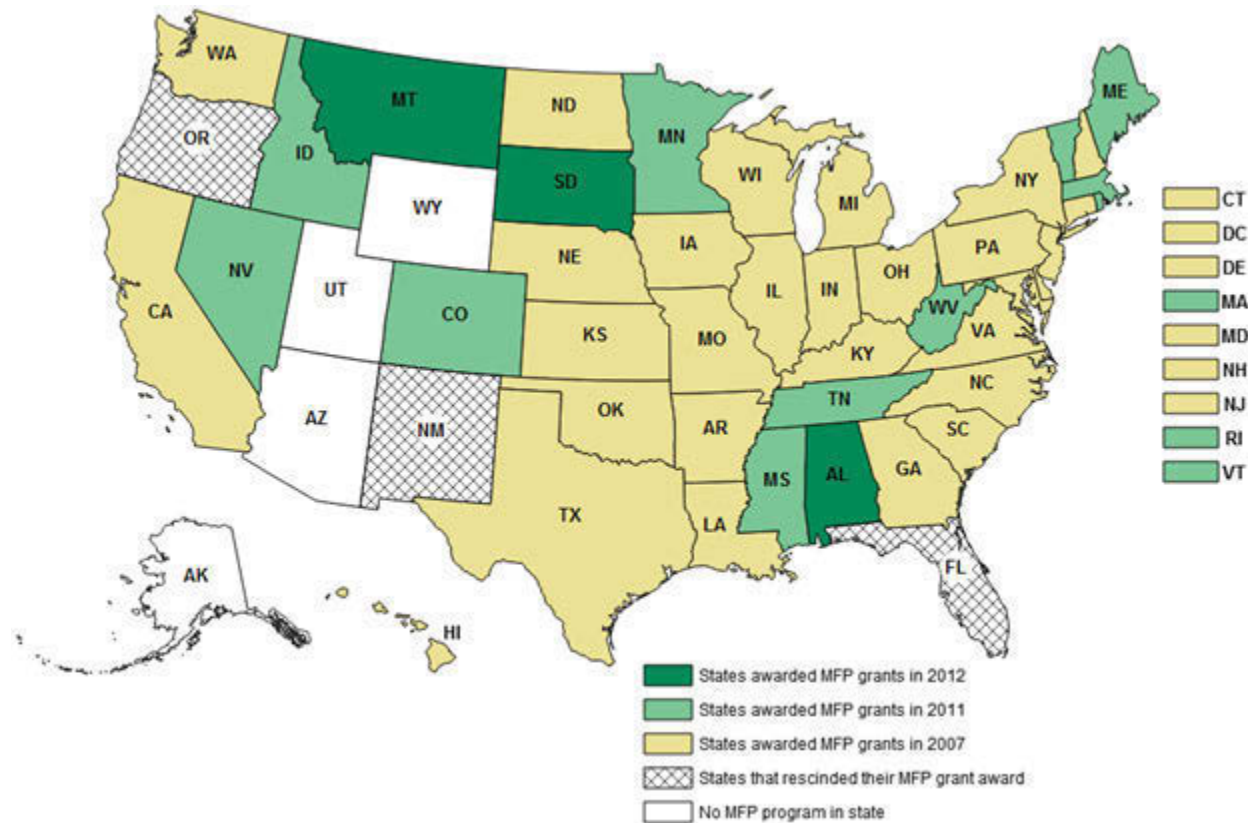
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<sup>8</sup> The MFP-enhanced FMAP is set in statute and cannot exceed 90 percent. The enhanced FMAP is equal to  $(\text{state's.regular.FMAP} + [1 - \text{state's.regular.FMAP}] * .5)$ . The state's regular FMAP also included the enhancements that states received through the American Recovery and Reinvestment Act of 2009, retroactive to October 1, 2008.

<sup>9</sup> At least 29 grantee states also established parallel transition programs for others who want to transition but do not meet the MFP eligibility criteria and 12 reported having formal transition programs for individuals residing in intermediate care facilities for individuals with intellectual disabilities.

of the end of December 2015, 43 states and the District of Columbia had an operating MFP demonstration.

**Figure I.1. Map of MFP demonstration grants**



Note: New Mexico and Florida received MFP grant awards in 2011. New Mexico withdrew from the program in 2012, Florida withdrew in 2013, and Oregon withdrew in 2014.

## 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), and the contract was renewed in 2012 (CMS Contract Number HHSM-500-2010-00026I/HHSM-500-T0010). This seventh annual report for the MFP demonstration covers the program from its inception through December 2015. The primary purpose of the report is to describe the status of the program as of December 31, 2015 and provide the basis for the final report to congress; including how states are progressing on their goals relating to the volume of transitions and expenditures on community-based LTSS.

The following chapters present analyses that include descriptive information about the progress of the overall demonstration, an assessment of whether the MFP demonstration has changed transition rates and the balance of LTSS expenditures overall. In addition, it presents analyses of what happens after people return to the community and post-transition outcomes relating to readmission to institutional care, mortality, cost of care, and utilization of medical services, and quality of life.



As in the previous annual reports, the work presented here adds to the overall understanding of program effects. At its most basic level, the national evaluation of the MFP demonstration seeks to understand whether the program met its goals (1) to increase the number and proportion of long-term institutionalized Medicaid enrollees who live successfully in the community, and (2) to facilitate state rebalancing of long-term services and supports. MFP demonstrations are expected to have an array of effects on beneficiaries who need LTSS, including increases in the likelihood and number of transitions from institutional to community settings and the proportion of long-term care expenditures accounted for by community-based LTSS.

### **C. Road map to the report**

The next chapters are organized around two broad types of analyses: (1) an assessment of program implementation and growth, and (2) participant-level outcomes. Chapter II describes the overall growth of the MFP demonstration and assesses whether state grantees are achieving their transition goals, as well as whether the MFP demonstration is associated with changes in transition rates and in post-transition outcomes. Chapter III assesses the key barrier to transitions, which is the short supply of affordable and accessible housing. Chapter IV assesses how community-based LTSS expenditures have changed since the MFP demonstration began, the extent to which grantee states achieved their expenditure goals, and whether the MFP demonstration is associated with changes in the makeup of LTSS expenditures. Chapter V examines how the costs and use of LTSS and medical care at the individual level change after someone transitions to the community. The assessment also compares MFP participants with a matched sample of other transitioners to determine whether the MFP demonstration is associated with a different level and mix of post-transition expenditures and services. Chapter VI presents analyses of how the quality of life of MFP participants changes after transitioning to community-based services. To identify subgroups that may be more (or less) vulnerable to experiencing unmet needs, this chapter includes focused studies of participants' perceptions of unmet need for personal care assistance and how this unmet need varies across different levels of care need and different diagnostic groups. The chapter also presents analyses of the links between depressive symptoms and other quality-of-life outcomes. Chapter VII concludes the report with a summary of key findings, a discussion of study limitations, and plans for future analyses.

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## II. MFP TRANSITION PROGRAMS

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Every MFP grantee state operates a transition program that helps long-term residents of institutions move to a community setting with community-based LTSS. Analyzing the number of Medicaid beneficiaries participating in MFP, as well as identifying the program's effects on state-level transition rates and post-transition outcomes, is fundamental to understanding the demonstration's effects. These effects may occur directly as the demonstration transitions targeted populations from institutional to community-based services, as well as indirectly through spillover effects on the states' infrastructure that supports these types of transitions. After setting the context by assessing the size of the MFP-eligible population and how that the number eligible has been changing, this chapter addresses the following research questions:

1. What has been the growth in MFP transitions over time and the factors contributing to it?
2. What are the demographic characteristics of MFP participants and how similar are they to the overall population eligible for MFP?
3. Is the MFP demonstration associated with increased rates of transitions out of institutions and into the community?
4. Is the MFP demonstration associated with changes in post-transition outcomes, including reinstitutionalizations, mortality, and successful transitions?

### A. Trends in the size of the MFP-eligible population

The success of grantee states' transition efforts will be affected by their ability to respond to changes in the makeup of the long-term institutionalized population and to the unique needs of the different subgroups of MFP-eligible<sup>10</sup> people. MFP-eligible populations are identified as older and younger adults residing in nursing homes, people of all ages residing in intermediate care facilities for individuals with intellectual disabilities, and people either 65 and older or 21 and younger residing long-term in psychiatric facilities. Over the past decade, state Medicaid expenditures for institutional care have slowed and been declining somewhat in recent years, but expenditures for community-based LTSS have shown considerable growth (Eiken et al. 2016). Although institutional care expenditures have been relatively stable, the data compiled by Eiken et al. (2016) suggest these expenditures declined slightly after the MFP demonstration began and our assessment of Medicaid claims records suggest the overall size of the population eligible for MFP has declined slightly as well.

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<sup>10</sup> To be eligible for MFP, individuals must receive Medicaid-paid institutional services in a nursing home, intermediate care facility for individuals with intellectual disabilities, psychiatric facility, or long-term care hospital for at least 90 continuous days. When moving to the community, they must reside in a home, apartment, or small group home of no more than four people. Some forms of assisted living also qualify for MFP. See Chapter III for more information on MFP qualified housing requirements. In the analyses presented in this chapter, we did not attempt to exclude anyone based on their acuity, limitations, or level of care needs. Thus, our approach assumes everyone could transition to the community. Some will argue this is not a realistic assumption because not everyone wants to move to a community setting and some communities do not have the resources to support beneficiaries with considerable care needs.

**Table II.1. Trends in the MFP-eligible population, by target population 2006–2014**

Target population	2006	2007	2008	2009	2010	2011	2012	2013	2014	Average yearly percentage change, 2006 to 2008	Average yearly percentage change, 2008 to 2014
Older adults	922,610	901,610	886,718	860,629	848,956	840,670	832,065	803,501	785,638	-2.0%	-2.0%
Physical disabilities	183,828	189,272	193,021	188,724	189,903	190,813	191,119	188,161	188,018	2.5%	-0.4%
Intellectual disabilities	92,302	90,892	88,893	86,565	83,926	82,027	80,416	78,127	77,109	-1.9%	-2.3%
Mental illness	22,284	21,866	23,301	24,214	24,579	25,254	24,846	28,360	34,021	2.3%	6.8%
Total	1,221,024	1,203,640	1,191,933	1,160,132	1,147,364	1,138,764	1,128,446	1,098,149	1,084,786	-1.2%	-1.6%

Source: Mathematica’s analysis of Medicaid Analytic eXtract (MAX) data from 2006 to 2014.

Data in Table II.1 show that the overall size of the Medicaid population eligible for MFP has decreased steadily from 2006 through 2014. In 2006, there were 1,221,024 MFP-eligible Medicaid beneficiaries across the 39 states and the District of Columbia included in this analysis.<sup>11</sup> By 2008, the first year of the demonstration, that number had decreased to 1,191,933, which represents an average yearly percentage decline of 1.2 percent. From 2008 to 2014, the overall size of the MFP-eligible population continued to decrease by about 1.6 percent per year, a faster pace of decline than in the 2006–2008 period.

The changes in the number of MFP-eligible Medicaid beneficiaries varied by targeted population. The number of eligible older adults declined steadily throughout the period, while the decline in the number of eligibles with intellectual disabilities seemed to accelerate after 2008. The number of MFP-eligible beneficiaries among younger adults with physical disabilities increased in the pre-MFP period, but then declined slightly in the post-MFP period. In contrast, the number of MFP-eligibles with severe mental illness residing long term in psychiatric facilities has shown an overall increase, which appears to have accelerated after 2008. These differential changes mean that while older adults in nursing homes made up 76 percent of the MFP-eligible population in 2006, this group only represented 72 percent of the eligible population in 2014. Despite the steady decline in the total number of MFP eligible, the number of younger adults with physical disabilities residing in nursing homes grew in most, although not all, years. Consequently, this subgroup made up 15 percent of eligibles in 2006, but eight years later had grown to 17 percent of those eligible for MFP. People with intellectual disabilities accounted for 7 to 8 percent of the eligible population and people with severe mental illness residing in psychiatric facilities accounted for 2 to 3 percent of all eligibles during the study period.

The trends we observe for people in nursing homes and ICFs/ID are reflective of the broader shifts that have occurred over time in the long-term institutionalized populations. Among the nursing home population, there has been a substantial shift from long-term, custodial care toward short-stay, post-acute care which likely factors into the declines seen in the number of nursing home residents eligible for the MFP demonstration (Levine et al. 2010; Lepore and Leland 2015). The number of Medicare- and/or Medicaid-certified nursing home beds and nursing home occupancy rates have also declined over the last decade, which provides more evidence of larger secular trends driving the decline in the number of nursing home residents who would be eligible for MFP (Centers for Medicare & Medicaid Services 2015). Similar, data published by CMS suggest that the population of Medicaid beneficiaries in ICFs/ID has steadily declined in recent decades (Centers for Medicare & Medicaid Services 2013).

## **B. Growth in the total number of MFP transitions, 2008–2015**

While the overall MFP-eligible population was declining by about 1.6 percent a year, the volume of MFP transitions was growing, annually and cumulatively. Since 2012, grantee states have transitioned more than 10,000 people annually, and 2015 marks the largest number of

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<sup>11</sup> States were included in this analysis if Medicaid data were available for the years during or after the state grantee had implemented its MFP demonstration and the state grantee implemented an MFP program during 2008–2014. The Medicaid data were from the Medicaid Analytical eXtract (MAX).

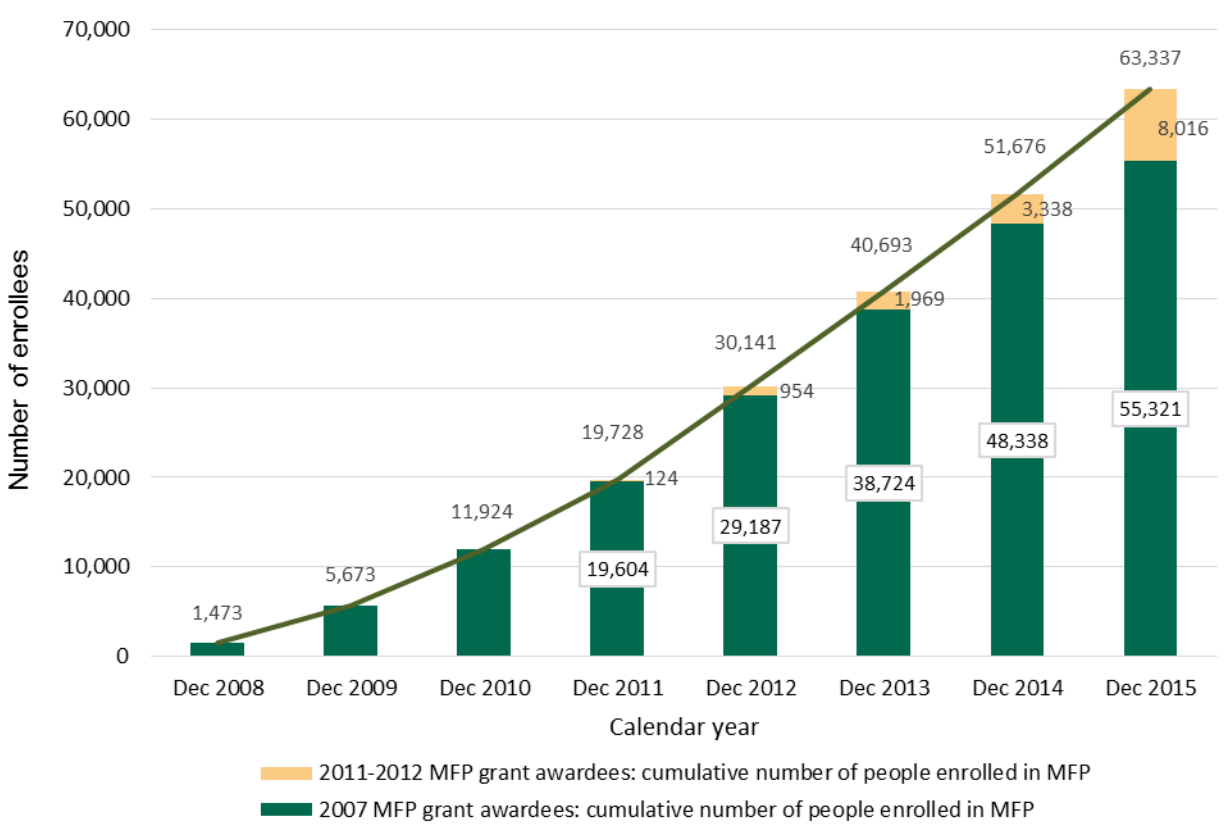
transitions in a single year, at 11,661.<sup>12</sup> Thus, in the most recent years, grantee states have been transitioning about 1 percent of the eligible population. This estimate is based on the assumption that everyone who met MFP's length-of-stay requirement could transition to the community. This may be an unrealistic assumption if some beneficiaries do not want to transition to community services or some communities do not have the resources to serve other with consider care needs. However, the size of the eligible population would have to be considerably smaller for the number of MFP transitions to account for a much larger proportion of the eligible population. By the end of 2015, the cumulative number of transitions stood at 63,337, an increase of 23 percent over the reported cumulative total from 2014 (51,676) (Figure II.1). The six grantees with the largest MFP programs (California, Connecticut, Michigan, Ohio, Texas, and Washington) accounted for over half of cumulative transitions as of the end of 2015 (see Appendix A for state-level counts).

One factor that contributed to growth in MFP transitions during 2015 was the growth among states with newer transition programs. Fourteen states were awarded MFP grants in 2011 and 2012, and South Carolina, which received its MFP grant in 2007, began transitioning participants in January 2013. These 15 grantees launched their programs between 2011 and 2014 and transitioned a total of 1,611 participants in 2015, comprising 14 percent of all participants transitioned during the year (Table II.2). Calendar year 2015 marks the first year that all 15 of these grantees were operational during the entire year.

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<sup>12</sup> Because some grantee states have lags in their reporting, grantees are allowed to adjust the cumulative number of transitions they report in their semiannual progress reports as more complete data become available. Hence, because of grantee efforts to improve data quality, the year-by-year cumulative number of transitions and the number of transitions in each year reported here might not match numbers from previous reports.

**Figure II.1. Cumulative total number of MFP transitions, 2008–2015**



Source: Mathematica’s analysis of State MFP Grantee Semiannual Progress Reports, 2008–2015.

Note: Annual and cumulative counts of transitions may not match numbers from previous reports, as grantee states can update their data as their reporting becomes more complete. Oregon implemented its program in 2008 but then suspended operations in 2010 and later withdrew from its MFP grant. Oregon’s cumulative transitions through 2010 are captured in the national transition totals for all years. The data represent transitions from 30 grantees in 2008 through 2010, 33 grantees in 2011, 37 in 2012, 42 in 2013, and 44 in 2014 and 2015.

**Table II.2. MFP grantees that began MFP transitions in 2011 or later**

2011 (n=4)	2012 (n=4)	2013 (n=5)	2014 (n=2)
Idaho, Massachusetts, Rhode Island, and Tennessee	Maine, Mississippi, Nevada, and Vermont	Alabama, Colorado, Minnesota, South Carolina, and West Virginia	Montana and South Dakota

Note: Grantees that received MFP awards in 2011 include Colorado, Florida, Idaho, Maine, Massachusetts, Minnesota, Mississippi, Nevada, New Mexico, Rhode Island, Tennessee, Vermont, and West Virginia. Florida and New Mexico later withdrew from their MFP grants. Alabama, Montana, and South Dakota were awarded MFP grants in 2012. South Carolina was awarded an MFP grant in 2007, but did not begin transitioning participants until January 2013.

Across all states, future transition numbers are expected to remain high according to grantees’ semiannual progress reports. At the close of 2015, nearly 8,912 MFP candidates were in the transition planning process and expected to relocate to the community through MFP in the

near future.<sup>13</sup> Federal fiscal year (FFY) 2016 is the last year grantees can receive MFP grant funds—they will have until the end of FFY 2018 to use their MFP grant funds to transition beneficiaries from long-term institutional care to the community and until the end of FFY 2020 to use MFP funding to support participants in home and community-based settings.

### **C. How MFP participants compare to the eligible population**

Grantee states select the populations they target for outreach and transition services, but the availability of community services can constrain the number and types of people who can access community-based LTSS. This combination between flexibility in how states design a demonstration and system constraints drives key questions about the MFP demonstration and whether MFP participants are representative of the population eligible for the demonstration. Table II.3 compares the characteristics of MFP participants to those of the population eligible for MFP by target population and selected years. The sample is limited to the 17 states used in our assessment of MFP's effects on state transition rates, which are presented in sections F and G (Appendix B also presents information on the state grantees in this analysis).<sup>14</sup> Demographic characteristics were available for all target populations, but because the nursing facility Minimum Data Set (NF-MDS) assessment data were available only for older adults and younger adults with physical disabilities who transitioned from nursing homes, we do not have information on other aspects of health status for people residing long term in intermediate care facilities for individuals with intellectual disabilities or in psychiatric facilities.

The assessment presented here only compares MFP participants to the population eligible for MFP. It does not compare MFP participants to other eligible beneficiaries who experience the same transition, but did not participate in MFP. How MFP participants compare to these other transitioners would shed additional light on any targeting done by the grantee states. Chapter V, which presents analyses of how health care costs change after MFP participants transition to the community, briefly compares MFP participants to other transitioners and notes the differences observed in their characteristics.

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<sup>13</sup> The number in the transition planning process at the end of 2015 includes an estimate for the additional MFP transitions Texas will experience in FY 2015. Texas transitioned 1,038 individuals during 2015, and its transition target for the year was 1,350. Taking the state's transition target less its actual number of individuals transitioned as a proxy for the number of individuals in the transition planning process gives us an estimate of 312 MFP candidates in Texas at the close of calendar year 2015. This estimated count of individuals in Texas' transition planning process was added to the reported total.

<sup>14</sup> The 17 grantee states included in this study were part of the cohort that received grant awards in 2007.



**Table II.3. Characteristics of MFP participants compared to the eligible population**

Characteristic	2008		2010		2012	
	MFP eligibles <sup>a</sup>	MFP participants	MFP eligibles <sup>a</sup>	MFP participants	MFP eligibles <sup>a</sup>	MFP participants
<b>Older adults</b>						
Mean age	83.2	77.3	83.3	76.5	83.2	76.5
<b>Race/ethnicity<sup>b</sup></b>						
White	75.3%	70.6%	74.9%	65.2%	74.3%	68.9%
Black/African American	15.3%	16.4%	15.3%	21.8%	15.3%	19.4%
Hispanic/Latino	6.1%	12.4%	6.6%	9.8%	6.9%	9.2%
Other	3.3%	0.6%	3.2%	3.1%	3.5%	2.5%
<b>Gender</b>						
Female	73.8%	68.4%	72.9%	61.2%	72.0%	67.0%
<b>Medicare eligibility</b>						
Dually eligible	97.6%	97.7%	97.9%	91.7%	97.2%	91.7%
<b>Residence</b>						
Rural	26.5%	29.9%	25.1%	23.5%	24.7%	23.8%
<b>Level of care needs</b>						
Low	12.1%	24.9%	15.1%	18.1%	13.7%	28.2%
Medium	47.1%	46.9%	54.6%	47.4%	58.6%	45.9%
High	40.7%	28.2%	29.5%	31.9%	27.0%	13.0%
Missing	0.0%	0.0%	0.9%	2.5%	0.7%	13.0%
Mean total ADL score <sup>c</sup>	16.2	10.3	17.3	11.5	17.8	12.1
<b>Cognitive impairment<sup>d</sup></b>						
None/low	20.1%	48.0%	20.3%	42.6%	25.3%	61.4%
Mild/moderate	61.5%	50.8%	39.2%	51.1%	29.5%	23.8%
Severe/very severe	18.5%	1.1%	40.4%	6.2%	45.3%	14.8%
<b>Mental illness</b>						
Serious mental illness	14.7%	11.9%	29.0%	20.4%	38.9%	47.8%
Total N <sup>e</sup>	337,772	177	374,473	673	373,717	772
<b>Physical disabilities</b>						
Mean age	53.6	52.1	54.2	53.1	54.7	52.7
<b>Race/ethnicity<sup>a</sup></b>						
White	63.6%	58.2%	62.7%	62.0%	62.5%	63.6%
Black/African American	26.0%	34.6%	26.1%	27.7%	26.5%	27.5%
Hispanic/Latino	7.9%	5.2%	8.4%	9.2%	8.3%	8.0%
Other	2.5%	2.0%	2.7%	1.2%	2.6%	0.9%
<b>Gender</b>						
Female	47.2%	43.1%	47.0%	50.8%	46.3%	50.1%
<b>Medicare eligibility</b>						
Dually eligible	60.9%	54.9%	60.7%	54.3%	61.2%	51.6%
<b>Residence</b>						
Rural	21.6%	17.6%	21.0%	17.1%	20.8%	20.9%
<b>Level of care needs<sup>b</sup></b>						
Low	18.1%	21.6%	23.2%	20.5%	23.7%	35.8%
Medium	38.8%	54.2%	41.5%	46.3%	43.3%	37.4%

Characteristic	2008		2010		2012	
	MFP eligibles <sup>a</sup>	MFP participants	MFP eligibles <sup>a</sup>	MFP participants	MFP eligibles <sup>a</sup>	MFP participants
High	43.1%	24.2%	33.4%	28.2%	31.1%	14.4%
Missing	0.0%	0.0%	1.9%	5.0%	1.9%	12.4%
Mean total ADL score <sup>c</sup>	14.9	9.1	15.8	10.4	16.2	10.6
<b>Cognitive impairment<sup>d</sup></b>						
None/low	37.6%	70.6%	43.0%	64.9%	50.0%	82.3%
Mild/moderate	45.4%	27.5%	30.8%	32.3%	24.3%	12.9%
Severe/very severe	17.0%	2.0%	26.2%	2.9%	25.8%	4.8%
<b>Mental illness</b>						
Serious mental illness	24.1%	22.2%	40.7%	33.8%	51.1%	59.5%
Total N <sup>e</sup>	64,805	153	74,221	589	74,874	665
<b>Intellectual disabilities</b>						
Mean age	45.9	40.0	46.8	44.5	48.5	45.9
<b>Race/ethnicity<sup>a</sup></b>						
White	76.3%	63.1%	75.7%	65.8%	74.5%	67.6%
Black/African American	14.4%	26.2%	14.4%	23.2%	13.1%	26.0%
Hispanic/Latino	7.5%	8.5%	7.9%	9.6%	7.9%	4.8%
Other	1.8%	2.1%	2.0%	1.4%	4.6%	1.7%
<b>Gender</b>						
Female	42.6%	39.0%	42.7%	39.2%	43.6%	36.3%
<b>Medicare eligibility</b>						
Dually eligible	68.5%	57.6%	69.1%	58.9%	69.7%	62.4%
<b>Residence</b>						
Rural	18.5%	37.5%	17.4%	24.5%	17.6%	19.7%
Total N <sup>e</sup>	36,820	328	35,069	771	33,420	543

Source: Mathematica analysis of 2008–2012 Medicaid Analytic eXtract (MAX) and nursing facility Minimum Data Set (NF-MDS) data for 17 grantee states.

Note: This table compares the MFP-eligible population to MFP participants in selected years after MFP was implemented in 2008. Demographic information was available from MAX data for all targeted populations, but information on level of care needs, cognitive impairment, and mental illness were available only for older adults and people with physical disabilities transitioning from nursing homes.

<sup>a</sup> The MFP-eligible population includes Medicaid beneficiaries residing in institutional settings for at least 90 consecutive days during the calendar year.

<sup>b</sup> The race/ethnicity information is obtained from Medicaid enrollment records. The other category includes the Asian, Pacific Islander, American Indian/Alaska Native, and other race/ethnicity categories.

<sup>c</sup> The ADL score is calculated based on an individual's self-performance score on seven ADLs. The self-performance score for each ADL is rated as 0 (independent) to 4 (total dependence). The total ADL score ranges from 0-28 based on the scores for each of the seven ADLs, with higher scores indicating greater impairment. A total ADL score of 16 is equivalent to an individual having total dependence in 4 of the 7 ADLs, whereas a score of 10 is equivalent to an individual having total dependence in 2.5 of the 7 ADLs.

<sup>d</sup> Cognitive impairment was based on the Cognitive Performance Scale (CPS) scores from the NF-MDS 2.0 assessments and on the Brief Interview for Mental Status (BIMS) scores from the NF-MDS 3.0 assessments. CPS scores range from 0-6, and residents were categorized as no/low impairment (scores 0-1), mild/moderate impairment (scores 2-4), and severe/very severe impairment (scores 5-6). BIMS scores range from 0-15, and residents were categorized as no/low impairment (scores 13-15), mild/moderate impairment (scores 8-12), and severe/very severe impairment (scores 0-7).

<sup>e</sup> Total number of observations that were used in the denominators to calculate the percentages for the targeted population. The numerator for each percentage is the number of people from the denominator who make up each category.

For the older adult population, MFP participants have been younger and disproportionately minorities, men, and Medicaid-only beneficiaries (less likely to be dually eligible for Medicaid and Medicare) compared with the older adult MFP-eligible population. Older adult MFP participants have also been less functionally impaired, which suggests that many MFP participants may no longer require institutional-based services and should be able to live comfortably with supports in the community. The functional impairment scores for MFP participants in 2008 indicate that, on average, they were completely dependent in 2.5 out of 7 activities and the eligible population had scores that indicated complete dependence in 4 out of 7 activities on average (impairment was higher in 2012, the eligible population on average was completely dependent in 4.5 activities compared to 3.0 activities among MFP participants that year). However, depending on the year, between 59 and 79 percent of older adults transitioned by MFP had moderate to high level of care needs and between 39 and 57 percent had moderate to severe cognitive impairment. Similarly between 52 and 78 percent of younger adults with physical disabilities transitioned by MFP demonstrations had moderate to high level of care needs and between 22 and 59 percent had moderate to severe cognitive impairment depending on the year. MFP participants with intellectual disabilities have been slightly younger and disproportionately minorities, men, and Medicaid-only beneficiaries, and more likely to live in a rural area.

The differences in the demographic make-up of MFP participants vary by target group, but for the older adults and people with physical disabilities, where we have more detailed information from assessment data available from the NF-MDS, we looked more closely at states where certain populations appeared to have more significant impairments. The data for the sample of states included in our analyses indicate that Michigan has transitioned disproportionate numbers of beneficiaries with higher levels of care needs compared to other state grantees. Increased nursing facility level of care eligibility requirements in Tennessee have meant that MFP participants who transition from nursing facilities to the community have higher needs than in other states. Iowa's MFP program specifically targets those with traumatic brain injury. Washington tracks three factors measuring the complexity of care needs of its MFP participants with the expectation that the overall average of at least one of these factors will increase annually as individuals with higher needs transition to the community. Finally, a handful of states transition a high proportion of individuals with mental illness—of Ohio's total number of transitions for 2015, individuals with mental illness made up 43 percent of all transitions that year, and in Illinois individuals with mental illness accounted for 30 percent of Illinois's 2015 transitions. As of 2010, Maine and Hawaii had the lowest percentage of nursing home residents with low care needs (1.1 percent for Maine, and 4.7 percent for Hawaii), suggesting that these states may also be transitioning relatively high percentage of individuals with high care needs (Reinhard et al. 2014).

The sample of MFP participants transitioning from long-term psychiatric facilities was too small for analysis purposes. The small size was due, in part, to the sample's definition, which restricted the group to only those participants who transitioned from psychiatric facilities. The majority of those with mental illness were subsumed in the target populations of older adults and younger adults with physical disabilities. The data in Table II.3 suggest that until 2012, MFP participants were less likely than the overall eligible population to have mental illness, but this pattern had changed by 2012 when MFP participants had higher rates of mental illness compared to the eligible population residing in nursing homes. Although the data are not shown, 2012 was

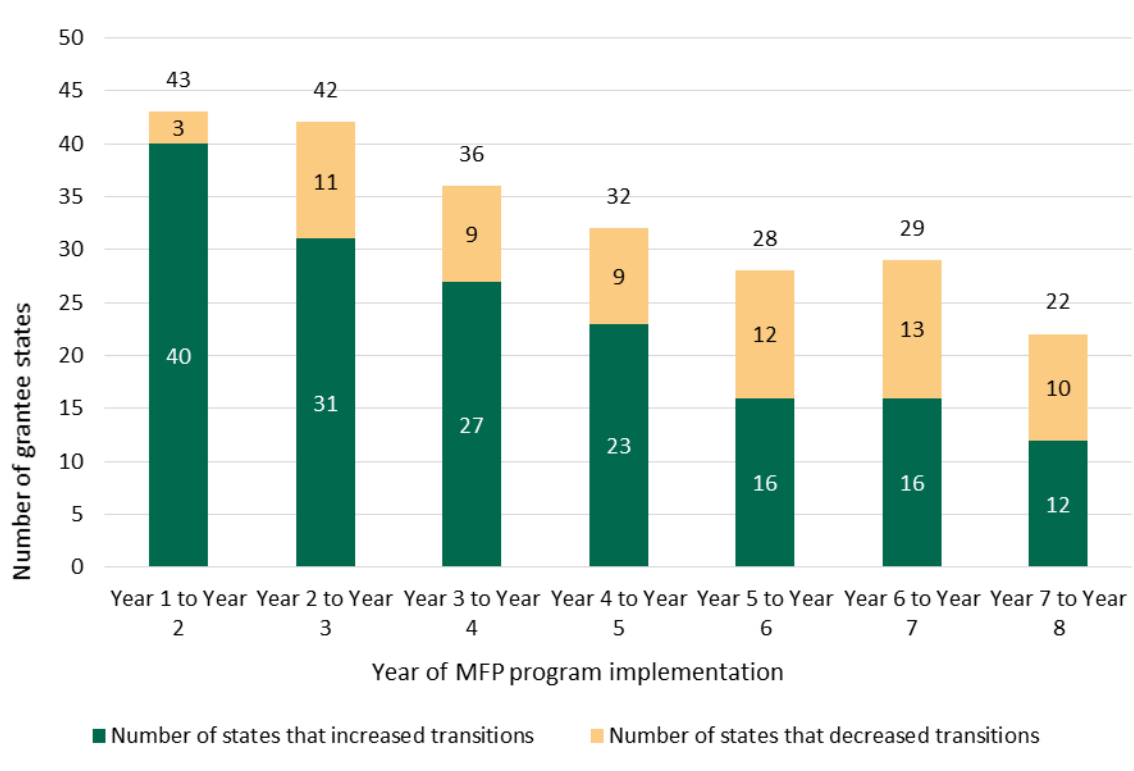
not an anomalous year, and 2011 marked the first year when MFP participants had higher reported rates of mental illness than MFP-eligibles overall. Interpreting the information about the prevalence of mental illness in the nursing home population is challenging, because we observed a notable increase over time in reported mental illness in the NF-MDS data, the source for this information. This increase may be due, in part, to reporting improvements rather than to an increasing prevalence, but we have no reason to believe that assessors completing an NF-MDS would be more likely to report the presence of a mental health condition for MFP participants than for other long-term residents.

During the course of the MFP demonstration, grantee states had routinely reported in their semiannual progress reports that people with behavioral health issues and challenging behaviors were particularly difficult to serve. To help grantee states address this challenge, they were encouraged to hire and train behavioral health specialists, and CMS provided considerable technical assistance to help grantees develop effective approaches to transitioning people with mental illness and challenging behaviors. The nursing home assessment data suggest that this additional assistance may have helped MFP demonstrations become more effective for the MFP-eligible population with mental illness residing in nursing homes.

#### **D. Factors that contributed to growth in MFP enrollment**

In addition to looking at transition trends in the aggregate, we examined annual growth rates in the number of new MFP participants enrolled in each grantee state to understand the relationship between the maturity of a program and enrollment dynamics. We analyzed changes in the rate of transitions (year-over-year percentage change in the number of transitions) by state and year of implementation. Comparing transition trends among grantees by year of implementation, instead of calendar year, allowed us to investigate how trends change across the various stages of program development regardless of when a grantee started transitions.

During the early years of program implementation, the number of participants that a grantee transitions to the community has been modest, in part because the program managers were often focused on establishing their connections across state agencies, housing groups, and the community. A modest transition volume at the start meant that transition activity among the majority of grantee states increased from one year to the next in the earlier years of their programs (Figure II.2). However, it has been common for grantee states to experience declines in the volume of transitions at some point during the life of their programs. Nevertheless, some states have been able to sustain their success and each year have experienced gains in the volume of their transitions. Next, we explore themes in the successes and challenges grantees have experienced with increasing the volume of their transitions. Specifically, we look at three different groups of grantees that provide a broad understanding of the range of issues that grantees have faced transitioning Medicaid beneficiaries from long-term institutional care.

**Figure II.2. Annual transition trends by year of MFP program implementation**

Source: Mathematica's analysis of State MFP Grantee Semiannual Progress Reports, 2008–2015.

Note: The counts do not include instances when a state did not experience a year-over-year change in the number of transitions. This happened twice, once in Wisconsin between Year 1 and Year 2 and once in North Carolina between Year 5 and Year 6.

### 1. Recent steady increase in growth linked to strong relationships with facilities and local housing agencies and ongoing outreach

Six states (Illinois, Iowa, Massachusetts, North Dakota, Ohio, and Vermont) have increased their number of transitions in each of the past three years of program implementation, largely through strong relationships with, and outreach to, facilities and local housing agencies. We focused on the past three years to give equal weighting to the new grantees who received MFP grant awards in 2011 or 2012.

Iowa's MFP program transitions exclusively people with intellectual or developmental disabilities and those with brain injury. Iowa's recent increase in enrollment was due partially to the closure of a large ICF/ID in 2015, though it has also kept its transition numbers up by conducting training and outreach efforts over the past three years for frontline workers, community providers, nursing facility staff, transition specialists, direct care providers, and case managers. In 2013, Iowa's Medicaid division required that private ICFs/ID invite transition specialists to meet with individuals and their families on an annual basis, which has also boosted enrollment.

For many states, scarcity of affordable, accessible housing is a barrier that delays transition candidates from relocating to the community. (This issue is discussed in more depth in Chapter

III.) One notable and recent example is Illinois, which has worked to establish strong relationships with state housing agencies, and has advocated for increasing the supply of rental vouchers and affordable, accessible housing more generally. One result is that the Illinois Housing Development Authority (HDA), which has received two rounds of 811 PRA demonstration funding, now works closely with the statewide housing coordinator to identify units for MFP participants. In addition, HDA funded 10 new four-person homes and is adding 300 units to the state referral network every year.

Several states have also expanded the reach of their programs, which has led to increased referrals and enrollment into the MFP program. Massachusetts and North Dakota both strengthened relationships with nursing facility staff, which has increased referrals to the programs. Massachusetts reported improved relationships between transition entities and nursing facility discharge planning staff, and North Dakota reviewed the MFP program with all nursing facilities and has created tools for transition coordinators to educate facility staff. Ohio recently implemented a new online application to identify potential MFP participants, which led to increased referrals and enrollment into their program. Vermont initially reached out to all Medicaid nursing home residents to educate them about the MFP program. After this approach was found to be inefficient and not particularly effective in bolstering enrollment, Vermont targeted its outreach efforts to only those nursing home residents who had expressed an interest in returning to the community—focusing on Section Q, case manager, and nursing facility social worker referrals—which bolstered MFP transitions.<sup>15</sup>

## **2. Strong start followed by recent declines in growth linked to declines in referrals, support services, and available housing**

While some states have experienced steady growth in enrollment, others have experienced declines in the number of new enrollees following strong growth. Grantees frequently report that these declines result from a drop in referrals, an inadequate supply of community-based services, and a lack of affordable housing that is also accessible. Examples include Arkansas, New Jersey, and New York. Arkansas saw annual declines in the volume of transitions from demonstration years 5 through 8, after steady increases in previous years. Arkansas has seen decreases in referrals from nursing homes and has struggled to secure community-based LTSS providers for older adults and people with physical disabilities.

New Jersey and New York both saw their MFP transitions grow during initial years of their demonstrations, but then decline in recent years. New Jersey has had difficulty transitioning people residing in developmental centers because of challenges finding appropriate services in the community. New Jersey's biggest challenge in 2015 was the shortage of community-based LTSS providers in some counties, which affected all populations. New York has faced a lack of affordable, accessible housing, particularly in the New York City area. The state supplies rental subsidies, but finding housing that accepts the subsidy voucher has also been a challenge.

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<sup>15</sup> The NF-MDS assessment of nursing home residents (as well as people admitted to non-critical-access hospital swing beds) includes questions about a resident's desire to move back to the community. Known as Section Q, when a nursing home resident indicates a desire to transition, the facility is supposed to refer him or her to the state's transition coordinating agency. In many states, the MFP demonstration coordinates Section Q referrals statewide.

### **3. Strong growth among the 2011/2012 cohort of grantees linked to partnerships with facilities, state partners, and key stakeholders**

Among newer grantee states, six have increased their transition numbers by at least 12 percent in recent years (Colorado, Massachusetts, Minnesota, Montana, South Dakota, and Vermont). Montana and South Dakota have both been operating their programs for only two years and, like most grantees, were able to increase the volume of transitions in their second year of operations. Among the other four newer grantees that have experienced a steady increase in growth, all have established strong collaborative partnerships with facilities, state partners, and other stakeholders. Colorado has seen Section Q referrals increase, which the grantee attributes to trainings held at nursing facilities by Aging and Disability Resource Center staff. These trainings specifically focused on Section Q referrals. Minnesota's Department of Human Services regularly shares lists of people interested in transferring to the community with lead state agencies, focusing on counties with the highest number of people who have expressed interest in transitioning. In one of the largest counties in Minnesota, information regarding people expressing an interest in transitioning is sent directly to a lead manager with the county who, together with an aid, assists in assigning transition coordinators, expediting assessments, and facilitating communication between the MFP program and lead agency staff. In another of the largest counties in the state, case managers are assigned to work with specific nursing homes.

#### **E. Achievement of annual transition goals**

The Deficit Reduction Act of 2005, which authorized the MFP demonstration, requires [§6071(d)(4)(A)] that state grant applications specify the projected numbers of eligible people in each target group to be transitioned to the community in each year of the MFP demonstration.<sup>16</sup>

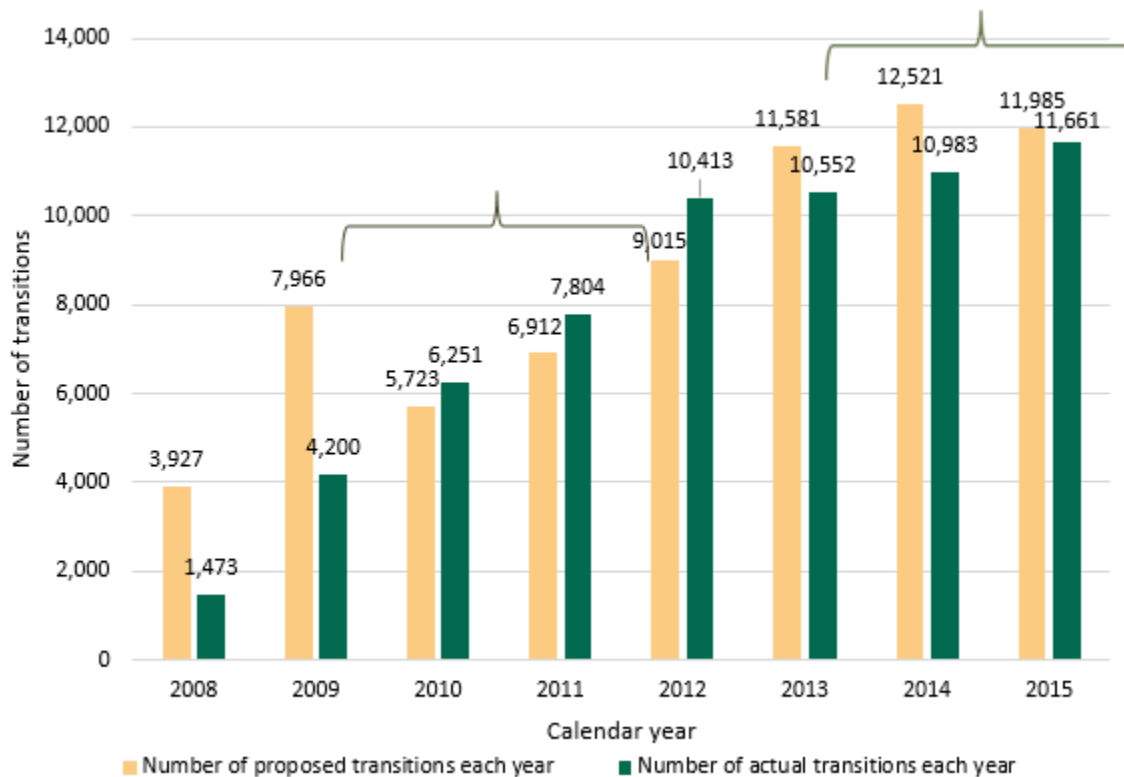
CMS allows grantees to modify their goals on an annual basis when they submit requests for supplemental budget funds. For this reason, overall transition goals in many grantee states, and the aggregate transition goal for all grantees, have changed over time.

The 44 MFP grantee states actively transitioning participants in 2015 achieved 97 percent of their annual transition goal for 2015 (11,661 transitions of 11,985 planned), compared to 88 percent in 2014. The increase from 2014 to 2015 may be due in part to a smaller overall transition goal in 2015 (11,985) relative to the previous year's transition goal of 12,521; 2015 is the first year since 2010 that the total transition goal decreased compared to the previous year. Grantees have not exceeded their overall annual transition goal since 2012 (Figure II.3).

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<sup>16</sup> The statute also requires that MFP grantees establish annual goals for total Medicaid expenditures on community-based LTSS for all Medicaid enrollees. A description of grantees' progress toward their annual expenditure goals for community-based LTSS is presented in Chapter IV.



**Figure II.3. MFP grantees' progress toward annual transition goals, 2008–2015**

Source: Mathematica's analysis of State MFP Grantee Semiannual Progress Reports, 2008–2015.

Notes: The data include 30 grantee states for 2008 through 2010; 33 grantees for 2011; 37 for 2012; 42 for 2013; and 44 for 2014 and 2015. Annual counts of actual transitions may differ from earlier reports, as grantee states may update their data as their reporting becomes more complete.

In the periods bracketed above, state projections in 2009 were met in 2011. This same trend occurred when projections from 2013 were met in 2015. These two periods represent times when new MFP grantees set overly ambitious transition goals because they did not fully appreciate how difficult it would be to transition the eligible population.

Goals for grantees have outpaced actual transitions since 2013; however, grantee states have progressively transitioned more people to community living each year. Transitions increased by 30 percent between 2011 and 2012 (6,912 to 9,015), by 28 percent from 2012 to 2013 (9,015 to 11,581), and by 8 percent from 2013 to 2014 (11,581 to 12,521). Grantees experienced dramatically fewer-than-expected transitions in 2008 and 2009 because their procedures and systems took longer to implement than expected, which made it difficult for new programs to meet or exceed their goals. As a result, projections were reduced by 28 percent from 2009 to 2010. The states and CMS worked together on action plans focused on increasing their transitions by nearly 11 percent from 2012 to 2015 to meet state projections. In addition to states having overly ambitious transition goals in the initial years of their demonstrations, more mature programs can still experience a decline in transitions. In 2015, 55 percent of all MFP grantees (24 states) reported challenges transitioning the projected number of participants they proposed to transition. As stated earlier, challenges reported by grantees included reductions in



the number of referrals received; staff shortages, including transition coordinators and case managers; declines in the number of available housing vouchers; lengthy transition periods; and difficulty coordinating with relevant state agencies.

## **F. Trends in transition rates**

An important question for the MFP demonstration is whether it has resulted in new transitions that would not have occurred in its absence. This question is relevant because people were transitioning from institutional care to community-based LTSS before any state implemented the MFP demonstration. The MFP demonstration could affect overall transition rates in at least two ways: (1) directly through increasing the number of people transitioning and (2) indirectly through spillovers that may occur through broad outreach efforts and enhancements to community-based services that resulted from grantee spending on rebalancing activities (see Chapter IV for a discussion of MFP rebalancing programs).

The analyses presented below should be viewed in the context of two prevailing issues. First, the first cohort of MFP transition programs began during a severe recessionary period when state Medicaid budgets were under pressure. Grantees' semiannual reports in the initial years clearly indicated that MFP funding was helping states either avoid or minimize cuts to community-based LTSS. It is possible that MFP may have dampened the effect of the recession without increasing transition rates, that is, transition rates may have declined or not shown the same increase if not for the MFP demonstration.

The second prevailing issue is the program's size. A program that transitions about one percent of the eligible population in a given year may be too small to affect aggregate, state-level transition rates or for our statistical methods to detect a small change in rates. The size of the MFP demonstration reflects the funding for this demonstration. The \$4 billion allotment for MFP, which will be spread over 14 years (covering set up in 2007 through September 2020 when grantees can no longer expend their grant funds), represents less than 1 percent of state expenditures for community-based LTSS. Between 2008 and 2014, MFP expenditures across the grantee states represented under 0.5 percent of total expenditures for community-based LTSS. This percentage would be much smaller if we also factored in state expenditures for institutional care.

To determine whether the MFP demonstration is associated with increased transition rates, we examined existing trends in rates of transition to community-based LTSS that were present before the implementation of the MFP demonstration, and tested whether the trends in rates of transitions changed after grantee states began their MFP demonstration activities. Because states implemented MFP at different times, we used the state-specific implementation date to define the pre- and post-MFP periods for our analyses.<sup>17</sup>

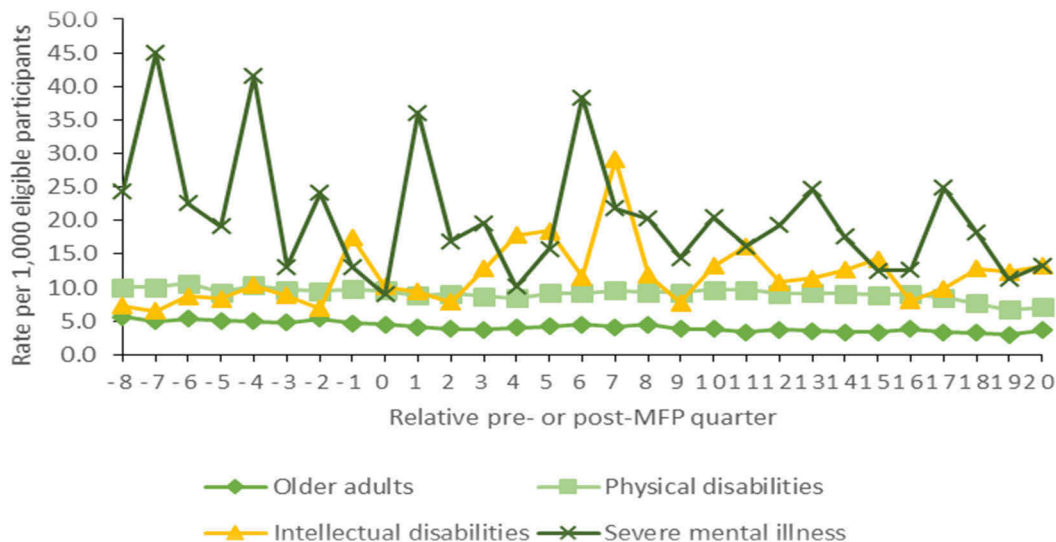
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<sup>17</sup> In this analysis we were unable to account for the effect of diversion programs designed to provide community-based alternatives to institutional care. These types of programs may change the size and composition of the eligible population. We controlled for state-fixed effects, which would absorb the general effects of a diversion program but not adequately control for diversion programs that were introduced or changed in some important way during the analysis period.

## 1. Descriptive trends in transition rates

The data in Figure II.4 show the overall transition rates by quarter and by target population for all Medicaid beneficiaries who transitioned from institutional to community-based care in the 17 grantee states in the study. The quarters are anchored by the MFP start date (the quarter the state grantee experienced its first MFP transition). Transition rates are the number of transitions to community services that occurred during that quarter (the numerator) per 1,000 MFP-eligible beneficiaries (the denominator) in a given quarter. The rates for quarters 0 through 20 (the post-MFP period for each state) combine both MFP participants and people who transitioned to community-based LTSS without the benefit of the MFP demonstration. For both the numerators and denominators of the transition rates, data are pooled across grantee states and the sample is limited to the 17 states used in our regression analyses that estimate the association between the implementation of MFP and the trend in transition rates. Appendix B has more details about the sample.

**Figure II.4. Trends in transition rates to community-based LTSS, by target population**



Source: Mathematica analysis of 2008–2012 Medicaid Analytic eXtract (MAX).

Note: The transition rate includes both MFP participants and other Medicaid beneficiaries who transitioned to community-based long-term services and supports (LTSS) in 17 grantee states that started MFP transitions in 2008. Quarter 0 corresponds to the state's first MFP transition. Quarters -8 through -1 correspond to the pre-MFP period, and quarters 0 through 20 correspond to the post-MFP period.

The unadjusted levels and secular trends in transition rates to community-based LTSS presented in Figure II.4 varied by target population. Older adults consistently had the lowest transition rates to community-based LTSS per 1,000 eligible beneficiaries. The grantee states included in the analysis experienced a declining secular trend in transition rates for their nursing home populations. Unadjusted transition rates decreased over time among older adults, from about 5.7 per 1,000 eligible beneficiaries at the beginning of the pre-MFP period to about 3.6 per 1,000 at the end of the post-MFP period. Among people with physical disabilities, transition

rates also declined, from about 10.0 per 1,000 eligible beneficiaries at the beginning of the pre-MFP period to about 7.1 per 1,000 at the end of the post-MFP period.

Transition rates among people with intellectual disabilities fluctuated over time, but there was an overall increasing trend from the pre-MFP to the post-MFP period. The transition rate was about 7.3 per 1,000 eligible beneficiaries at the beginning of the pre-MFP period, and it increased to about 13.2 per 1,000 at the end of the post-MFP period. The highest observed transition rate among this target population was about 29.1 per 1,000 eligible beneficiaries in post-MFP quarter 7. Transition rates for people with severe mental illness living in psychiatric facilities also fluctuated over time, and the fluctuations were more pronounced than those for the populations with intellectual disabilities. However, there was a general decreasing secular trend over time in the transition rates from the pre-MFP to the post-MFP period for people with severe mental illness. The transition rate among this target group started at 24.4 per 1,000 eligible beneficiaries at the beginning of the pre-MFP period, and it declined to 13.3 per 1,000 by the end of the post-MFP period.

Multiple factors likely explain these secular trends, from the changing composition of the eligible population to changing provider characteristics and behaviors. Other research indicates that many nursing facilities are shifting away from long-stay residential care financed by Medicaid to short-stay rehabilitative care frequently financed by Medicare (Lepore and Leland 2015). Analyses of nursing facility assessment data indicate that the percentage of nursing home residents receiving rehabilitative care has increased from 26 percent of residents in 2004 to 31 percent in 2014 (Harrington and Carrillo 2015). The changing acuity of the nursing home population presents a mixed picture. The percentage of nursing home residents who are bedfast changed little between 2009 and 2014, holding steady at a little under 4 percent. Conversely, the percentage chairbound increased from about 57 percent in 2009 to 64 percent in 2014. The percentage of residents dealing with bowel incontinence fluctuated from 44 to 48 percent between 2009 and 2014, but bladder incontinence increased steadily from 55 percent in 2009 to 62 percent in 2014.

Considering these other trends, it is not surprising to find that the descriptive data do not indicate that trends in transition rates changed after the MFP demonstration began. The one exception is the transition rates for people with intellectual disabilities which were higher in the period after MFP was implemented than before MFP. However, the transition rates for this population was generally trending upward before the implementation of MFP, which means that some of the growth in transition rates was due most likely to other secular trends. This early improvement in transition rates before the MFP demonstration and the variation across populations and how other factors can affect transition rates underscore the importance of controlling for pre-MFP trends and for separately examining each target population when estimating the association between the MFP demonstration and transition rates. The next section does just this and assesses transition rates after adjusting for observable characteristics of the eligible population and secular trends.

## **2. MFP's association with changes in transition rates**

In addition to the trends in transitions that are observable in the available data, we know that grantee states were taking other steps to rebalance the LTSS systems away from institutional care and toward community-based services when grantees began implementing their MFP

demonstrations. Failing to account for this context, and the issues described above, will lead to biased estimates of the association between the MFP demonstration and transition rates. To formally test for changes in transition rates, we estimated regression models that control for existing trends within each target population. The objective was to determine whether transition rates changed markedly after the launch of the MFP demonstration in each state or if they continued to follow their existing trajectories.

The unit of analysis for the regression models was a person-quarter, and we estimated the probability that a person transitioned to the community in a given quarter in which the person was eligible for MFP. Therefore, the regression yields an estimate for the average change in quarterly transition rates in each post-MFP quarter. We then used these estimates to compute (1) the regression-adjusted count of transitions for each post-MFP quarter; and (2) the expected number of transitions for each post-MFP quarter, if transition rates had followed their pre-MFP trajectories. The difference between these two counts is the change in the number of transitions in the post-MFP quarters, above what we would have predicted given existing trends. We estimated models separately by target population. For additional details about the regression model, control variables, and data structure, see Appendix B.

The regression models build on the descriptive analyses of transition rates in two ways. First, the models account for any preexisting trends in transition rates that were occurring in the years leading up to the implementation of the MFP demonstration. Although the national MFP demonstration started transitions in 2008, not every state joined at the same time. Because the pre- and post-MFP periods vary by grantee state, we exploited this variation by defining the pre- and post-MFP periods relative to each state's implementation date (the date of its first MFP transition).<sup>18</sup>

The regression models for nursing home residents also included patient-level information taken from the NF-MDS assessment data. The NF-MDS contains detailed information on patients' limitations with ADLs and level of care needs, factors that can influence a person's ability to transition to the community. Further, we controlled for basic patient characteristics—such as 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 demonstration effects on transition rates.

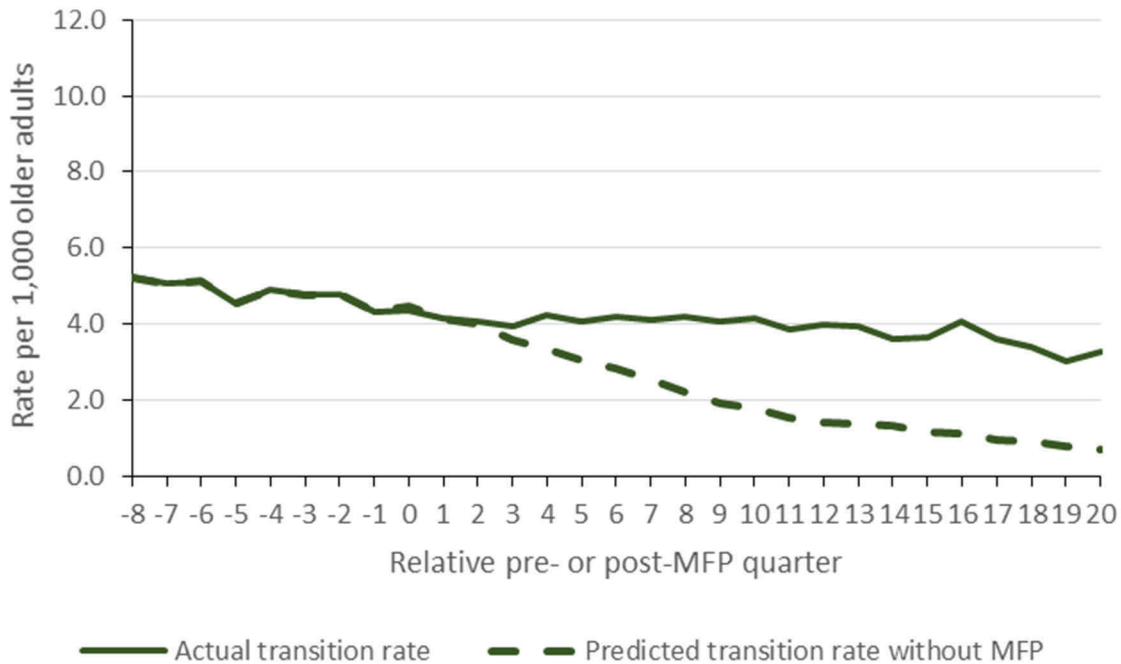
Figures II.5 and II.6 display the results from the regression analyses for older adults and those with intellectual disabilities, respectively. In each figure, the solid line shows the observed quarterly rate of transitions per 1,000 eligible beneficiaries, after controlling for individual-level characteristics. The dotted line in each figure shows what the transition rate would have been if the MFP demonstration had not been implemented and the existing trends in transition rates from the pre-MFP period had continued in the post-MFP period. The vertical distance between the solid and the dotted line is the estimated change in overall quarterly transition rates that occurred

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<sup>18</sup> As noted previously, the analysis did not explicitly control for the effects of diversion programs that could influence the size and composition of the eligible population within a state.

after the launch of the MFP demonstration in each grantee state. The figures display the overall transition rate, and includes both MFP participants and other transitioners.

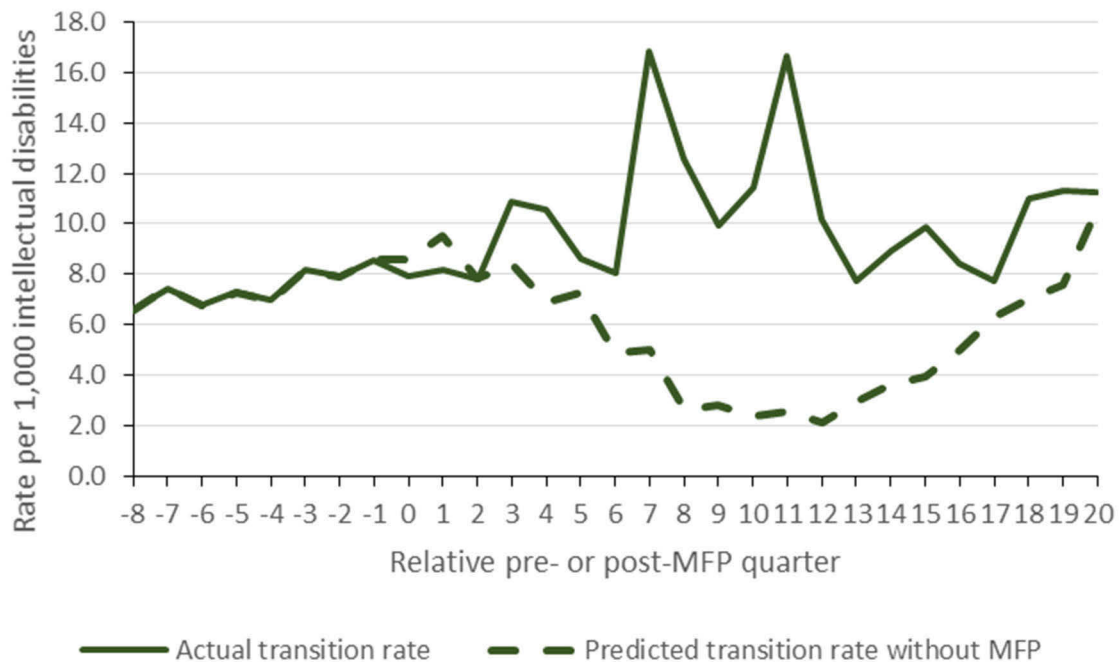
**Figure II.5. Regression-adjusted trends in transition rates: Older adults in nursing homes**



Source: Mathematica analysis of 2008–2012 Medicaid Analytic eXtract (MAX).

Note: The transition rate includes both MFP participants and other Medicaid beneficiaries who transitioned to community-based long-term services and supports (LTSS) in 17 grantee states that started MFP transitions in 2008. On average, MFP participants accounted for 14 percent of total transitions in this targeted population during a quarter, the maximum was 23 percent across all post-MFP quarters. Quarter 0 corresponds to the state’s first MFP transition. Quarters -8 through -1 correspond to the pre-MFP period, and quarters 0 through 20 correspond to the post-MFP period.

**Figure II.6. Regression-adjusted trends in transition rates: People with intellectual disabilities in intermediate care facilities**



Source: Mathematica analysis of 2008–2012 Medicaid Analytic eXtract (MAX).

Note: The transition rate includes both MFP participants and other Medicaid beneficiaries who transitioned to community-based long-term services and supports (LTSS) in 17 grantee states that started MFP transitions in 2008. On average, MFP participants accounted for 47 percent of total transitions in this targeted population during a quarter, the maximum was 60 percent across all post-MFP quarters. Quarter 0 corresponds to the state's first MFP transition. Quarters -8 through -1 correspond to the pre-MFP period, and quarters 0 through 20 correspond to the post-MFP period.

For older adults, there was an overall decline in transition rates over time (Figure II.5) after adjusting for the demographic characteristics of the eligible population and secular trends, consistent with the patterns that were observed in the unadjusted, descriptive trends (Figure II.4). Given the existing decline in transition rates before the launch of MFP, the model predicted a continuing downward trend in transition rates had MFP not been implemented. However, the regression-adjusted transition rates were higher than the predicted transition rates without MFP for quarters after MFP started. These results suggest that the launch of MFP was positively associated with the probability of transitioning older adults from nursing homes to community-based LTSS, despite the overall declining transition rates. MFP in the study states appears to have moderated the downward trend in transitions among older adults residing in nursing homes.

We estimate that among older adults in the last years of data, about 25 percent of transitions can be attributed to MFP, representing people who would not have transitioned had MFP not been implemented. However, the number of people transitioned through other formal programs like those implemented in 29 states for people with disabilities of all ages could not be determined and are represented in the total number of transitions observed.



The transition rates among people with intellectual disabilities were higher than what we would have expected in most post-MFP quarters (Figure III.6). The difference between the actual and the predicted transition rates without MFP grew for post-MFP quarters 7–12 but then started to converge again in later post-MFP quarters. These results suggest that in the 17 study states, the launch of MFP increased transition rates in the post-MFP period among people with intellectual disabilities. The results also suggest, however, that this increase was transitory and did not persist for more than 18–20 months. Nevertheless, the overall transition rates among this target population grew over time.

In additional analyses, we estimate that about 50 percent of new transitions can be attributed to MFP during periods when the number of transitions surged. Again, these effects do not control or account for other formal non-MFP programs operationalized alongside the MFP demonstration at the same time, such as occurred in 12 states.

Similar to the trends over time for older adults in nursing homes, the transition rates for younger adults with physical disabilities in nursing homes also declined over time (results not shown). Transition rates in post-MFP quarters for this target group were slightly lower but very similar to what we would have predicted given existing trends. These results suggest that, among people with physical disabilities, the launch of MFP did not affect transition rates in the post-MFP period. This result is contrary to what was reported in the 2014 annual evaluation report for the national demonstration (Irvin et al. 2015) and suggests that results are sensitive to the states included in the analysis and the methodology used. Essentially, results are not robust and the findings presented in this report should be considered preliminary. Similarly, among people with severe mental illness who transition from long-term psychiatric facilities, transition rates in post-MFP quarters were very similar to what we would have predicted given existing trends (results not shown). The results indicate that the launch of MFP in the 17 study states was not associated with a change in transition rates among people with severe mental illness.

### **G. Post-transition outcomes**

Although the volume of transitions is an important measure of the effect the MFP demonstration has had on people who use LTSS, these transitions will be considered successful only if people can live in the community for a long period. Because states might have improved the overall infrastructure to support successful transitions with the launch of MFP, there might be spillover effects to all transitioners. In this section, we test whether the launch of the MFP demonstration was associated with changes in the rate of successful transitions for all Medicaid beneficiaries who transition from long-term institutional care to community-based LTSS. That is, we assess post-transition outcomes within 12 months of a person's transition to the community, including reinstitutionalization, mortality, and remaining in the community or having a successful 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 demonstration (Schurrer and Wenzlow 2011; Irvin et al. 2012). Because MFP participants might have been, on average, different from others who transitioned, the observed difference in mortality and reinstitutionalization rates could have been due to the differences in baseline demographics and

care needs between the two beneficiary groups. Results from earlier analyses that controlled for baseline characteristics found that after grantee states began implementing MFP, older adults were statistically significantly more likely to have a successful transition and were less likely to be reinstitutionalized within 12 months after transition. However, no change in post-transition outcomes for other target populations was detected after grantee states began MFP transitions (Irvin et al. 2015).

The regression models used in the analyses described below control for differences in person-level characteristics to isolate the effect of the MFP demonstration on post-transition outcomes. They also control for any existing trends in outcomes that were present before the launch of the MFP demonstration. Similar to the models estimated for the transition rate analyses, we estimated post-transition outcomes separately by target population and tested whether rates of post-transition outcomes deviated from existing trends in the post-MFP period. Because mortality was a relatively rare event among those with intellectual disabilities and severe mental illness, we did not investigate 12-month mortality rates for these two target populations. For older adults and younger adults with physical disabilities, we considered 12-month mortality as an additional outcome (see Appendix B for more details).

Figures II.7 through II.9 display the results from the post-transition outcomes analyses for younger adults transitioning from nursing homes. The results are presented in a similar way to the results for the transition rates regression analyses. In each figure, the solid line shows the observed probability of each post-transition outcome, after controlling for patients' characteristics. The dotted line shows what the probability would have been if the MFP demonstration had not been implemented and the existing trends from the pre-MFP period had continued in the post-MFP period. The vertical distance between the solid and the dotted line is the estimated change in the probability that occurred after the launch of the MFP demonstration in each state.

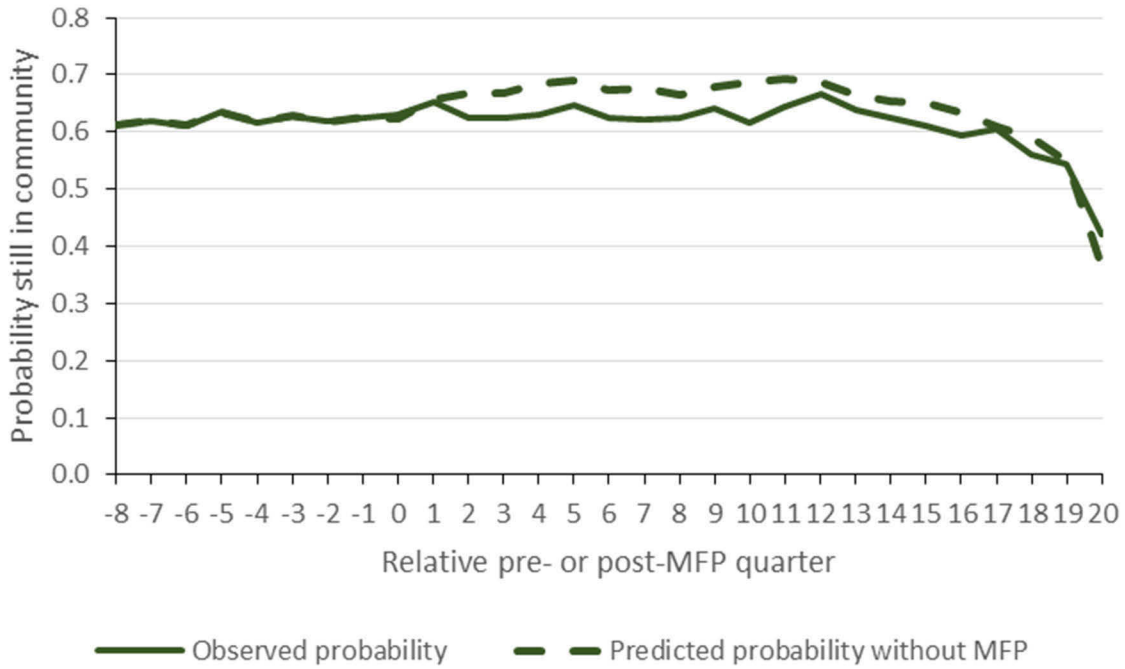
For younger adults with physical disabilities transitioning from nursing homes, the probability of remaining in the community and of returning to the institution within 12 months after transition were not significantly different from what we would have predicted in the absence of MFP in any post-MFP quarter (Figures II.7 and II.8). The probability of dying within 12 months after transition was statistically significantly higher in post-MFP quarters 7 through 11 but was otherwise not different from what we would have predicted given the existing trends (Figure II.9). Given the restricted number of states in the sample, 17 of the 44 grantee states, and the transitory nature of the higher rate, we do not consider these to be robust results.<sup>19</sup>

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<sup>19</sup> The models of mortality rates do not control for use of hospice, which would be an end-of-life indicator and suggest that some may prefer to spend their final days in a community setting. In Chapter V, we present data that suggests about 1 percent of MFP participants use hospice services compared to 15 percent of other transitioners.



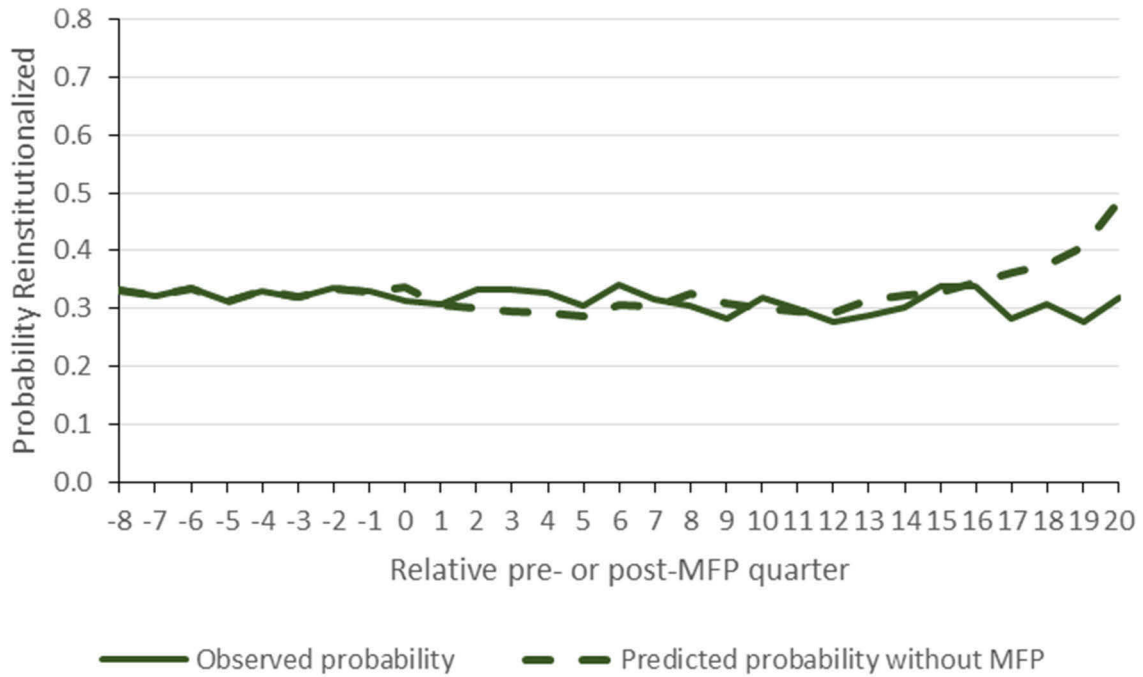
**Figure II.7. Regression-adjusted probability of remaining in the community: Younger adults with physical disabilities who transition from nursing homes**



Source: Mathematica analysis of 2008–2012 Medicaid Analytic eXtract (MAX).

Note: The 12-month post-transition probabilities of remaining in the community reflect outcomes of both MFP participants and other Medicaid beneficiaries who transitioned to community-based long-term services and supports (LTSS) in 17 grantee states that started MFP transitions in 2008. Quarter 0 corresponds to the state's first MFP transition. Quarters -8 through -1 correspond to the pre-MFP period, and quarters 0 through 20 correspond to the post-MFP period.

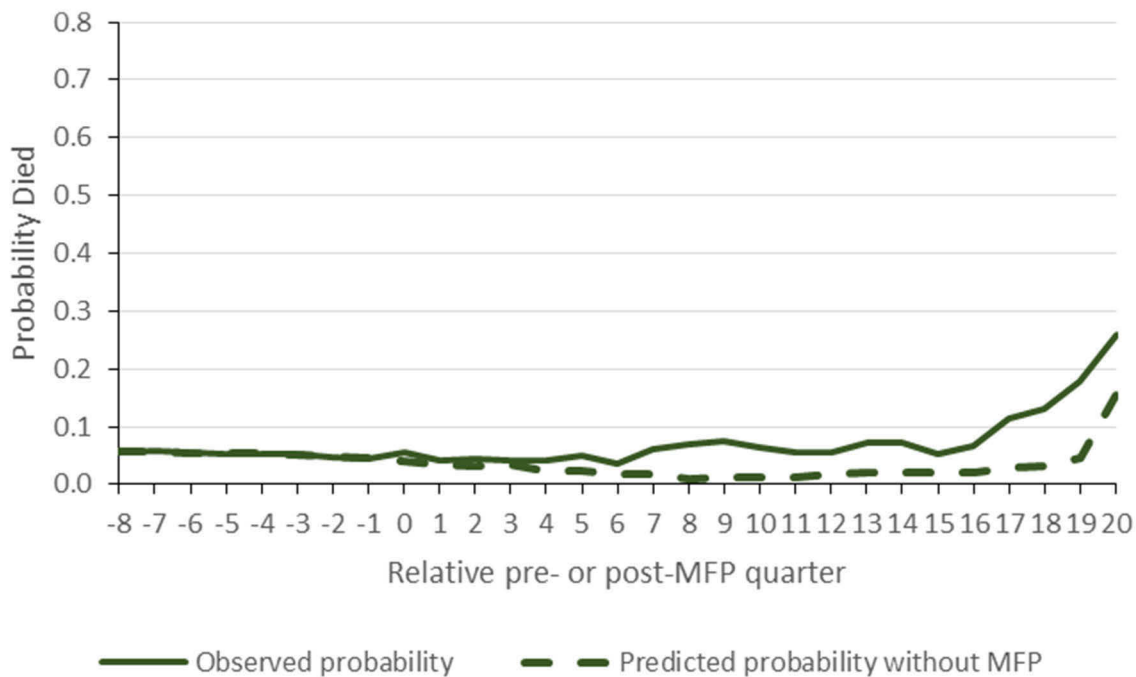
**Figure II.8. Regression-adjusted probability of returning to institutional care: Younger adults with physical disabilities who transition from nursing homes**



Source: Mathematica analysis of 2008–2012 Medicaid Analytic eXtract (MAX).

Note: The 12-month post-transition probabilities of returning to the institution reflect outcomes of both MFP participants and other Medicaid beneficiaries who transitioned to community-based long-term services and supports (LTSS) in 17 grantee states that started MFP transitions in 2008. Quarter 0 corresponds to the state’s first MFP transition. Quarters -8 through -1 correspond to the pre-MFP period, and quarters 0 through 20 correspond to the post-MFP period.

**Figure II.9. Regression-adjusted probability of death: Younger adults with physical disabilities who transition from nursing homes**



Source: Mathematica analysis of 2008–2012 Medicaid Analytic eXtract (MAX).

Note: The 12-month post-transition probabilities of dying reflect outcomes of both MFP participants and other Medicaid beneficiaries who transitioned to community-based long-term services and supports (LTSS) in 17 grantee states that started MFP transitions in 2008. Quarter 0 corresponds to the state's first MFP transition. Quarters -8 through -1 correspond to the pre-MFP period, and quarters 0 through 20 correspond to the post-MFP period.

Among older adults, the probability of remaining in the community for 12 months after transition was lower in the post-MFP period than what we would have predicted based on the existing trends, but this difference was statistically significant only in post-MFP quarters 17 through 19 which are too few to be considered a robust result (results not shown). After MFP transitions began, older adults in the 17 study states had a higher probability of dying, but their probability of returning to institutional care was similar to what we would have predicted based on the pre-MFP trends. The difference between the observed and the expected mortality rate was significant in post-MFP quarters 4 through 19. The reasons for this pattern in mortality rates is unclear. Given the analysis included only 17 grantee states, it is not clear the results can be generalized to the entire demonstration. In addition, the analysis did not control for receipt of hospice care, which beneficiaries may have gotten through either Medicaid or the Medicare program (if dually eligible for both). Data published by the National Hospice and Palliative Care Organization (2015) suggest that hospice care was growing after the MFP demonstration began. More research is required to better understand this issue, particularly given that for some, spending their last days in the community rather than in an institution would be preferred.

The probabilities of remaining in the community and returning to the institution among transitioners with intellectual disabilities were similar to what we would have expected for most

post-MFP quarters (results not shown). However, the probability of remaining in the community was significantly lower in post-MFP quarters 6–10, and the probability of returning to the institution was significantly higher in those same post-MFP quarters. Given the transitory nature of these results, we do not believe they are robust enough to be considered findings.

Among transitioners with severe mental illness, the probability of remaining in the community was similar to what we would have expected in the early post-MFP quarters, but it was significantly lower in several later post-MFP quarters (results not shown). Specifically, the difference in the probability of remaining in the community was significantly lower in post-MFP quarters 13, 15, 16, and 18–20. The probability of returning to the institution showed a parallel pattern. The probability of returning to the institution was similar to what we would have expected in early post-MFP quarters, but it was significantly higher in post-MFP quarters 13, 15, 16, and 18–20.

## **H. Discussion**

Calendar year 2015 marks the seventh consecutive year the volume of MFP transitions increased. The 11,661 transitions that occurred during the year brought the cumulative number of MFP transitions to 63,337 beneficiaries moved to community settings, a 23 percent increase over the reported cumulative total from 2014. Since 2012, MFP grantees have transitioned about 1 percent of the eligible population on an annual basis. The penetration of MFP into the eligible population may be underestimated if some proportion of eligible population prefers institutional care over community-based care or communities are unable to support the needs of those with the most severe impairments. Regardless, the current annual volume of transitions should also be considered in the context of the funds available for the MFP demonstration. The \$4 billion allocated to the MFP demonstration will eventually be spread across 14 years, from 2007 when the first cohort of grantees received their first allocation of funds and began building their demonstrations through 2020, the last year grantees can expend their MFP grant funds. In addition, MFP grant funds represent a very small proportion of spending on community-based LTSS. Using financial reports submitted by the grantees, we estimate that through 2014, MFP expenditures represented less than 0.5 percent of total expenditures on community-based LTSS incurred by the grantee states during this period. This becomes even smaller if we were to factor in expenditures for institutional care. Seen from this perspective, the volume of MFP transitions reflects the level of funding available for the demonstration.

In the most recent analyses of MFP and its association with state-level transition rates and post-transition outcomes in 17 states, we find several positive results. We find that MFP is associated with higher rates of transitions than what we would have predicted among older adults residing in nursing homes and beneficiaries residing in intermediate care facilities for individuals with intellectual disabilities. Among older adults, the overall transition rate was on a downward trend before the MFP demonstration began and we predicted that the downward trend would continue after the MFP demonstration. The actual transition rates among older adults was higher than what we predicted, although actual transition rates were also on the decline. This result suggests that MFP most likely dampened the downward trend in transitions among older adults residing in nursing homes.

The analyses of post-transition outcomes indicate that MFP is associated with an increase in mortality rates among older and younger adults transitioning from nursing homes to community-based LTSS. Because some may prefer to spend their final days in a community setting, this outcome may be desirable. However, these results should also be considered inconclusive because the analysis did not control for use of hospice services and the higher mortality rates for younger adults were transitory. Because these analyses included all Medicaid beneficiaries who transitioned from long-term institutional care to community-based LTSS, it is also possible our results reflect other secular trends that could not be controlled for in the analysis. In addition, the analysis only included 17 grantee states and it may not be appropriate to generalize the results to the entire demonstration.

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### III. THE HOUSING CHALLENGE AND STATE HOUSING STRATEGIES

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Since the MFP demonstration began, state grantees have consistently noted in their semiannual progress reports that the lack of affordable and accessible housing and the insufficiency of community-based services have been primary barriers to transitioning eligible, interested people. This chapter first describes the types of community residences MFP participants move to and how the type of residence differs across the different targeted populations. It then describes housing barriers and grantee strategies for securing affordable and accessible housing.

#### **A. The types of community residences secured for MFP participants**

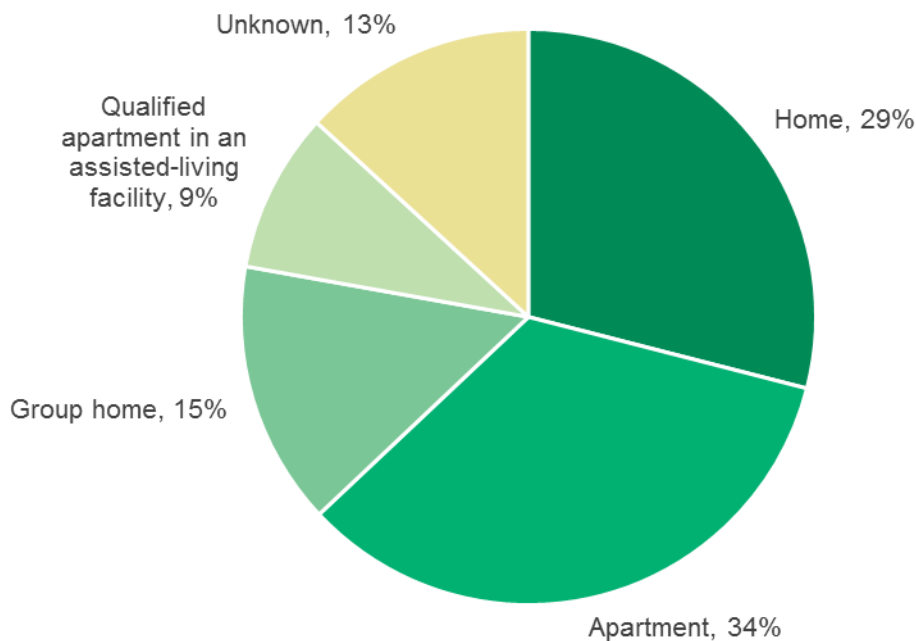
To be eligible for the MFP demonstration, participants had to transition to a qualified residence, including an apartment, a home, or a small group home. The statute restricted group homes to no more than four people and most forms of assisted living are not considered qualified.<sup>20</sup> In essence, the MFP *qualified residence* requirement is designed to foster community residences that facilitate community integration and are not alternative forms of institutional living that restrict someone's independence or choice of provider for in-home services.

Apartments have been the most common type of community residence among MFP participants. About 34 percent moved to an apartment, and another 9 percent moved to an apartment in an assisted-living facility (Figure III.1). Because Medicaid beneficiaries in long-term institutional care typically have few resources, we assume that the majority of MFP participants moving to apartments receive some type of rental subsidy or financial assistance that offset the costs of maintaining their apartments. Data have not been available to allow us to confirm this assumption. The second most common type of community residence is a home (29 percent) owned by the participant or a family member. A smaller percentage of participants transitioned to a group home of four or fewer people (15 percent). For about 13 percent of MFP participants, data on their community residence was missing or unknown because of difficulties some states had reporting this information.

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<sup>20</sup> Program requirements restrict the types of assisted-living arrangements that qualify for the MFP demonstration. For an assisted-living apartment to qualify, it must (1) have an individual lease; (2) have lockable access and egress; (3) have a living area, sleeping area, bathing area, and cooking area over which the individual or the family has domain and control; and (4) include the common practice of *aging in place* so that a resident is not terminated as a result of declining health or increased care needs. Further, the lease or resident agreement cannot include (1) a requirement that services be provided as a condition of tenancy or from a specific company for services available in addition to those included in the rate, (2) a provision requiring that the lease-holder notify the administrators about absences from the facility, or (3) the right to assign apartments or change apartment assignments beyond the normal provisions of landlord-tenant law.

**Figure III.1. Percentage of MFP participants who transitioned to each type of qualified community residence, 2008–2015**



Source: Mathematica analysis of the quarterly MFP Program Participation Data files, 2008–2015.

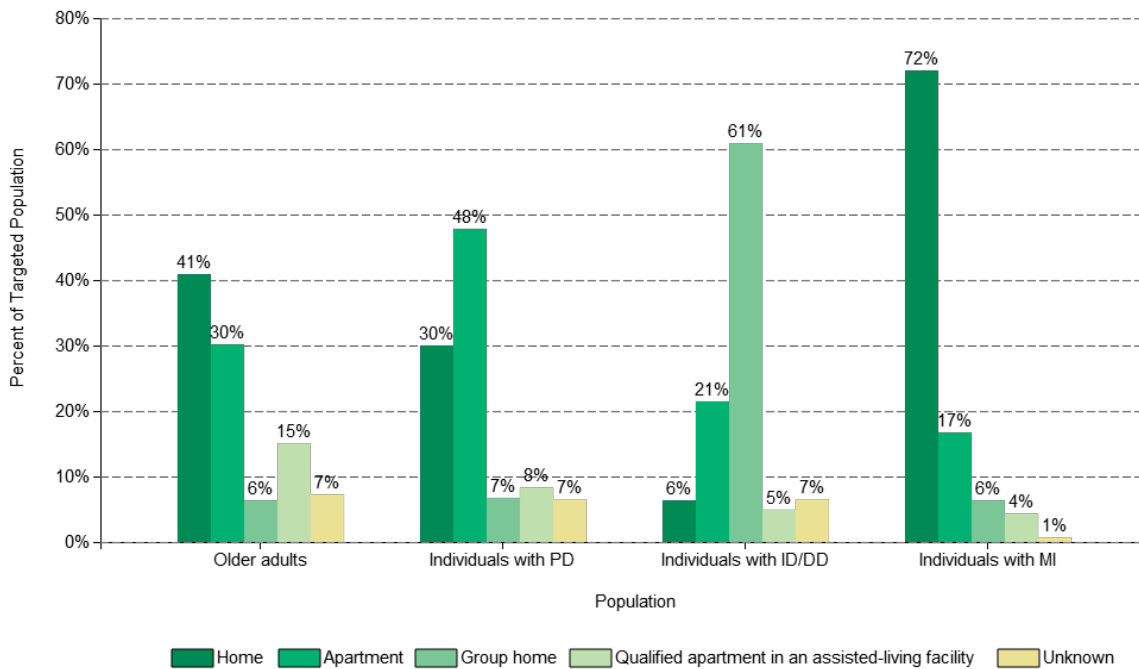
Note: Number of observations = 61,047.

The types of residence secured for MFP participants varies across the different target populations (Figure III.2). A home, defined as a residence owned or leased by the participant or the participant’s family member, is the most common community residence for older adults who transition from nursing homes (41 percent of this group moved to a home). Younger adults with physical disabilities who also transition from nursing homes tend to move to apartments (48 percent), which must have an individual lease, lockable access and egress, and includes living, sleeping, bathing, and cooking areas over which the individual or individual’s family has domain and control. Most individuals with intellectual or developmental disabilities (61 percent) transitioned to a qualified group home, and the majority of those who transitioned from long-term psychiatric facilities moved to a home owned or leased by the participant or a family member (72 percent).

The variation in participant’s community residence most likely reflects an assortment of factors, including the availability of family and friends who can provide housing, participant preferences, and the need for assistance on a 24-hour basis. This variation also demonstrates how grantee states have had to help secure a wide array of housing arrangements.



**Figure III.2. Type of qualified residence by targeted population, 2008–2015**



Source: Mathematica analysis of the quarterly MFP Program Participation Data files, 2008–2015.

Note: Number of observations = 61,047.

ID/DD = intellectual or developmental disabilities; MI = mental illness; PD = physical disabilities.

**B. The challenges of securing housing**

Medicaid beneficiaries who are long-term residents of institutions such as nursing homes, intermediate care facilities for individuals with intellectual disabilities, and long-term psychiatric facilities have few resources and frequently have lost connections to the community. Many need help finding appropriate housing if they want to transition back to the community and receive services in a community-based setting. In 2015, nearly all states participating in the MFP program (38 from January to June, 2015; 37 from July to December 2015) reported at least one challenge securing housing for MFP participants, which is critical for a successful transition.

State grantees have reported that they could transition more people if more affordable and accessible housing were available. In 2015, as in previous years, the most common challenge to securing qualified housing for MFP participants was an insufficient supply of affordable and accessible housing (30 states January to June 2015; 29 states July to December 2015). For example, Colorado reported in 2015 that about 75 percent of beneficiaries who expressed interest in transitioning to the community were unable to do so because the demonstration could not secure affordable housing. Related, but more specific, challenges reported by grantee states include (1) insufficient supply of rental vouchers, (2) a lack of small group homes, and (3) insufficient funding for home modifications. Other challenges reported include difficulty in hiring housing specialists (state staff who work on housing policy at the state level and housing

transition coordinators who help beneficiaries secure appropriate housing), variation in the availability of housing resources across different regions within a state, unwillingness of some landlords to accept vouchers, discontinuation of a voucher program, difficulty obtaining priority for MFP participants for housing programs, difficulty accessing available funds for home modifications, and state housing vouchers that are designed for people who are homeless but exclude those residing in institutions (Morris et al. 2016).

All states struggle with providing sufficient housing for particular populations, and MFP participants and others who want to leave institutional care constitute yet another claim on tight state and federal resources. Unless an MFP demonstration negotiates preferential treatment for MFP participants, there is no reason to believe, a priori, that MFP participants are first in line for subsidized housing. According to the Department of Housing and Urban Development (HUD) (2015), 1.09 million non-elderly people with disabilities paid more than 50 percent of their income on housing in 2013, a 17 percent decrease from 2011. The income level of MFP participants, particularly those relying on Supplemental Security Income (SSI), is often too low to afford housing that is designated as “affordable” in state and federal housing programs. Whereas state and federal housing programs are designed to be affordable for households between thirty to eighty percent of area median income, rental assistance resources are much more limited for SSI recipients, whose incomes are generally at or below fifteen percent of the area median income. Housing units for the MFP population not only must be affordable, but often need to meet accessibility needs of the participant, such as some need wheelchair accessibility, others may need grab bars or live somewhere near public transportation or day programs.

Historically, HUD has had a small number of programs designed specifically for people with disabilities. Therefore, most people with disabilities are seeking predominantly the same type of housing subsidies that HUD has available for all other low-income households, including Section 8 rental assistance vouchers. Some MFP demonstrations have worked with local public housing authorities (PHAs) to obtain preferences for MFP transitions. Nevertheless, HUD has had three programs specifically for people with disabilities, two of which were designed specifically for people residing in institutions.

1. Before the implementation of the MFP demonstration, a pilot program known as *Project Access* operated in 11 states. The 400 vouchers HUD allocated to this program in 2000 were for people with disabilities who were residing in institutions. While HUD provided the vouchers and technical assistance, state Medicaid agencies used funds from Nursing Home Transition Grants and other funds and resources to help voucher holders make the transition to community living (HUD 2001).
2. The Non-Elderly Disabled Category Two (NED2) voucher program, established in 2011, provided 948 vouchers to 28 PHAs and required local PHAs to work with health and human services agencies to target the vouchers to non-elderly adults residing in institutions. In the end, 97 percent of the vouchers went to states that had MFP demonstrations. Research by Hoffman (2014) and Lipson et al. (2014) suggests that in the states with MFP demonstrations, the local PHAs always partnered with the MFP demonstration to identify candidates for the vouchers, facilitate the transition to the community, and support the voucher holders after they moved. Administrative personnel involved perceived that the

NED2 voucher program helped to produce new Medicaid-PHA partnerships at the state and local levels. Estimates based on administrative data also suggest that these particular vouchers supported transitions that would not have occurred otherwise.

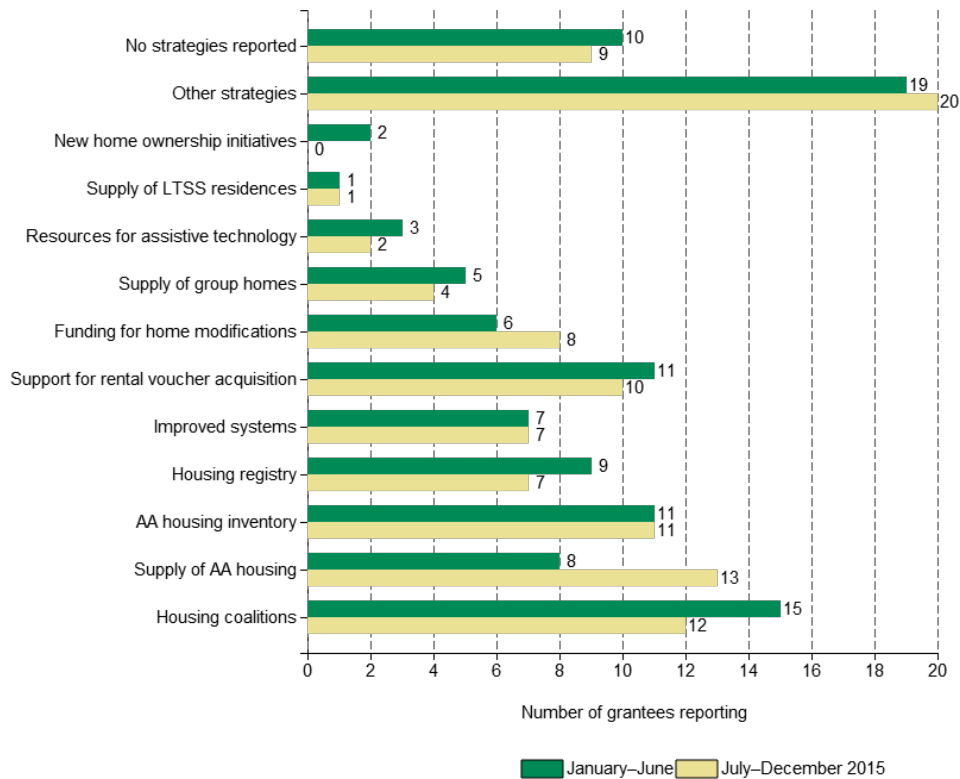
3. HUD's Section 811 Project Rental Assistance (PRA) program is providing integrated supportive housing units for people with disabilities. Through this program, HUD seeks to increase the supply of affordable housing by promoting state housing and Medicaid agency collaborations, and requires an interagency agreement between the state housing and health agencies to be eligible for the program. HUD allocated \$98 million in federal fiscal year (FFY) 2012 and \$150 million in FFY 2013 to this program. Of the 43 states that applied for Section 811 PRA funds, 28 states and the District of Columbia have been awarded funds and are expected to make available over 7,000 units between FFY 2012 and 2013 (HUD 2013 and 2015).

### **C. Approaches to addressing the housing challenge**

Thirty-seven of the 44 grantee states reported implementing, in 2015, at least one housing strategy aimed at addressing housing challenges and improving housing options for MFP participants during the year (Figure III.3). The most frequently reported strategy was the development of state or local coalitions of housing and human services organizations focused on creating housing initiatives (15 grantee states used this strategy from January to June 2015; 12 used it from July to December 2015). State agency collaboration was also the most common strategy in previous reporting periods. Other reported strategies for addressing housing challenges include developing partnerships with other agencies or landlords/developers to discuss the needs of the MFP population, exploring home modification options, increasing the number of housing staff, training transition coordinators, holding housing conferences, and conducting education and outreach activities (Morris et al. 2016).

The rest of this section summarizes progress made by grantee states in overcoming housing barriers, as identified in their semiannual progress reports. The activities fall into four broad categories: (1) to increase the supply of housing options and resources, (2) to promote long-term collaboration between health and housing agencies, (3) to increase resources to facilitate transitions, and (4) to provide assistance and support to tenants.

**Figure III.3. MFP grantees’ strategies to address the housing challenge, January 1 to December 31, 2015**



Source: Mathematica analysis of State MFP Grantee Semiannual Progress Reports, 2015.

Notes: Information from 44 grantee states. Grantee states may report more than one type of effort to improve housing.

Other housing-related strategies included developing partnerships with other agencies or landlords/ developers to discuss the needs of the MFP population, exploring home modification options, increasing housing staff, training, holding housing conferences, and conducting education and outreach activities.

AA = affordable and accessible housing; LTSS = long-term services and supports.

### 1. Increasing the supply of housing

**Advocating for more state investment and federal funding opportunities.** State MFP demonstrations are actively engaging governors’ offices, legislatures, and state housing finance agencies to promote state investment and use of federal funding opportunities to develop affordable and accessible housing, including supportive housing programs. State grantees are also participating and helping to nurture interagency partnerships among health and housing agencies, both at the state and local levels. In 2015, 25 MFP grantee states were working on these partnerships to develop integrated rental housing with supportive services using HUD’s Section 811 PRA funding described previously. Other strategies in this area include incentivizing housing agencies to provide affordable housing units or rental assistance for MFP participants and other individuals transitioning from institutions. For example, as a result of work with Iowa’s MFP program, Iowa’s housing authority now requires that applicants to its programs (such as tax credit programs and state housing trust funds) demonstrate a willingness to partner

with the MFP program when units become available. Similarly, Michigan sets aside 25 percent of its tax credit allocations for projects devoting at least 25 percent of units to permanent supportive housing.

**Financing the modification of existing housing units.** In addition to new development opportunities, states have increased the supply of accessible housing by modifying existing units. In some states, such as Virginia, Medicaid 1915(c) waiver programs do not adequately cover home modifications, or cover them only after a person has transitioned and is enrolled in the waiver. Because most people need such modifications prior to the transition, grantees such as the District of Columbia and Massachusetts fund home modifications before a person transitions so that the community residence is a secure, accessible environment properly equipped with assistive technology. Since January 1, 2015, Nebraska has been using MFP rebalancing funds for home modifications; funds are provided to the Assisted Technology Partnership, which connects contractors to people who need modifications. In 2015, Nevada's Stakeholder and Steering Committee identified the need to provide additional funding for environmental modifications and made this a part of Nevada's plan for sustaining the MFP demonstration. When modification funds are not sufficient, states have looked to alternative resources for modifying homes. For example, Missouri has worked with local charities to obtain funding and assistive technology. To make housing accessible until permanent modifications are complete, Ohio's MFP demonstration provides modular ramps so that beneficiaries can transition right away and not wait for the installation of a permanent ramp.

**Supporting the development of qualified group homes.** In 2015, more than 25 percent of MFP grantee states reported an insufficient supply of qualified small group homes as a housing-related barrier for potential MFP participants. The problem is acute for participants with intellectual or developmental disabilities, who are more likely than other targeted populations to transition to a small group home. As the result of Department of Justice or Olmstead-related lawsuits, several states have closed institutions that serve this population, which has pressured states to develop this type of housing quickly. States are also grappling with the new home and community-based settings rule that was finalized in January 2014.<sup>21</sup> This rule established mandatory requirements for the qualities settings must have to be considered a home and integrated with the greater community.<sup>22</sup> Some of these requirements, such as allowing residents to control their schedules and activities, or to access food or have visitors at any time, may be particularly challenging for group homes. To address the shortage of group homes, states are promoting the development of smaller qualified group homes through a range of financial incentives, such as tax benefits for potential developers. Illinois is working with the Illinois Facilities Fund-Home First Illinois to create 10 four-person group homes, known as community-integrated living arrangements, which will be leased to people with developmental disabilities interested in moving out of state-operated developmental centers and intermediate care facilities.

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<sup>21</sup> Final rule CMS 2249-F and CMS 2296-F, published in the *Federal Register* on January 16, 2014.

<sup>22</sup> The intent of the rule is to provide community-based housing that is integrated in and supports access to the greater community; provides opportunities to seek employment and work in competitive integrated settings, engage in community life, and control personal resources; and ensures the individual receives services in the community to the same degree of access as individuals not receiving Medicaid community-based LTSS.

States such as Connecticut, also help match up people who are willing to share an apartment with someone else.

**Harnessing Federal funding to build partnerships between health and housing and to increase the supply of affordable housing.** Since the start of the MFP demonstration, grantees have pursued other Federal grants to help them build partnerships with housing agencies and expand the supply of affordable and accessible housing. The NED2 voucher program noted previously was one example of a Federal housing program that required housing agencies that applied for these vouchers to partner with the state's health agency. In many of the 13 grantee states that received NED2 vouchers, the MFP demonstration was the organization that provided fundamental support to the partnership through its investment in housing specialists and promotion of collaborations between services and housing. In 2012, Real Choice Systems Change (RCSC) grants were awarded by CMS to six MFP states to strengthen partnerships between Medicaid and housing agencies. All six grantees used RCSC funds to prepare applications for 811 PRA funding. RCSC funds were also used to educate developers and build online housing locator tools and state housing registries (Kehn 2014). As noted previously, more than half of grantee states actively transitioning participants in 2015 received Section 811 PRA funding in FFY 2012 or 2013, which requires an interagency partnership between the state housing and health agencies; many of these states reported that the funding was a crucial resource for providing community homes to MFP participants. In this program, the state Medicaid program needs to commit to providing access to on-going support services to help people with disabilities secure and maintain housing, including outreach and referral. MFP grantee states have high expectations for what the Section 811 PRA funding might do to increase the supply of affordable and accessible housing. For example, Colorado reported that the Division of Housing was awarded \$7.6 million in Section 811 PRA funding and will begin developing 70 new and 40 existing units of permanent supportive housing in 2016. Illinois reported that the state is adding new units with 811 PRA funding every month and managing access to them through an online housing locator. In 2015, Louisiana proposed to bring 200 accessible and integrated units online using funding from the Section 811 PRA program, and preferences will be given to MFP participants. Michigan received its first Section 811 PRA funding in 2015 which will be used to provide housing to 200 Michigan residents with disabilities; the Michigan State Housing Development Authority will be leveraging the HUD subsidized units with 100 additional tenant-based vouchers.

**Increasing housing through outreach to property owners.** Many states have conducted outreach to landlords, property owners, management companies, and housing providers to build relationships, promote awareness of the MFP population, address stigma associated with renting to individuals with disabilities, and secure housing units. Grantee states can bolster this outreach by providing on-going supports and services for MFP participants. For example, Massachusetts has a housing specialist, known as the MFP Strategic Housing Partnership Coordinator, who works alongside two non-profit consumer advocacy housing organizations (1) to build partnerships with developers and public housing authorities, and (2) to coordinate waitlists and referral processes.



## **2. Promoting long-term collaboration between health and housing**

Since the initiation of the MFP program in 2008, states have continually reported that the MFP demonstration has encouraged and strengthened collaborations between state health and housing agencies, which rely on one another to provide sufficient support for an individual to transition to community living. Medicaid agencies depend on housing agencies to provide housing resources that align with state policies, whereas housing agencies rely on Medicaid to provide the services an individual needs to remain in his or her new home. Several states, including Mississippi and Tennessee, are working with local housing and public health agencies to give MFP participants priority status on waiting lists. States that have received Section 811 PRA grants are building partnerships among Medicaid, housing, social services, mental health, public health, and developmental services to expand the supply of supportive housing units and to educate developers on the needs of the MFP community. In Colorado, the Medicaid Office and the Division of Housing (DOH) formed a partnership to improve the efficiency of a home modification benefit. The state described how the state Medicaid program brings knowledge of health services to the partnership while DOH offers home rehabilitation expertise. In addition to what the state grantees have reported in their semiannual progress reports, we know that seven of the eight states participating in the Medicaid-Housing Agency Partnership Initiative component of the Medicaid Innovation Accelerator Program (IAP) are MFP grantees (California, Connecticut, Hawaii, Illinois, Kentucky, New Jersey, and Nevada), and we anticipate that these states will further health and housing collaboration efforts that began under the MFP demonstration. Furthermore, as noted previously, six MFP states have used RCSC grants to strengthen and leverage state Medicaid agencies' partnerships. The six grantee states reported that the Section 811 PRA application process improved inter-agency relations, which had long-term spillover effects. Medicaid grantee agencies in Indiana, Maryland, and Wisconsin were involved in revising housing agencies' Qualified Allocation Plans to align with Section 811 PRA principles.<sup>23</sup> RCSC grantees reported that through collaboration with housing agencies, they were able to secure prioritization of housing assistance for people with disabilities (Kehn 2014).

## **3. Increasing housing resources to facilitate transitions**

States have used MFP rebalancing funds to develop educational resources and hire housing specialists to identify affordable and accessible housing with greater efficiency. For example, many states have created online housing inventories of eligible units. The Colorado DOH compiled a comprehensive list of affordable, accessible housing and made it available on their online housing search tool, which transition coordinators are trained to use. In 2015, Hawaii updated its statewide housing inventory to include more comprehensive information, such as populations served, number of bedrooms, funding sources, accessible units, and range of rental costs with associated income targets. States have also developed trainings to educate MFP transition coordinators about statewide housing search websites. Illinois implemented a new case worker portal that allows transition coordinators to screen participants for two major affordable housing resources managed by the state and match their accessibility needs with unit features.

Many states have developed informational resources to educate stakeholders about the MFP population, their housing needs, and various housing resources. In Colorado, where many

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<sup>23</sup> Both Maryland and Wisconsin have received Section 811 PRA awards, but Indiana has not.

accessible units have been given to people without disabilities when they are available, DOH used regional meetings to educate housing providers on Fair Housing and Section 504 of the Americans with Disabilities Act and to facilitate a discussion on effective use of accessible housing. To support housing for people with disabilities, DOH is also working with the Colorado Housing and Finance Authority to sponsor toolkits for housing developers. The MFP housing coordinator in Montana has focused efforts on educating case managers, service providers, and discharge planners about the “language” of housing, the various subsidized programs, and general housing information. North Dakota led a landlord compliance training, met with rental associations, and confronted public and political misinformation about the North Dakota Housing Incentive Fund.

Most MFP programs use either MFP administrative funding or MFP rebalancing funds to employ housing specialists who focus on building partnerships with housing agencies, identifying housing units, and educating stakeholders about the MFP populations’ needs and available resources. Some grantee states employ a single specialist who focuses on the development of state-level housing policy; other grantee states employ several housing specialists who work in tandem with transition coordinators but focus on securing the type of community housing arrangements that MFP participants need.

Gaps in funding and long waitlists for housing vouchers pose a barrier to timely transitions. To cover gaps in funding while people wait for permanent housing vouchers, several states, including Delaware, Illinois, Maryland, and North Carolina, have made bridge subsidies available to cover housing costs, thus allowing the individual to transition earlier than they otherwise could. In Maryland, a bridge subsidy was implemented to support 84 MFP participants for up to three years while they waited for a permanent voucher.

#### 4. Providing tenant assistance and support

After returning to the community, MFP participants often still require support services to integrate into and remain in their community residence. In 2015, MFP grantee states provided a variety of services to ensure that participants have the resources to remain in their new homes. We anticipate that many of the MFP grantee states, because of their participation in the Medicaid Innovation Accelerator Program (IAP), will devote more resources to this area over the next few years. One component of the IAP is devoted to providing 31 states with technical assistance in strengthening tenancy supports. All but 4 of the 31 participating states are MFP grantee states.<sup>24</sup>

**Financial assistance.** Several states are providing one-time moving expenses to mitigate the upfront costs of relocating, including pre-transition visits, adaptive aids, pantry items, and linens. New York’s *Home of Your Own program*, a partner of the MFP program, expanded the number and types of lending institutions and mortgage brokers it works with to help people secure appropriate housing. This expansion allows more MFP participants to continue working with the community banks they have relied on in the past. To help promote a successful rental

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<sup>24</sup> The four non-MFP states are Alaska, Arizona, Oregon, and Utah. The participating MFP grantee states are California, Connecticut, the District of Columbia, Delaware, Hawaii, Illinois, Indiana, Kentucky, Louisiana, Massachusetts, Maryland, Minnesota, Mississippi, North Carolina, North Dakota, Nebraska, Nevada, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Texas, Virginia, Vermont, and Washington.



relationship, many states, such as Michigan and Nebraska, provide budgeting assistance once people have transitioned.

**Independent living skills.** To promote successful community living, grantee states are providing services such as medication management, budgeting and money management, crisis planning, and training in tenancy (lease compliance, roles, rights, and responsibilities of landlord and tenants). New Jersey's Individual/Community Support program offers resources that allow a person to continue living and working independently, including transportation and skills training in money and time management, personal hygiene, communication, and social interactions.

**Personal barriers.** Landlords and management properties are often hesitant about leasing units to the MFP population when they have an imperfect financial and legal history. Grantee states have developed strategies to help MFP participants overcome personal barriers such as missing documents (income, birth certificate, and social security), bad credit, and criminal backgrounds. In Georgia, the program's housing manager helps participants with criminal backgrounds negotiate with property owners. Similarly, the Kentucky MFP demonstration is working with the Protection and Advocacy agency (which protects the rights of Kentuckians with disabilities) to help convicted felons obtain housing. To assist MFP participants who need legal representation, New Jersey has formed referral relationships with Disability Rights New Jersey, Legal Services of New Jersey, and Legal Services of Northwest New Jersey.

**Transportation.** Limited public transportation, especially in rural areas, renders otherwise suitable housing inaccessible and isolating. In New Jersey, older adults and people with physical disabilities are able to gain access to community services, activities, and resources through the Medicaid program's non-medical transportation benefit. To improve a participant's self-efficacy and quality of life, an approved provider may transport the participant to locations such as local shopping centers, beauty salons, financial institutions, and religious services. Further, limited transportation options prevent participants from accessing community-based LTSS. State Medicaid programs often provide non-emergency medical transportation for this population, but providers are not always reliable. To increase access to medical care, West Virginia Medicaid contracted with a non-emergency medical transportation broker to manage transportation services for 430,000 eligible Medicaid beneficiaries, including MFP participants. The state hopes that centralizing this service will improve its quality and reliability.

**Consideration of participants' housing preference.** States recognize that participants are more likely to stay in their new home environment if the housing unit meets their needs and personal preferences. To promote consumer choice, Minnesota uses an on-line housing survey to gather people's preferences. The state also uses a *Housing Benefits 101* website to help people understand what options are available. To assist participants who have difficulty traveling to visit potential rentals, Hawaii provides photos and videos of prospective units so that people can make better choices before committing to the transition. These pictures are also used at subsequent planning meetings to determine what types of supports would be needed in the unit.

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## **IV. MFP AND STATE EFFORTS TO REBALANCE LONG-TERM SERVICES AND SUPPORTS**

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In addition to operating a transition program, every MFP grantee state also operates a rebalancing program with the purpose of shifting the focus of state Medicaid programs from institutional to community-based LTSS. This chapter examines trends in community-based LTSS expenditures and reviews grantees' progress in meeting annual state-established targets for them. It also assesses how states have used MFP rebalancing funds to focus the LTSS system on community-based services rather than institutional care, while also examining how the Balancing Incentive Program has contributed to rebalancing successes. The chapter concludes with a state-level discussion of trends in the balance of LTSS over time.

### **A. Community-based LTSS expenditures for MFP grantees**

The federal statute that created the MFP demonstration requires that grantee states track and report their total community-based LTSS expenditures each year. Total Medicaid community-based LTSS expenditures include all federal and state funds spent on 1915(c) waiver services; home health, personal care, and other community-based expenditures provided as state-plan optional benefits for all Medicaid beneficiaries; and all spending on services provided to MFP participants.<sup>25</sup> These expenditures are considered an important indicator of progress toward MFP's overall goal of enabling more people, when desired, to receive LTSS in home or community settings. In addition, the statute that established the MFP rebalancing demonstration, the Deficit Reduction Act of 2005, included a maintenance-of-effort requirement that specified that grantee states cannot allow total expenditures on community-based LTSS to fall below what they spent in 2005 or what they spent on these services the year before the MFP grant program began in the state. Appendix C provides data on total community-based LTSS expenditures for each state that has participated in the MFP rebalancing demonstration from 2005 through 2014. All states participating in the MFP demonstration met this maintenance-of-effort requirement.

### **B. MFP grantees' total community-based LTSS expenditures**

The 44 grantee states that actively transitioned participants during 2015 showed continued growth in total community-based LTSS expenditures, with grantees reporting \$74.5 billion in such expenditures for the year (Figure IV.1). This level of spending represents a 3 percent increase over 2014 (\$72.4 billion), and an 8 percent increase over 2013 (\$69.2 billion). Actual community-based expenditures for all grantees in 2015 represents 98 percent of the aggregate expenditure goal across these grantees for the year, which is generally consistent with 2014 (nearly 100 percent) and 2013 (100 percent) reporting.<sup>26</sup> Spending on community-based LTSS

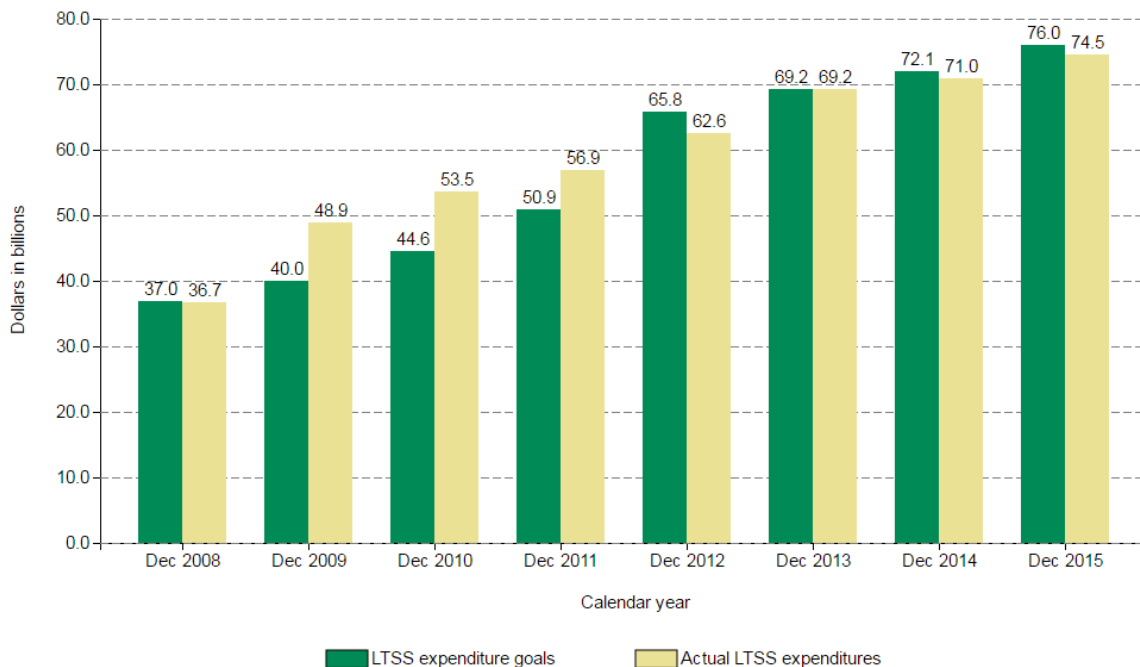
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<sup>25</sup> Other optional state plan community-based LTSS include services such as targeted case management, rehabilitation services, adult day health, private-duty nursing, and residential care, as well as services provided through 1915(i) state plan services, 1915(j) self-direction programs, 1915(k) Community First Choice programs, and Health Homes.

<sup>26</sup> Previous-year expenditures might not be consistent with counts provided in earlier MFP-related reports because some states experience lags in their data systems when trying to process claims. These states provide updated expenditure reports once their systems are able to process all claims associated with a given year.

for 2015 may show stronger growth once states finish processing claims for the year and modify spending for earlier years.<sup>27</sup>

**Figure IV.1. Projected and actual qualified community-based LTSS expenditures, December 2008 to December 2015**



Source: Mathematica's analysis of State MFP Grantee Semiannual Progress Reports, 2010–2015.

Note: The data are from 29 grantees in 2008-2010, 33 grantees in 2011, 37 grantees in 2012, 42 grantees in 2013, 45 grantees in 2014, and 44 grantees in 2015. Oregon formally withdrew in 2014.

When yearly spending amounts are aggregated together, grantee states spent more than \$473.3 billion on community-based LTSS from 2008 through 2015. The \$4 billion set aside for the MFP demonstration represents less than 1 percent of total spending on community-based LTSS among grantee states during these 8 years.<sup>28</sup>

<sup>27</sup> Grantees reported an additional \$6.4 billion in spending on community-based LTSS for 2013 when they updated their expenditure data in 2014, with New York and Illinois reporting the largest increases. More recently, grantees reported an additional \$2.1 billion in spending on qualified community-based LTSS for 2014 when they updated their expenditure data in the 2015 grantee progress reports. This update for 2014 included an additional \$107 million in expenditures for Delaware, which was missing in the 2014 reports. These 2014 updates suggest that when more complete data become available for 2015, the growth experienced in this year will be greater than the 3 percent reported above.

<sup>28</sup> In an analysis of LTSS expenditure data published by Eiken et al. (2016), MFP expenditures recorded by state grantees through 2014 represented about 0.45 percent of total spending on community-based LTSS in grantee states. The data suggest that MFP expenditures accounted for slightly more than 1 percent of total community-based LTSS expenditures in only five states (Georgia, Kansas, Maryland, Michigan, and Ohio).

State variation in the achievement of community-based LTSS expenditure goals shows a similar range to 2014. Among the 44 grantee states actively transitioning people in 2015, spending as a percentage of 2015 goals ranged from 41 percent (Connecticut) to 215 percent (New Jersey), which are the same two states that “bookended” the range in 2014.

- Twenty-four grantee states met or exceeded their spending goals in 2015. Ten of them (Idaho, Iowa, Kansas, Michigan, Missouri, Nevada, New Jersey, North Dakota, Texas, and Washington) achieved 110 percent or more of their goals.
- Conversely, of the 20 states that spent below their goals, 11 (Arkansas, California, Connecticut, Delaware, District of Columbia, Georgia, Indiana, Kentucky, Maine, New Hampshire, and Ohio) achieved less than 90 percent of their 2015 expenditure targets. As reported by grantee states, reasons for lower-than-expected achievement of community-based LTSS expenditure targets included (1) state budget issues that constrained spending, (2) delays in the implementation of new services, and (3) incomplete claims data due to processing lags in state systems that cause reported expenditures to appear to be lower than actual expenditures.

### **C. MFP service expenditures**

To meet the care needs of its participants, each MFP program provides a diverse set of community-based LTSS that span many professional competencies. This section focuses solely on the community-based LTSS financed with MFP grant funds, which excludes some community-based LTSS that MFP participants may receive through a state’s regular Medicaid program. To summarize the types of services used by MFP participants, we adapted the service taxonomy that Truven Health Analytics and Mathematica developed and tested for CMS (Wenzlow et al. 2011; Eiken 2012; Peebles and Bohl 2014). As with the taxonomy, the services are organized into 16 mutually exclusive categories, but we added a category to capture services that could not be classified because of inadequate information on the claims record (for example, vague procedure code descriptions). For 10 categories, we further divided services into 28 mutually exclusive subcategories,<sup>29</sup> far fewer than the 66 subcategories used in the original taxonomy. We used fewer subcategories because the volume of claims did not always support the level of detail that the original taxonomy was designed to capture.<sup>30</sup> When summarizing expenditures and service use by subcategory, we indicate when we adapted the taxonomy to better meet the needs of this study, whenever possible.

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<sup>29</sup> In past MFP annual reports, subcategory counts included categories with only one subcategory (for example, nursing). In this report, we exclude those subcategories from our count.

<sup>30</sup> We consolidated the subcategories of physician services, administrative drugs, prescription drugs, and other therapies into the medical services subcategory. We also created the vision/hearing subcategory.

## 1. Analysis of MFP service records

We analyzed the community-based LTSS claims records reported by 40 state grantees.<sup>31</sup> Four states (Alabama, Idaho, Montana, and Vermont) were excluded because their records were not of sufficient quality for analysis. We included 38,594 MFP participants who transitioned before the end of 2014 with at least one claim in the MFP services file. We excluded all expenditures for MFP participants enrolled in managed care. This analysis includes claims for \$1.34 billion in community-based LTSS provided to MFP participants by the end of 2015.

Table IV.1 provides a detailed breakdown of the service categories and subcategories provided to MFP participants through calendar year 2015. Because many of the category names are general, we include a description of the types of services that comprise each category. For example, the *coordination and management* category includes services that support the transition to the community, including care management, logistical planning, and working with a specialist to identify community housing options.

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<sup>31</sup> The analysis was based on data from the quarterly MFP Services files that grantees submit to CMS for the national evaluation. Community-based LTSS provided through the state's regular Medicaid program were not included.

**Table IV.1. Categories and subcategories of community-based LTSS provided to MFP participants who transitioned by the end of calendar year 2014**

Service category <sup>a</sup>	Description	MFP participants who used each service category		States that provided each service category	Expenditures for each service category
		Number	Percentage	Number	Percentage of national expenditures
<b>1 Home-based services</b>		<b>22,229</b>	<b>58</b>	<b>39</b>	<b>36.1</b>
1.1 Home health aide	Home health aide	3,441	9	22	1.4
1.2 Personal care	Personal or attendant care	19,486	51	36	32.1
1.3 Companion	Adult companion	1,045	3	16	0.9
1.4 Homemaker	Homemaker and chore services	2,938	8	24	1.8
<b>2 Round-the-clock services</b>		<b>7,842</b>	<b>20</b>	<b>34</b>	<b>27.0</b>
2.1 Group living	Group living	2,132	6	12	1.6
2.2 Shared living	Shared living, including adult foster care or adult family care	1,422	4	14	1.8
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	4,342	11	28	23.7
<b>3 Coordination and management</b>		<b>25,191</b>	<b>65</b>	<b>40</b>	<b>6.8</b>
3.1 Transition <sup>b</sup>	Transition coordination, transition specialist	17,333	45	35	4.5
3.2 Housing supports <sup>c</sup>	Assistance with finding housing and housing specialists	1,605	4	11	0.1
3.3 Case management <sup>d</sup>	Case coordination, plan development	16,387	43	37	2.2
<b>4 Supported employment<sup>e</sup></b>	Prevocational, supported employment, other employment services	<b>867</b>	<b>2</b>	<b>26</b>	<b>0.7</b>
<b>5 Day services</b>		<b>4,345</b>	<b>11</b>	<b>37</b>	<b>4.7</b>
5.1 Day habilitation	Assistance in self-help, socialization, and/or adaptive skill provided in a fixed site during the working day	2,476	6	28	3.0
5.2 Adult day health	Health and social services provided in a fixed site during the working day	1,973	5	33	1.6
<b>6 Nursing</b>	RN and LPN services	<b>8,767</b>	<b>23</b>	<b>34</b>	<b>3.7</b>
<b>7 Meals</b>		<b>4,573</b>	<b>12</b>	<b>31</b>	<b>0.5</b>
7.1 Home-delivered	Meals delivered to the home	4,280	11	29	0.4
7.2 Other meals	Meals (does not include home-delivered meals)	293	1	3	<1
<b>8 Caregiver support</b>	Respite, caregiver counseling, and training	<b>1,741</b>	<b>5</b>	<b>35</b>	<b>0.4</b>
<b>9 Mental and behavioral health services</b>	Behavioral health, psychosocial rehabilitation, day treatment, substance abuse, psychologist, or social worker services	<b>4,322</b>	<b>11</b>	<b>36</b>	<b>1.8</b>

Table IV.1 (continued)

Service category <sup>a</sup>	Description	MFP participants who used each service category		States that provided each service category	Expenditures for each service category
		Number	Percentage	Number	Percentage of national expenditures
10 Other health and therapeutic services <sup>f</sup>		8,058	21	35	1.7
10.1 Nutrition	Nutrition counseling and supplies	440	1	11	<1
10.2 Medical services	Professional, facility, and supply services for medical care	6,570	17	29	1.2
10.3 Vision/Hearing	Vision and hearing services and supplies	253	1	10	<1
10.4 Dental services	Services provided by a dentist or in a dentist's office	836	2	9	0.1
10.5 OT/PT/ST	Occupational therapy, physical therapy, speech therapy	2,385	6	26	0.4
11 Services supporting participant self-direction		1,450	4	12	0.6
11.1 Self-directed funds	Funds allocated for self-direction	973	3	4	0.5
11.2 Assistance in self-direction	Assistance with the management of self-directed services and/or training in self-direction	777	2	10	0.1
12 Participant training		6,083	16	24	10.0
12.1 Training	Other training (exclusive of home care or skills training)	466	1	14	0.2
12.2 Community support	Community supports, including independent living	5,684	15	19	9.9
13 Equipment, technology, and modifications		19,591	51	40	3.5
13.1 Personal systems	Personal emergency response systems (PERS)	8,153	21	32	0.2
13.2 Modifications	Home, vehicle, or workplace modifications	4,358	11	35	1.4
13.3 Equipment/ supplies	Equipment and supplies, including hospital beds, wheelchairs, surgical supplies, orthotics	14,473	38	36	1.9
14 Transportation		3,996	10	32	0.5
14.1 Medical	Ambulance services	169	<1	7	<1
14.2 Nonmedical	All other transportation services (nonmedical, transportation escort, unspecified)	3,929	10	30	0.5
15 Hospice <sup>g</sup>	Hospice services	77	<1	5	<1
16 Other	Services that do not fit within the categories above	2,352	6	26	0.8
17 Unclassified	Services that could not be identified because of missing information on the claims records	4,796	12	29	1.2

Sources: Mathematica analysis of MFP services files and program participation data files submitted by 40 grantee states for 38,594 MFP participants transitioning by the end of 2014.

Note: Expenditures include qualified, demonstration, and supplemental services, but exclude all managed care expenditures. Alabama, Idaho, Montana, and Vermont were excluded because they lack the data needed for analysis.

<sup>a</sup> The community-based LTSS 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 represents the hierarchy of how services were classified.

<sup>b</sup> One state refers to pre-transition services for housing and care planning as relocation services.



Table IV.1 (continued)

<sup>c</sup> The 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.

<sup>d</sup> The 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.

<sup>e</sup> In the taxonomy, prevocational services and supported employment are separate subcategories. We combined them because of the low volume of claims.

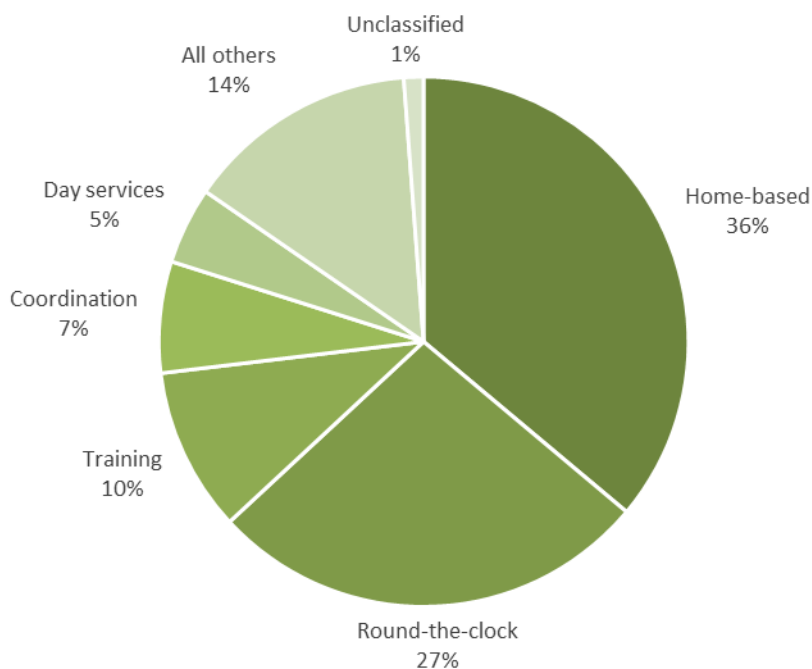
<sup>f</sup> In this year's report, we collapsed the physician, administration or drugs, and other services subcategories into one medical services subcategory because of their overlapping scope. We also added the vision/hearing subcategory.

<sup>g</sup> The taxonomy does not treat hospice as a separate category, but as a subcategory of the *Other* category.

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

Of the 17 categories of services MFP programs provided, home-based and round-the-clock services dominated, together making up 63 percent of total community-based LTSS expenditures for MFP participants (Figure IV.2). Home-based services consist primarily of personal care assistance to help people perform activities of daily living, such as transferring in and out of a chair or bed, using the toilet, or showering. Round-the-clock services consist primarily of residential services, such as residential habilitation.<sup>32</sup> The dominance of residential services is driven by the observation that nearly all people with intellectual disabilities (who accounted for 15 percent of the MFP transitions by the end of 2013) use these services, and that residential services are more costly on a per-user basis than other service categories.

**Figure IV.2. MFP expenditures, by service category**



Sources: Mathematica analysis of MFP services files and program participation data files submitted by 40 grantee states for 38,594 MFP participants transitioning by the end of 2014.

Note: Expenditures include qualified, demonstration, and supplemental services, but exclude all managed care expenditures. Alabama, Idaho, Montana, and Vermont were excluded because they lack the data needed for analysis. The *All others* category was broadly defined to include all other service categories not otherwise included in the six largest categories of expenditures; it includes the *Other* service category.

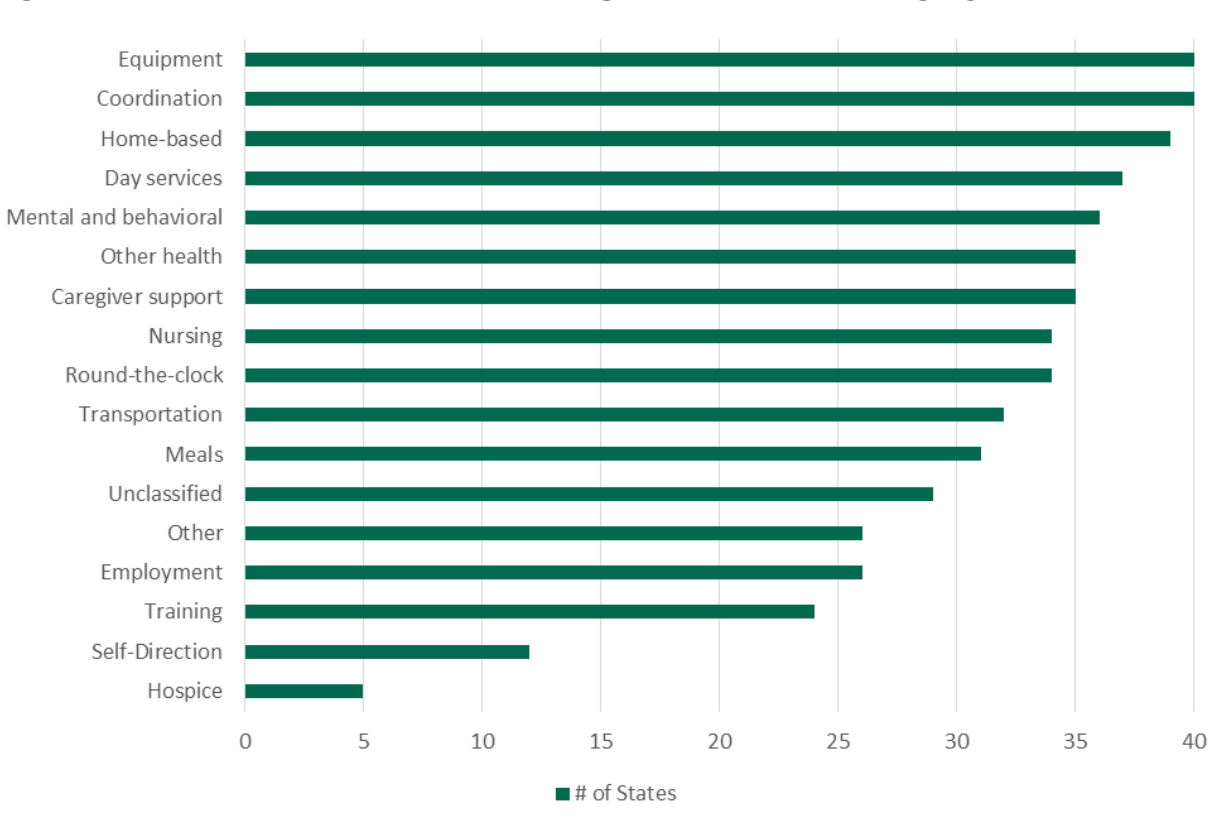
After home-based care and round-the-clock services, expenditures for participant training, coordination and management, and day services accounted for the next largest share of expenditures. Participant training, which includes community supports and independent living skills, accounted for 10 percent of total expenditures. Another 7 percent of expenditures were allocated to coordination and management, which includes case management, housing supports,

<sup>32</sup> *Residential habilitation* is defined as services that assist in acquiring, retaining, and improving self-help, socialization, or adaptive skills. To be considered residential, services must be delivered in a residential setting, such as a group home or private residence, rather than a clinical or nonresidential setting. We could not differentiate most of the claims allocated to round-the-clock as group living or shared living, so we classified them as *residential, unspecified*.

and transition services. Day services, which include day habilitation and adult day health, totaled 5 percent. The remaining categories combined represented 14 percent.

When the variety of community-based LTSS was assessed at the state level, we found that all 40 MFP grantee states analyzed provide (1) coordination and management, and (2) equipment, technologies, and modifications (Figure IV.3). The one state without home-based services expenditures is Tennessee; in its case, all MFP participants except those with intellectual and developmental disabilities receive MFP services through the state’s managed care system. Hospice and self-directed services are the least-common MFP paid services. It is likely that more MFP states have participants who use these categories, but this use is not captured by MFP service records.

**Figure IV.3. Number of states providing each service category**



Sources: Mathematica analysis of MFP services files and program participation data files submitted by 40 grantee states for 38,594 MFP participants transitioning by the end of 2014.

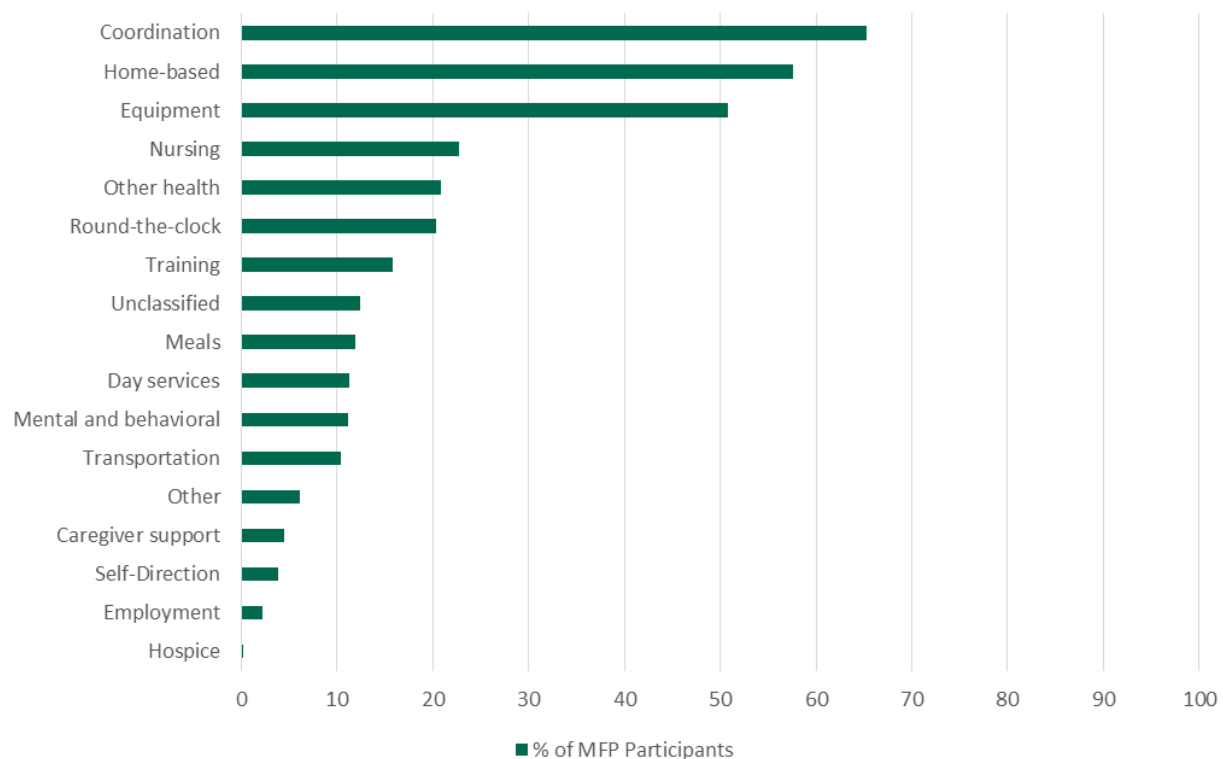
Note: Expenditures include qualified, demonstration, and supplemental services, but exclude all managed care expenditures. Alabama, Idaho, Montana, and Vermont were excluded because they lack the data needed for analysis.

About 65 percent of MFP participants received coordination and management services, making it the most frequently used community-based LTSS category (Figure IV.4); however, this percentage likely under-represents the number of MFP participants who receive this service. Some states finance coordination and management with state administrative funds, which means the service does not generate a claim and is therefore undetectable in our analysis. It is possible

that other services are provided through administrative funds and are also undetectable through our claims-based analysis. In addition, since the 2013 MFP Annual Report, we have learned that some states finance certain community-based LTSS for MFP participants through their regular state Medicaid funds; therefore, these services are not captured in the data presented here. It is likely that almost all MFP participants receive some type of coordination and management service, which includes transitional care, housing supports, and case management.

Only two other service categories are used by more than half of MFP participants: (1) equipment, technology, and modifications; and (2) home-based services (Figure IV.4). Roughly 20 percent of MFP participants use round-the-clock, nursing, and other health services. Training services are used by about 17 percent of participants, and the remaining categories are used by less than 13 percent.

**Figure IV.4. Percentage of MFP participants using each service category**



Sources: Mathematica analysis of MFP services files and program participation data files submitted by 40 grantee states for 38,594 MFP participants transitioning by the end of 2014.

Note: Expenditures include qualified, demonstration, and supplemental services, but exclude all managed care expenditures. Alabama, Idaho, Montana, and Vermont were excluded because they lack the data needed for analysis. Less than 1 percent of MFP participants use hospice services through MFP.

The claims data available for this study contained little information about the use of self-direction options and the provision of hospice care. Self-direction, which gives Medicaid beneficiaries the option of hiring or supervising their caregivers and managing a budget that they can use to obtain a variety of services, is a service delivery method that typically does not generate service claims. As a result, the claims data used for this study underreport participation in self-direction. Although we were able to identify self-direction for only 12 grantees, according

to aggregate data reported by the grantees for 2015, 39 MFP state grantees reported offering participants the option to self-direct their services and 24 percent of MFP participants were self-directing some of their services (Morris et al. 2016). The use of hospice services may also be underreported because some participants may be obtaining this type of care through the Medicare program rather than Medicaid and MFP. Our analysis does not account for Medicare services, because we analyzed only claims submitted for reimbursement by the state's MFP grant funds.

#### **D. States use of rebalancing funds**

All the services described above are classified into one of three categories: (1) qualified community-based LTSS, (2) demonstration community-based LTSS, and (3) supplemental services. Qualified LTSS are services that beneficiaries would have received regardless of their status as MFP participants, such as personal assistance services available through a 1915(c) waiver program or the state plan. Demonstration LTSS are either allowable Medicaid services not currently included in the state's array of community-based LTSS (such as assistive technologies) or qualified LTSS above what would be available to non-MFP Medicaid beneficiaries (such as 24-hour personal care). MFP requires that states maintain needed services after participants leave the program as long as they maintain Medicaid eligibility, and demonstration LTSS tend to be short-term services for helping people adjust to community living. States can also provide supplemental services that are not typically reimbursable outside of waiver programs but facilitate an easier transition to a community setting (such as a trial visit to the proposed community residence).

On the day they transition to the community, MFP participants begin receiving a package of community-based LTSS. Payments for these services are jointly financed by the federal government, through the state's MFP grant funds, and the state. Grantee states receive an enhancement to their FMAP, which is drawn from their MFP grant funds, when they provide either qualified or demonstration services, whereas supplemental services are reimbursed at the state's regular FMAP rate. Grantee states receive the enhanced matching funds for all community-based LTSS provided to MFP participants during the first year of community living. MFP-financed services continue for as many as 365 days after the date of transition. After exhausting their 365 days of eligibility for the MFP demonstration, participants continue to receive the community-based LTSS they need through the state plan and/or a waiver program, depending on their eligibility for these services.

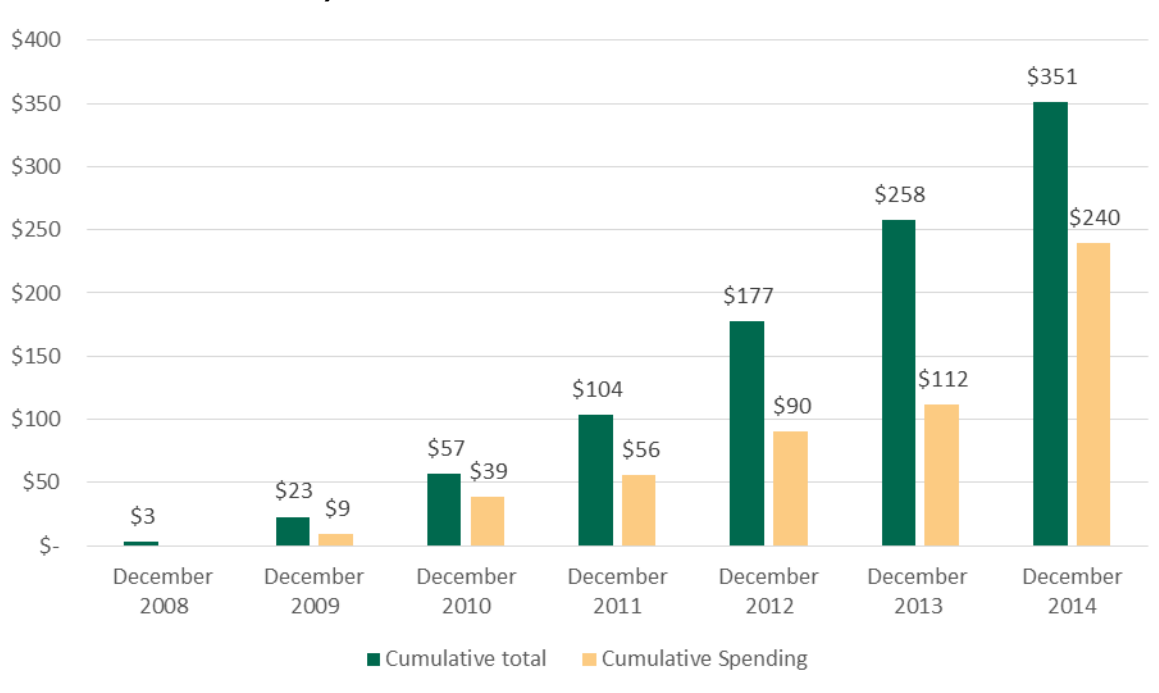
The enhanced matching funds are known as grantees' *rebalancing funds*. Grantees are required to reinvest these funds in initiatives that will help rebalance state LTSS expenditures. MFP grantees report annually on their cumulative spending and use of rebalancing funds. In 2015, they reported their total rebalancing fund spending and the activities these funds financed through December 2014.

#### **1. Grantee accumulation and spending of MFP rebalancing funds**

MFP rebalancing fund expenditures have continued to increase since the demonstration was launched (Figure IV.5). Total spending grew to almost \$240 million by the end of 2014, 114 percent increase from 2013, when 22 MFP grantee states reported spending \$112 million. In 2014, 28 states reported some level of spending. Six (Maine, Massachusetts, Montana, Nevada,

Rhode Island, and Tennessee) reported the amount spent from MFP rebalancing funds for the first time. Among the MFP grantees that reported rebalancing fund expenditures, state spending through 2014 ranged from \$3,750 in Vermont to \$54.5 million in Michigan. Some MFP grantees saw significant growth in cumulative spending between 2013 and 2014; Missouri, for example, spent \$28.5 million in 2013 and \$51 million by the end of 2014.

**Figure IV.5. Cumulative accrual and expenditure of state rebalancing funds (in millions of dollars) December 2008–December 2014**



Sources: Mathematica analysis of State MFP Grantee Semiannual Progress Reports, 2009–2013, and the 2014 state budget worksheets.

Note: The data are from 30 grantee states for 2008 through 2010, 37 grantees in 2011, and 43 grantees from 2012 through 2015.

## 2. How grantees use their rebalancing funds

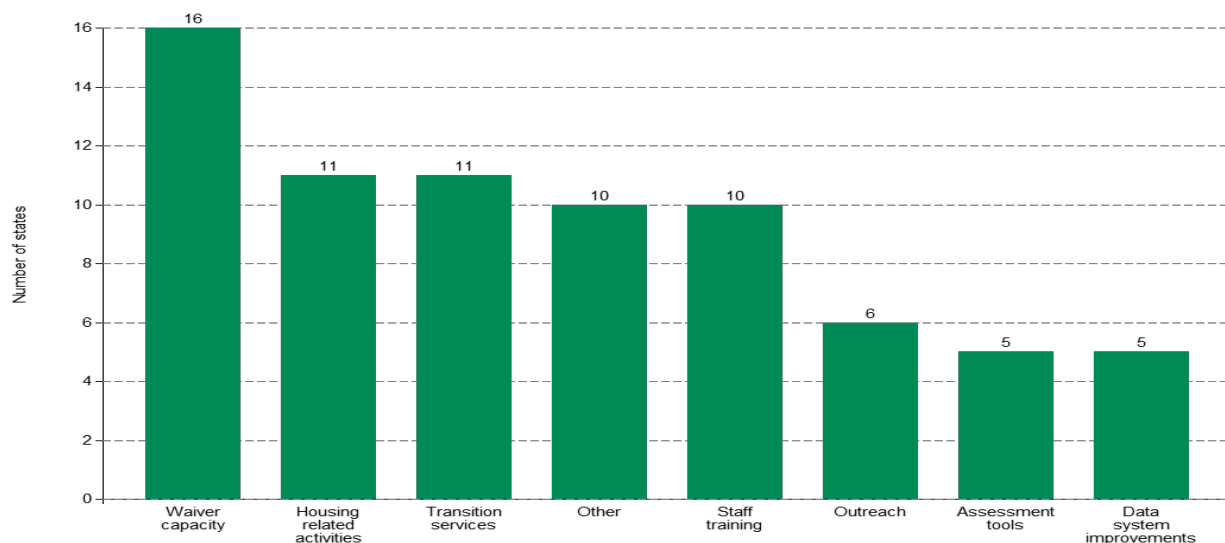
Because the MFP demonstration imposes few restrictions on how grantee states can spend their rebalancing funds, grantee states have been creative in the ways they use these funds to shift the balance of LTSS expenditures toward community-based options. Forty-one MFP grantees reported a wide range of rebalancing initiatives that were either planned or already under way by the end of 2014 (Figure IV.6). These activities can be broadly classified under the following common themes:

1. Expanding or enhancing 1915(c) waiver programs (16 states)
2. Improving participants' access to affordable and accessible housing (11 states)
3. Promoting awareness, use, or access to transition services (11 states)
4. Supporting the direct care workforce and medical professionals (10 states)

5. Engaging potential participants through outreach activities (6 states)
6. Supporting the development or use of tools to assess consumer needs and preferences (5 states)
7. Developing or improving administrative data or tracking systems (5 states)

In addition, grantee states have used their rebalancing funds for other things, such as strategic planning for rebalancing or creating a loan program for durable medical equipment for participants who have transitioned and are waiting for their permanent equipment to be delivered (10 states).

**Figure IV.6. Types of rebalancing initiatives in 2014**



Source: Mathematica analysis of State MFP Grantee Semiannual Progress Reports, 2015.

Note: States may spend rebalancing funds on multiple types of initiatives and can be counted in multiple categories. Information is from 41 grantee states.

**Expanding or enhancing 1915(c) waiver programs.** MFP grantee states most often use their rebalancing funds to expand or enhance 1915(c) waiver programs, and 2014 was no exception. For example, Missouri added slots to its Medically Fragile Adult Waiver for adults with physical disabilities. In Oklahoma, rebalancing funds have provided continuity of care for MFP participants who have completed their 365 days in the MFP demonstration and subsequently transition into one of two waivers (*My Life, My Choice* and *Sooner Seniors*). In Nebraska, MFP funding is being used to supplement services whose costs exceeded the limits of the Aged and Disabled Waiver program, which was only partially funding them. The MFP program provided \$200,000 for the first year.

**Improving participants' access to affordable and accessible housing.** Eleven states used rebalancing funds to address the ongoing challenge of finding affordable and accessible housing for people transitioning from a facility. Five of the 11 reported initiatives related to funding bridge programs that help participants waiting for federal housing subsidies or rental assistance.

Colorado and Maine used funding to provide support to housing coordinators and staff to help clients search for and obtain housing, and New Jersey and Tennessee created new state partnerships between health and housing agencies. In New York, funding was used to strengthen the state's online housing listing and locator service.

**Promoting awareness, use, or access to transition services.** Eleven states invested rebalancing funds in transition services, including upfront costs that many transitions require and transition coordinator positions. Missouri used its rebalancing funds to expand existing case management services to support growing caseloads and provide families with increased access to their service coordinator. Missouri also developed new *Community Living Coordinator* positions to support consumers who are transitioning to the community. In Washington, rebalancing funds paid for pre-discharge preparatory work for people not eligible for MFP at discharge or retroactively found to be ineligible. In contrast, North Dakota used its rebalancing funds to provide \$2,500 to cover moving costs for each person discharging from the North Dakota state hospital.

**Training direct care workers and medical professionals.** Rebalancing funds provided training to providers, medical professionals, and other direct service professionals. These trainings focused on disability-specific topics, evidence-based practices, and ways to navigate benefits, including the MFP demonstration. Mississippi, Texas, and Washington focused on person-centered training. Ohio funded research studies to better understand the state's workforce capacity and need. Ohio also established online and classroom-based training modules to address core competencies.

**Engaging potential participants through outreach activities.** Six states used MFP rebalancing funds to fund outreach activities. North Dakota and Ohio used them to create brochures, websites, and videos. In Maryland, peer outreach partners contacted Medicaid beneficiaries in nursing facilities, informing them of community-based options and generating referrals to the state's MFP program.

**Supporting the development and use of tools to assess consumer needs and preferences.** Five states used MFP rebalancing funds to evaluate, test, develop, configure, train, and implement consumer needs assessments. For example, Iowa identified the Supports Intensity Scale (SIS) as the appropriate tool to identify and respond to the needs of people with intellectual disabilities, requiring institutional level of care. The MFP program trained people to administer the tool as a pilot, and then, starting in 2014, Iowa began using the SIS statewide for everyone in its Intellectual Disability Waiver. Maryland and Missouri also use rebalancing funds to administer the SIS.

**Developing or improving administrative data or tracking systems.** Data or tracking systems were funded by MFP rebalancing dollars in five states to track referrals, critical incidents, individual support plans, and individuals' budgets for self-directed services. In Iowa, rebalancing funds supplemented Iowa COMPASS, an information and referral system that provides information and referral services through a 1-800 number and web-based system. Massachusetts used rebalancing funds to cover information technology infrastructure costs related to enhancements to the MFP Information System (MFP-IS), a web-based tool that records and tracks participants.



### 3. Synergies between MFP and the Balancing Incentive Program

Section 10202 of the Affordable Care Act established the Balancing Incentive Program, which was available to the subset of states that were spending less than 50 percent of total Medicaid LTSS expenditures on community-based services in FFY 2009. Participating states agreed to increase the percentage of LTSS expenditures accounted for by community-based LTSS to the 50 percent level (25 percent for Mississippi) by the end of the program. Twenty-one states were approved to participate, and while funding under the program ended September 30, 2015, 13 states were approved to continue utilizing allotted funding through September 30, 2017.<sup>33</sup> (<https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Long-Term-Services-and-Supports/Balancing/Balancing-Incentive-Program.html>)

Like MFP, participating states received an enhanced federal FMAP for community-based LTSS provided to Medicaid beneficiaries. The enhanced match began upon approval of their application. Thus, how enhanced matching funds are accumulated differs between the two programs.<sup>34</sup> In the MFP demonstration, states generate rebalancing funds (or an enhanced FMAP) when they provide community-based LTSS to MFP participants during the first 365 days of community living. Although the enhanced grant funds that MFP provides are sizable for states, they do not start receiving the funds until (1) the MFP transition program is up and running with people receiving services in the community, and (2) the state has established a process to claim the extra grant funds.<sup>35</sup> For large programs in particular, this start-up phase can be lengthy.

In contrast, the Balancing Incentive Program provided a small enhanced FMAP (2 percent, except in Mississippi, which was eligible for a 5 percent enhanced FMAP), but the enhanced payment was received for all community-based Medicaid LTSS the state provided to every Medicaid beneficiary in the state. States began claiming the enhanced match on all community-based LTSS spending immediately after approval of their applications, without waiting until they had implemented any aspect of their program. For these reasons, states generated Balancing Incentive Program funds faster than MFP rebalancing funds.

The programs also differed in their requirements for the rebalancing funds accumulated by the states. MFP states must implement a transition program and also establish a set of program benchmarks by which their performance is assessed (two benchmarks must account for the number of transitions and their total qualified community-based LTSS expenditures). In contrast, Balancing Incentive Program states were required to meet two standardized benchmarks: (1) increase community-based LTSS spending to 50 percent of total LTSS spending (or 25 percent in the case of Mississippi), and (2) implement three structural changes to their LTSS system:

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<sup>33</sup> Connecticut, Georgia, Maryland, Mississippi, New Hampshire, New Jersey, New York, Texas, Illinois, Maine, Nevada, Massachusetts, and Pennsylvania.

<sup>34</sup> State must account for the enhanced FMAP from MFP and the Balancing Incentive Program separately.

<sup>35</sup> The MFP-enhanced FMAP is set in statute and cannot exceed 90 percent. The enhanced FMAP is equal to  $(\text{state's regular FMAP} + [1 - \text{state's regular FMAP}] * .5)$ . The state's regular FMAP also included the enhancements that states received through the American Recovery and Reinvestment Act of 2009, retroactive to October 1, 2008.

1. Design and implement a core standardized assessment process to collect a standard set of functional data on people applying for LTSS that help determine eligibility, identify support needs, and inform service planning.
2. Create a “no wrong door” system that ensures statewide access to comprehensive and timely information about community living options and provides timely eligibility determination and enrollment into community-based services.
3. Design and implement conflict-free case management procedures ensuring that clinical or nonfinancial eligibility determination is separated from direct service provision.

Two different reviews of 18 states participating in the Balancing Incentive Program and MFP suggest that the MFP rebalancing demonstration has been a key factor in the Balancing Incentive Program and Balancing Incentive Program activities often built on initiatives started by the state’s MFP demonstration (Lester et al. 2013, 2015). Participating states identified many ways that they combined the funding from both programs to accomplish more than they could have with only a single program. Here are examples from Ohio and Mississippi:

**Ohio** state staff reported that MFP formed the foundation for much of the work achieved under the Balancing Incentive Program, and the two programs had the same project director to ensure coordination. Ohio built on the work of its MFP “front door” work group to create the state’s “no wrong door” system. Hospital associations involved in the “front door” group for MFP also participated in testing new level-of-care assessments developed under the Balancing Incentive Program. Standardized assessments developed by the state’s MFP program informed the development of three new core standardized assessment tools for the Balancing Incentive Program. The state also began working toward conflict-free case management under MFP, and built on the firewalls developed for the MFP program to meet Balancing Incentive Program requirements.

**Mississippi’s** Balancing Incentive Program approached rebalancing, diversion, and transitions by combining MFP transition efforts with policies and procedures that prevent unnecessary institutionalization in the first place. Its approach involved using funds generated through the Balancing Incentive Program to expand the number of slots in the state’s 1915(c) waiver programs. Furthermore, Mississippi’s Balancing Incentive Program stakeholder group was an offshoot of a group originally started in 2001 in response to the Olmstead ruling. It was repurposed for MFP and “kept growing” under the Balancing Incentive Program.

### **E. Trends in the balance of LTSS expenditures: State-level analyses**

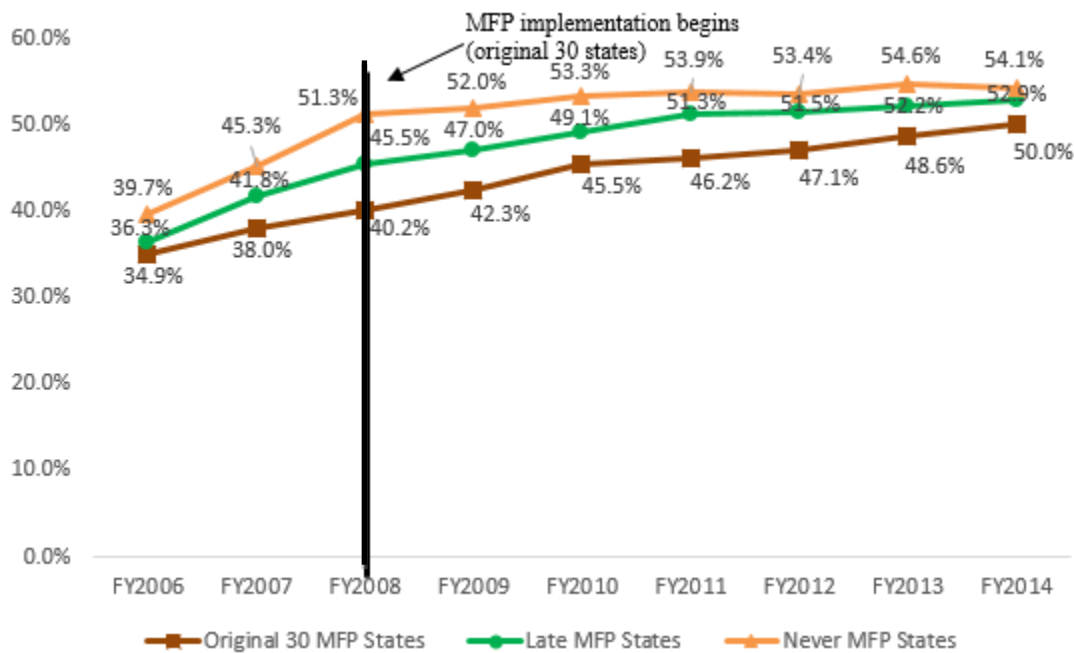
Given the general growth in expenditures for community-based LTSS and all the initiatives states financed with their MFP rebalancing funds and funding from the Balancing Incentive Program, a key question is whether these efforts influenced the balance of LTSS expenditures. To gain insight into this issue, we conducted several state-level analyses using multiple data sources. In the following sections, we report a descriptive analysis of trends in the share of community-based LTSS spending before and after implementation of MFP using aggregated data (Section 1). We also assessed the association between MFP and the balance of LTSS expenditures using Medicaid enrollment and claims data using records from the Medicaid Analytic eXtract (MAX) system. Because of data availability issues, these analyses are restricted

to the first MFP states that received grant awards in 2007 (Section 2). We conclude with a short discussion of our findings (section 3).

**1. Aggregate trends in the balance of LTSS expenditures before and after MFP**

Annual data from FY2006 to FY2014 on long-term care expenditures published by Truven Health Analytics suggest that states have been gradually increasing the share of LTSS expenditures accounted for by community-based LTSS (Eiken et al. 2013, 2014, 2015, 2016). This is true both for MFP states—including the original 30 that received grant awards in 2007 and subsequent grantee states—as well as states that never participated in MFP. Compared to MFP states, states that never participated had the highest proportion of spending for community-based LTSS in all years, whereas the original 30 MFP states had the lowest proportion. For both the original and subsequent MFP states, the rate of growth in the share of community-based LTSS spending appeared to be faster in the earlier years of the analysis period (between FY2006 and FY2010, a period that covers both pre-MFP years and up to two years post-MFP), compared to the later years (FY2011–FY2014 period) (Figure IV.7).

**Figure IV.7. Trend in the balance of LTSS expenditures by MFP status, FY2006–FY2014 (unadjusted)**



Source: Truven Health Analytics (Elkin et al. 2013, 2014, 2015, 2016).

Note: The original 30 MFP states are Arkansas, California, Connecticut, Delaware, District of Columbia, Georgia, Hawaii, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Texas, Virginia, Washington, and Wisconsin. Fourteen states subsequently received MFP grants: Alabama, Colorado, Idaho, Maine, Massachusetts, Minnesota, Mississippi, Montana, Nevada, Rhode Island, South Carolina, Tennessee, Vermont, and West Virginia. Alaska, Arizona, Florida, New Mexico, Utah, and Wyoming never participated in MFP. New Mexico is excluded because it was missing data for three consecutive years (FY2011–FY2013).

Table IV.2 provides additional detail on trends in the balance of LTSS by MFP participation status and state (Eiken et al. 2013, 2014, 2015, 2016). These data show that there is considerable variation across states in the balance of LTSS over time, both within and across categories of MFP participation status.

**Table IV.2. Trends in balance of LTSS expenditures by state and MFP participation status, FY2006 – FY2014 (unadjusted)**

State	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014
<b>Original 30 MFP States</b>									
Group average	34.9%	38.0%	40.2%	42.3%	45.5%	46.2%	47.1%	48.6%	50.0%
Arkansas	25.9%	26.7%	27.7%	30.1%	40.8%	44.5%	44.8%	48.2%	49.9%
California	51.9%	55.9%	56.8%	58.5%	59.5%	59.8%	60.5%	62.7%	64.4%
Connecticut	31.5%	34.2%	36.1%	44.8%	42.3%	43.6%	43.2%	45.1%	47.6%
Delaware	30.2%	30.6%	33.1%	35.3%	37.1%	39.4%	48.0%	39.6%	42.2%
District of Columbia	22.1%	31.5%	43.5%	50.2%	54.7%	52.7%	58.1%	59.3%	53.0%
Georgia	25.3%	45.3%	36.3%	42.9%	38.6%	42.8%	44.6%	45.8%	48.1%
Hawaii	37.7%	41.3%	42.3%	NR	NR	43.1%	38.7%	39.6%	41.7%
Illinois	26.9%	30.6%	34.3%	30.7%	37.4%	42.3%	41.4%	42.3%	43.7%
Indiana	24.6%	27.3%	27.6%	31.1%	33.7%	33.6%	32.1%	32.1%	31.1%
Iowa	35.5%	38.5%	39.6%	41.0%	44.2%	42.2%	43.1%	48.7%	50.2%
Kansas	51.9%	53.7%	53.7%	56.0%	54.0%	53.0%	52.0%	57.5%	52.9%
Kentucky	27.4%	30.3%	30.4%	33.8%	33.3%	37.2%	37.2%	38.5%	40.7%
Louisiana	24.7%	29.5%	34.0%	36.9%	35.9%	37.0%	37.3%	39.5%	39.3%
Maryland	35.9%	35.9%	35.4%	37.1%	52.0%	51.5%	52.6%	53.4%	55.5%
Michigan	30.3%	31.8%	32.7%	33.6%	34.4%	34.9%	35.5%	36.0%	35.0%
Missouri	34.4%	40.8%	40.7%	42.6%	46.8%	43.1%	43.5%	54.5%	55.3%
Nebraska	32.9%	37.0%	38.9%	40.5%	45.0%	47.1%	46.4%	45.8%	48.5%
New Hampshire	36.7%	37.9%	39.7%	41.3%	42.5%	44.7%	50.3%	52.4%	50.0%
New Jersey	27.6%	25.2%	24.5%	25.9%	29.0%	28.9%	27.4%	33.4%	40.6%
New York	41.4%	46.1%	46.6%	47.3%	51.1%	51.9%	51.2%	54.4%	58.1%
North Carolina	40.0%	43.2%	45.5%	44.6%	57.6%	53.6%	54.4%	NR	NR
North Dakota	23.7%	25.5%	29.4%	30.6%	34.4%	36.1%	37.8%	38.6%	40.5%
Ohio	26.2%	28.5%	29.6%	33.1%	35.0%	37.6%	40.0%	43.3%	52.4%
Oklahoma	38.8%	41.5%	42.4%	43.8%	45.4%	44.7%	44.8%	43.6%	43.5%
Oregon	69.3%	71.9%	70.4%	75.1%	76.2%	77.4%	78.3%	78.3%	79.2%
Pennsylvania	26.5%	29.1%	30.1%	33.2%	37.3%	37.3%	41.2%	41.8%	43.7%
Texas	40.5%	43.5%	47.1%	46.6%	49.5%	51.7%	50.0%	54.6%	57.1%
Virginia	28.2%	30.8%	38.1%	45.3%	47.7%	50.1%	51.7%	52.5%	54.6%
Washington	56.2%	58.2%	59.7%	62.2%	62.6%	63.3%	64.2%	64.4%	65.8%
Wisconsin	43.7%	NR	60.2%	53.6%	60.4%	61.5%	61.8%	63.1%	64.0%
<b>Subsequent MFP States</b>									
Group average	36.3%	41.8%	45.5%	47.0%	49.1%	51.3%	51.5%	52.2%	52.9%
Alabama	26.6%	29.9%	33.1%	32.2%	34.7%	40.9%	40.9%	42.2%	41.5%
Colorado	50.8%	55.2%	57.9%	58.5%	58.7%	58.7%	57.9%	58.5%	63.0%
Idaho	41.2%	44.0%	45.1%	47.7%	53.7%	46.8%	50.8%	50.2%	53.4%
Maine	44.1%	49.9%	52.7%	55.9%	49.6%	53.7%	54.9%	53.8%	54.9%
Massachusetts	39.4%	42.2%	43.4%	48.7%	46.9%	55.0%	57.3%	61.9%	56.9%
Minnesota	60.9%	65.2%	68.0%	69.4%	71.3%	72.2%	72.6%	73.6%	74.8%
Mississippi	4.6%	15.6%	16.6%	17.7%	25.0%	26.0%	27.4%	25.6%	27.2%
Montana	40.8%	45.4%	47.4%	50.0%	55.7%	54.7%	55.3%	55.9%	56.5%
Nevada	37.7%	43.6%	43.1%	46.5%	54.0%	54.5%	48.8%	48.5%	48.9%
Rhode Island	43.3%	45.6%	46.7%	47.0%	51.4%	61.5%	56.9%	58.2%	57.8%
South Carolina	30.9%	33.7%	39.6%	40.4%	41.0%	42.7%	41.0%	41.6%	42.7%
South Dakota	37.2%	38.4%	39.4%	40.5%	42.9%	44.7%	44.9%	45.8%	47.2%
Tennessee	23.9%	37.5%	45.5%	45.5%	41.8%	45.3%	48.4%	50.4%	53.2%
Vermont	26.0%	NR	64.2%	64.9%	65.9%	67.2%	67.5%	68.3%	68.2%
West Virginia	37.1%	38.9%	39.1%	40.3%	44.0%	45.0%	47.7%	47.9%	47.7%

State	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014
<b>Non-MFP States</b>									
Group average	39.7%	45.3%	51.3%	52.0%	53.3%	53.9%	53.4%	54.6%	54.1%
Alaska	57.8%	57.5%	59.0%	62.6%	65.5%	67.0%	68.5%	69.9%	69.7%
Arizona	23.0%	NR	66.2%	66.9%	67.1%	67.9%	65.4%	68.3%	70.4%
Florida	28.9%	36.2%	36.3%	35.8%	35.3%	34.8%	34.8%	35.7%	33.3%
New Mexico	67.2%	71.7%	74.7%	82.8%	74.2%	NR	NR	NR	73.6%
Utah	38.4%	37.0%	43.6%	43.2%	46.2%	46.9%	48.3%	49.4%	47.6%
Wyoming	50.2%	50.5%	51.5%	51.3%	52.2%	52.8%	50.3%	49.7%	49.8%

Sources: Mathematica analysis of data from Eiken et al. (2016) (Table AR. Percentage of Long Term Services and Supports for HCBS. FY2009-2014 columns); Eiken et al. (2015) (Table AO. Percentage of Long Term Services and Supports for HCBS. FY2008 column); Eiken et al. (2014) (Table AK. Percentage of Long Term Services and Supports for HCBS. FY2007 column); Eiken et al. (2013) (Table AD. Percentage of Long Term Services and Supports for Non-Institutional Services. FY2006 column).

NR = Not reported

The descriptive data indicate that home and community-based LTSS expenditures as a percentage of total LTSS expenditures were already increasing before the MFP demonstration began in grantee states and the pre-demonstration upward trend did not change in any noticeable way after grantee states started their MFP transition programs. National data compiled by Wenzlow et al. (2016) indicate that spending on community-based LTSS has grown steadily since the 1990s while spending on institutional care services have been stable but started to decline on a yearly basis in 2010. Between 2007 and 2014, inflation-adjusted spending on community-based LTSS increased nationally by nearly 55 percent (or a little less than 8 percent per year on average) compared to a 4 percent decline (or nearly a 0.6 percent decline per year on average) in spending for institutional care services (Table IV.3). This compares to the 89 percent growth in spending on community-based LTSS and a 1 percent increase in spending on institutional care services during the seven years leading up to the MFP demonstration from 2000 through 2007.

**Table IV.3. Long-term services and supports expenditures for the United States**

Category of LTSS	Percentage increase in total spending		
	1993-2000	2000-2007	2007-2014
Community-based LTSS	173.5%	89.1%	54.7%
Institutional care services	20.8%	1.2%	-4.0%

Source: Mathematica analysis of data from Wenzlow et al. (2016).

Note: Based on inflation-adjusted spending amounts.

## 2. Association of MFP with the balance of LTSS expenditures and users among the 2007 MFP grantee states

To understand further how participation in the MFP demonstration affects the relationship between institutional and community-based LTSS expenditures and their use over time, we use Medicaid enrollment and claims data to assess whether trends in the share of community-based LTSS expenditures and users significantly increased in the four years after the original MFP

grantee states began implementing their demonstrations.<sup>36</sup> The unit of analysis is the state-month, and we assess changes before and after MFP started in the percentage of LTSS expenditures for community-based services in each state and month and the percentage of LTSS users who received community-based services in each state and month. The MFP month that reflects the “start date” of the intervention period is the month that each state reported its first MFP transition. Thus, the MFP intervention start date and the calendar periods covered in the pre- and post-periods differ across states. For example, California achieved its first MFP transition in December 2008, whereas the first transition in Iowa occurred in September 2008. Thus, the 36-month pre-period for California spans December 2005 through November 2008, and the post-period runs from December 2008 until November 2012, whereas the 36-month pre-period for Iowa spans September 2005 through August 2008, and the post-period runs from September 2008 through August 2012 (see Appendix D for additional details).

#### **a. Original MFP states**

Figure IV.8 shows the unadjusted trends in percentage of community-based LTSS expenditures relative to the MFP start date across all states for all LTSS users and by subgroup. Across all LTSS users in the original MFP states, there is a gradual increase in the percentage of LTSS expenditures accounted for by community-based LTSS, but the rate of increase does not appear to change after MFP began in a state. Essentially, the trend (or slope of the line) in the percentage of community-based LTSS expenditures appears to be the same before and after MFP begins. This is also true for older adults and younger adults with physical disabilities. For people with intellectual disabilities or mental illness, the community-based LTSS share of expenditures appears to increase slightly in the fourth year after MFP. In regression-adjusted analyses, the results are similar and trends in the share of expenditures for community-based LTSS overall, for older adults, people with intellectual disabilities, or for people with mental illness do not change after MFP demonstration begin. The association between MFP and the community-based LTSS share of expenditures for younger adults with physical disabilities was statistically significant in the third and fourth years after MFP started, but the overall results suggest that MFP was not associated with an increase in the percentage of LTSS expenditures for community-based services.

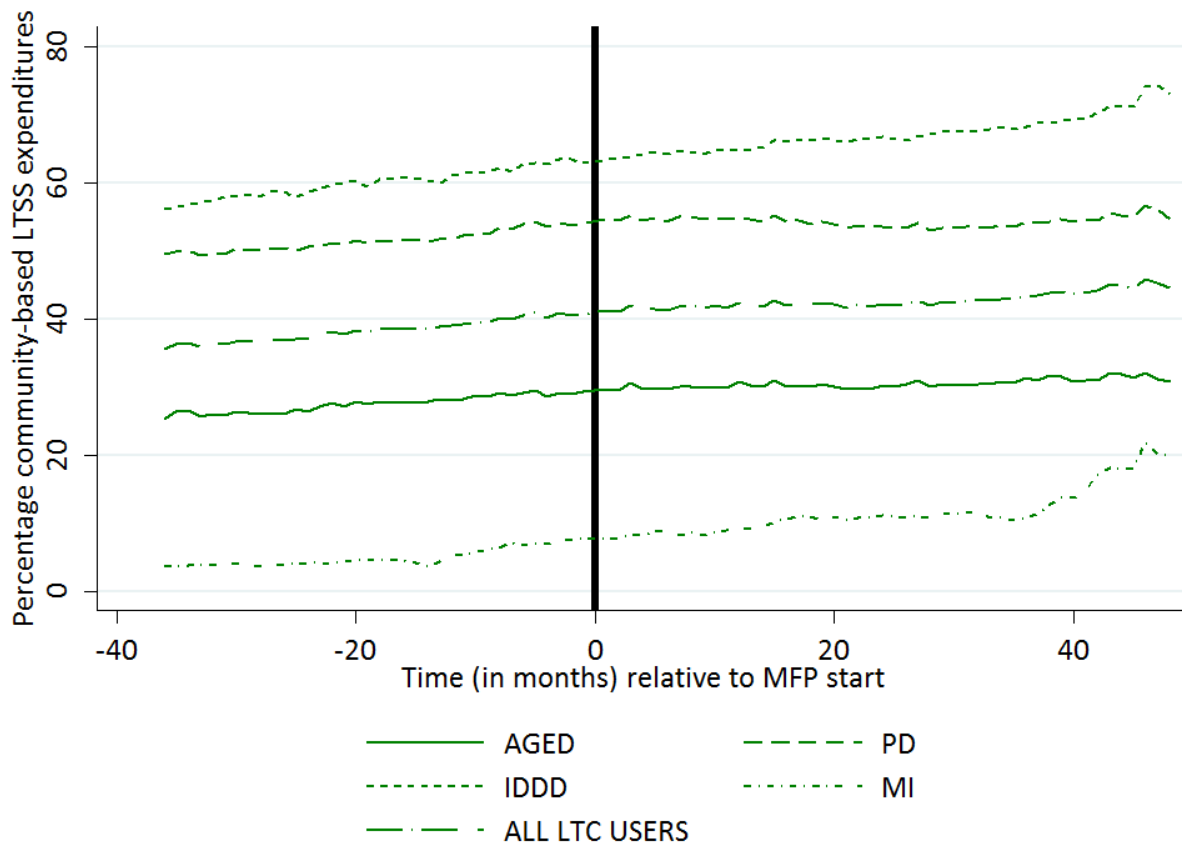
Because the analysis only includes states that started transitions in 2008 or 2009, the first several years are heavily influenced by the great recession that started in December 2007 and ended in June 2009. It is possible that the MFP demonstration helped to mitigate the effects of pressures on Medicaid budgets and optional Medicaid services such as community-based LTSS.

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<sup>36</sup> Appendix D provides more details on our methods. Briefly, our analyses included 26 of the 30 original MFP states. All 26 states had MAX data available for 36 months before the start of their MFP demonstrations and 36 months after MFP; 22 of the 26 had MAX data available for 48 months after MFP started. Although some states had data available beyond 48 months after MFP started, the data were less reliable in those months, as trends became driven by fewer states and as data for the analyses relied increasingly on early MAX files, which contained incomplete information.



**Figure IV.8. Trends in the balance of LTSS expenditures relative to the first MFP transition, overall and by subpopulation (unadjusted)**

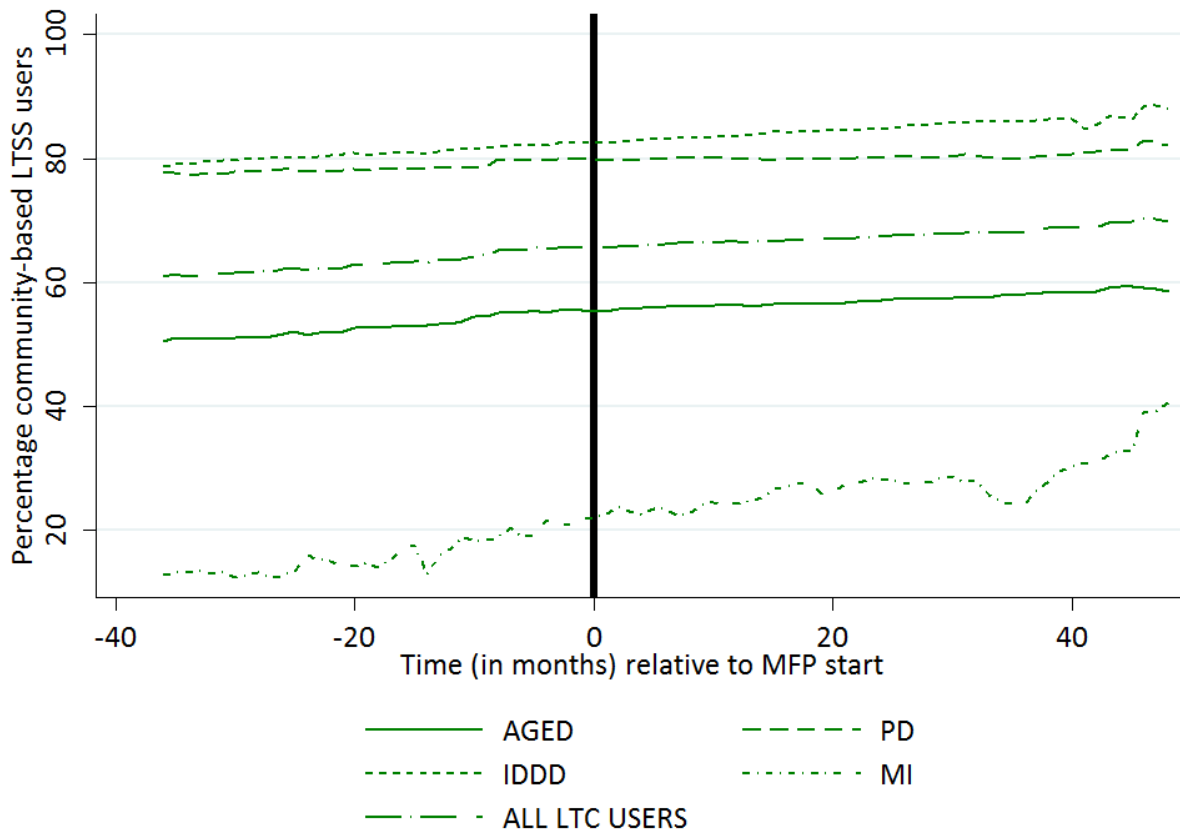


Source: Mathematica Policy Research analyses of 2005–2014 MAX fee-for-service claims data for 26 states.

Note: We defined the MFP start for each state as the month when the first MFP transition occurred, which means that the start date differs across states. We excluded Hawaii and Wisconsin because of high penetration of managed long-term services and supports (MLTSS), Kansas because it was missing MAX data, and Oregon because it stopped transitioning beneficiaries in 2010. We also limited analyses in several states (Illinois, Michigan, New York, North Carolina, Texas, and Washington) to certain time periods, regions, or subpopulations because of existing or expanding MLTSS that could skew the analyses (see Appendix D for details).

Figure IV.9 shows the unadjusted trends in the percentage of LTSS users who use community-based LTSS relative to the start of MFP transitions across all states for all LTSS users and by targeted population. Across all LTSS users in the original MFP states, there is little observable change in the trend in the percentage of LTSS users using community-based services before and after MFP transitions begin. This conclusion also applied to older adults, younger adults with physical disabilities, and people with intellectual disabilities. The trend in the share of community-based LTSS users appears to increase in the fourth year after MFP for people with mental illness. In regression-adjusted analyses, we found similar results and the trend in the percentage of LTSS users do not change after MFP demonstrations begin.

**Figure IV.9. Trends in the balance of LTSS users relative to the first MFP transition, overall and by subpopulation (unadjusted)**



Source: Mathematica Policy Research analyses of 2005–2014 MAX fee-for-service claims data for 26 states.

Note: We defined the MFP start for each state as the month when the first MFP transition occurred, which means that the state date differs across states. We excluded Hawaii and Wisconsin because of high penetration of managed long-term services and supports (MLTSS), Kansas because it was missing MAX data, and Oregon, which stopped transitioning beneficiaries in 2010. We also limited analyses in several states (Illinois, Michigan, New York, North Carolina, Texas, and Washington) to certain time periods, regions, or subpopulations because of existing or expanding MLTSS that could skew the analyses (see Appendix D for details).

### b. Select states

There were four states (Georgia, Missouri, Nebraska, and Pennsylvania) whose data initially suggested that participation in MFP might be associated with changes in the relationship between institutional and community-based expenditures and users over time. Further analysis of other factors affecting use of community-based LTSS in these states suggest that other events, that could not be controlled for in the analysis, likely contributed to the growth in expenditures on community-based LTSS. For example, Missouri and Pennsylvania closed a number of institutional facilities during this timeframe, which would have increased use of community-based LTSS independent of MFP. Similarly, Georgia signed a settlement agreement in October 2010 with the federal government to increase spending to move people with mental illness and intellectual disabilities into the community, and state hospitals in Georgia stopped admitting people with intellectual disabilities in July 2011 (the four-year MFP period for Georgia covered



by these analyses spans September 2008 through August 2012), both of which likely increased the share of community-based LTSS independent of MFP during this timeframe (Judd 2014).

## **F. Discussion**

The growth in community-based LTSS expenditures among grantee states continued to grow in 2015. The notable difference is the acceleration of grantees' spending of their rebalancing funds, which grew by 114 percent in 2014, the most recent year of data available. Grantees continued to use their rebalancing funds to provide more community-based services, including housing supports and transition services, as well as to train staff, conduct outreach, develop assessment tools, and strengthen information systems.

To date, the evaluation has not been able to detect a relationship between the introduction of the MFP demonstration and the improvement in the balance of state LTSS expenditures. This result is not surprising considering the size of the program and all the other factors that determine the proportion of LTSS expenditures devoted to community-based services. When the MFP demonstration began in 2008, state spending on community-based services was already growing in grantee states and our analysis did not detect a notable change in that upward trajectory when MFP transitions began. The first MFP transitions began in the middle of the great recession, which formally covered the period from December 2007 through June 2009 but had lingering effects beyond that time period. During the early years of the MFP demonstration, grantee states routinely reported in their semiannual progress reports that state budgets were constrained and they could not expand the capacity of their community-based services to serve everyone who wanted to transition. They frequently noted in their reports that MFP funding helped them maintain their spending on community-based LTSS despite the pressures on state Medicaid budgets (Denny-Brown et al. 2011). Given this anecdotal evidence, it is possible that MFP may have prevented or dampened contractions in state expenditures for community-based LTSS and MFP may have helped state LTSS systems weather an economically difficult time for state Medicaid budgets.

We have not been able to identify an approach that allows us to disentangle the effects of the great recession from those of the MFP demonstration for the states that received grant awards in 2007 and began operations in 2008 and 2009. When more data become available, the states that received the later awards in 2011 and 2012 provide an opportunity to study the association between the MFP demonstration and the balance of LTSS expenditures when the effects of the great recession are less pronounced.

Finally, the MFP demonstration may have influenced where new expenditures were applied. The LTSS expenditure data published by Eiken et al. (2016) indicate that spending on institutional care was leveling off and then declined slightly after the MFP demonstration began.

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## V. SERVICE COSTS AND UTILIZATION POST-TRANSITION

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From the point of view of Medicaid programs, serving beneficiaries with disabilities in the community should be less costly than institutional base care, if for no other reason Medicaid does not pay the room and board costs of community dwelling beneficiaries. In previous reports, we found that total medical care and LTSS expenditures of MFP participants decline after they return to the community, and changes in Medicaid-paid LTSS drive these changes in total expenditures (Bohl et al. 2014 and Irvin et al. 2015).

In this chapter, we examine whether the change in Medicare and Medicaid expenditures that occur when MFP participants transition to the community, and any changes in utilization or quality of care that may result, can be attributable to the MFP program. Although total and LTSS spending is expected to decline after any Medicaid beneficiary transitions from institutional care to community-based LTSS, the question is whether any of the changes in Medicare and Medicaid expenditures can be attributed directly to the MFP demonstration, either because the demonstration transitioned beneficiaries who would not have transitioned otherwise or because the MFP demonstration influenced beneficiaries' utilization of care. For example, the results presented in Chapter II indicate that about 25 percent older adults in nursing homes transitioned by MFP and about 50 percent of participants who transitioned from intermediate care facilities for individuals with intellectual disabilities may not have returned to the community had MFP not been implemented. In addition, if MFP demonstrations offer an improved level of transition planning or secure additional community services or better quality services, we hypothesize that people might be less susceptible to costly post-transition medical care related to accidents and falls as they adjust to community living and a different level of independence. For these beneficiaries, declines in their health care costs can be attributed to the MFP demonstration. To construct estimates of MFP's effects on costs, utilization, and quality of care we developed a matched comparison group of other Medicaid beneficiaries who experience the same type of transition during the same time period but did not participate in the MFP demonstration. These other transitioners provide a counterfactual for assessing whether the post-transition changes in costs and utilization observed among MFP participants can be attributed to the MFP demonstration or represent changes that would have occurred regardless of MFP.

We improve upon earlier analyses of this topic by incorporating the experience of more and more recent MFP participants and improve the selection of comparison group members.<sup>37</sup> The following questions are the focus on this analysis.

1. How do MFP participant expenditures change after they transition to the community?
2. Does participation in the MFP demonstration influence the change in post-transition expenditures, utilization, and quality of care relative to other transitioners?
3. Does participation in the MFP demonstration have any type of effect on someone's expenditures and utilization patterns after they leave MFP?

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<sup>37</sup> Appendix G provides a detailed summary of the data and methods used to construct the comparison group, as well as the methods used for all cost and utilization analyses.

4. Does the presence of a mental health condition modify the influence of MFP on post-transition expenditures and utilization outcomes?

## **A. Study sample descriptive statistics**

### **1. Selection of MFP participants and other transitioners**

The sample of MFP participants used in the following analyses included 14,043 participants who had transitioned any time between January 1, 2008, and December 31, 2013. This sample size represents about one-third (35 percent) of the 40,693 MFP participants who transitioned by the end of 2013. Relative to the broader MFP population, the cohort of MFP participants included in the analysis is similar on the basis of age, gender, and target population; however, the study sample cohort has a disproportionately large number of MFP participants who transitioned before 2011 relative to the broader MFP population (data not shown). This difference is due primarily to the limited availability of Medicaid data from 2012 onward at the time the analyses were conducted.

More Medicaid beneficiaries (131,947) transitioned outside MFP than with the help of the MFP demonstration during this period, but our comparison included only 10,093 of these other transitioners (7.6 percent). Because the comparison group was selected to resemble the MFP participants' observable characteristics, the small number of other transitioners selected suggests that there are systematic differences between the MFP participants and Medicaid beneficiaries who transition without the support of MFP. One difference relates to the availability of data. Relative to other transitioners, a larger number of recent MFP participants could not be included because the data needed to assess utilization and expenditures for a full 365 days post transition were not available. Moreover, many of the other transitioners are from states without MFP demonstrations, and our comparison group selection methodology excludes these other transitioners. However, we observed other differences in the characteristics between MFP participants and other transitioners including their pre-transition medical spending, use of hospice care, and pre-transition use of community-based and institutional LTSS.

A greater proportion of other transitioners (15 percent) used hospice services around the time of transition compared with MFP participants (less than 1 percent). Furthermore, other transitioners generally had greater pre-transition use of community-based LTSS and shorter institutional stays (Appendix Table F.4). Depending on the target population, other transitioners are as much as three-times more likely than MFP participants to have used community-based LTSS in the year before the transition (individuals with intellectual disabilities). Use of community-based LTSS pre-transition may influence the use of these services post-transition; setup costs to establish a network of support providers or install technology may have been covered before the transition. In addition, previous use may indicate more readily available formal and informal community supports after transition. This positive relationship between prior use of community-based LTSS and post-transition trends suggest that the availability of diversionary programs and use of services under 1915(c) waivers and state plan community-based LTSS may positively affect transition efforts when an institutional stay occurs.

We also noted that the data indicate that Medicaid-only MFP participants have much lower pre-transition medical expenditures relative to similar other transitioners (data not shown in tables). This difference might indicate the MFP participants have fewer medical care needs than

other transitioners. Nursing home assessment data suggest that MFP participants have fewer functional limitations and medical conditions relative to others who transition. However, the difference in pre-transition medical expenditures might also indicate the different types of facilities transitioning beneficiaries through MFP. For example, some Medicaid programs reimburse medical expenditures for beneficiaries in state-run institutions in the institutional per diem rate. In this case, the beneficiary would appear to have no separate medical services, and in turn, few comorbidities identified on claims when the difference in fact reflects that MFP participants are more likely to transition from state-run institutions while other transitioners are more likely to transition from privately run facilities.

In addition, the probability of successful community integration might be higher when someone has used community-based LTSS before the transition. On average, other transitioners also have shorter institutional stays than MFP participants (Appendix Table F.4), as measured by whether a beneficiary had been in institutional care six months or longer before the transition to the community. Other transitioners were between 9 (individuals with intellectual disabilities) and 20 percent less likely to have had a six-month or longer institutional stay before transitioning. Shorter stays are undoubtedly correlated with use of community-based LTSS pre-transition, but they also have important effects on any type of post-transition cost analyses. The length of institutional stay is the largest component of pre-transition expenditures, and shorter stays are frequently associated with lower pre-transition costs.

The differences in the characteristics and service use patterns between MFP participants and other transitioners is the central challenge in this analysis. To better control for these differences, we used a matched comparison group where the matching was based on an array of observable characteristics.

## **2. Comparison of MFP participants and other transitioners used in analyses**

Table V.1 reports the pre-transition characteristics of the MFP participants and the matched sample of other transitioners used in our analyses. Because of the approach we used to develop a matched sample of other transitioners, there are few statistically significant differences in characteristics between MFP participants and the comparison groups of other transitioners.

The data in Table V.1 illustrate why we conducted separate analyses by targeted population. Compared to people transitioning from nursing homes, those with intellectual disabilities are younger, reside in institutions longer before transitioning, and have much higher pre-transition expenditures. Medicare-Medicaid eligibility is more common among people transitioning from nursing facilities, mainly because more than 90 percent of people over the age of 65 in our sample are enrolled in Medicare. Mental health conditions were most prevalent among older and younger adults transitioning from nursing homes. Beneficiaries transitioning from nursing facilities are much more likely to use community-based LTSS in the year before the transition relative to those with intellectual disabilities.

MFP participants were less likely than other transitioners to be included in the two-year post-transition analysis (Table V.1) because of their incomplete claims history for the second year, and not because of differences in survival. For those included in the two-year analysis, the pre-transition outcomes and characteristics were similar between MFP participants and other transitioners (data not shown).

Even after matching, the MFP participants and other transitioners had statistically significant differences in their pre-transition expenditures and transition year (Table V.1). To account for discrepancies in observable pre-transition characteristics, we based the final analysis on a regression model that controls for all variables in the propensity score models we used to construct the matches, as well as dual status and transition year. Detailed comparisons of the characteristics of MFP participants and other transitioners pre- and post-matching are in Appendix Table F.4.

**Table V.1. Pre-transition demographics, enrollment, and health indicators for a weighted sample of MFP participants and a matched cohort of other transitioners**

Characteristics	Older adults		People with physical disabilities		People with ID/DD	
	MFP	Other transitioners	MFP	Other transitioners	MFP	Other transitioners
<b>Sample size</b>						
Number (n) of observations	4,345	3,480	6,073	4,335	3,625	2,278
Mental health conditions (%)	69	65	70	69	48	41
Included in 2-year analysis (%)	61	68	69	77	73	79
<b>Characteristics</b>						
Age (mean)	76	76	52	51	45	44
Female (%)	64	66	48	47	39	38
Dual status (%)	92	97	50	46	61	61
Number of CDPS conditions (mean)	10	10	9	9	6	5
Low level of care needs (%)	21	24	23	27	3	3
<b>Transition year (%)</b>						
2008–2010	43	62	44	68	55	72
2011–2013	57	38	56	32	45	28
<b>Pre-transition indicators</b>						
Used community-based LTSS prior to transition (%)	23	23	15	17	11	11
> 6 months in institution (%)	83	83	88	88	96	96
6-month total expenditures (\$)	48,447	47,893	47,411	45,929	82,047	81,590
IP admission (%)	56	49	54	54	18	13
ED visit (%)	56	56	62	62	37	32

Source: Mathematica's analysis of Medicaid and Medicare claims and enrollment data for Medicaid beneficiaries who transitioned from institutional to community-based LTSS from 2008 through 2013 from 32 states.

Note: Unless noted, characteristics of MFP participants and other transitioners are weighted based on a propensity-score-matching approach described in more detail in Appendix F. Care needs, use of community-based LTSS, months institutionalized, expenditures, IP admissions, and ED visits all assessed during the 6 months before the transition.

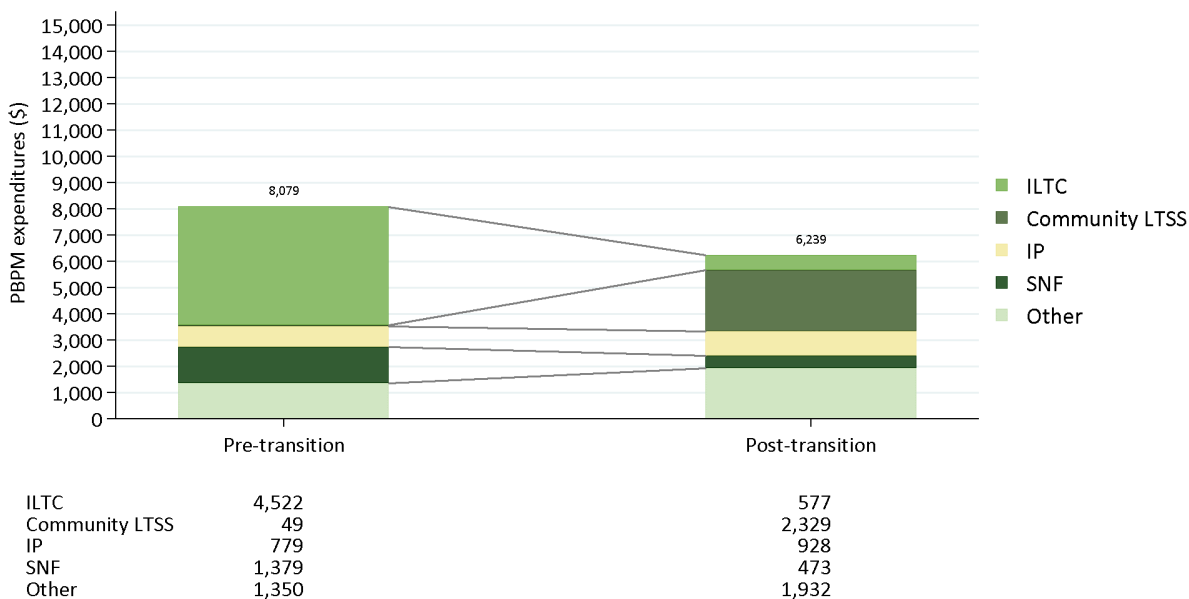
CDPS = Chronic Illness and Disability Payment System algorithm (used to identify chronic conditions); ED = emergency department; ID/DD = intellectual or developmental disabilities; IP = inpatient; Low level of care need = lowest category of 3-level score for care needs based on the Resource Utilization Group.

## B. Post-transition change in expenditures among MFP participants and associated cost savings

### 1. The magnitude of changes and composition of post-transition expenditures

Across all MFP participants with available data—not just those used in the analyses presented in the following sections—total expenditures decline for 67 percent of MFP participants after moving to the community. Monthly expenditures decline 23 percent from their pre-transition levels for people transitioning from nursing homes, for both older and younger adults (Figures V.1 and V.2). For MFP participants with intellectual disabilities, monthly expenditures decrease from \$13,469 to \$9,456 (a 30 percent decline) after the transition (Figure V.3). The majority of these changes are due to the overall decline in total LTSS expenditures and changes in the composition of LTSS expenditures, but the overall distribution of expenditures changes in different ways for different target populations.

**Figure V.1. Distribution of pre- and post-transition monthly expenditures for older adult MFP participants transitioning from nursing homes**

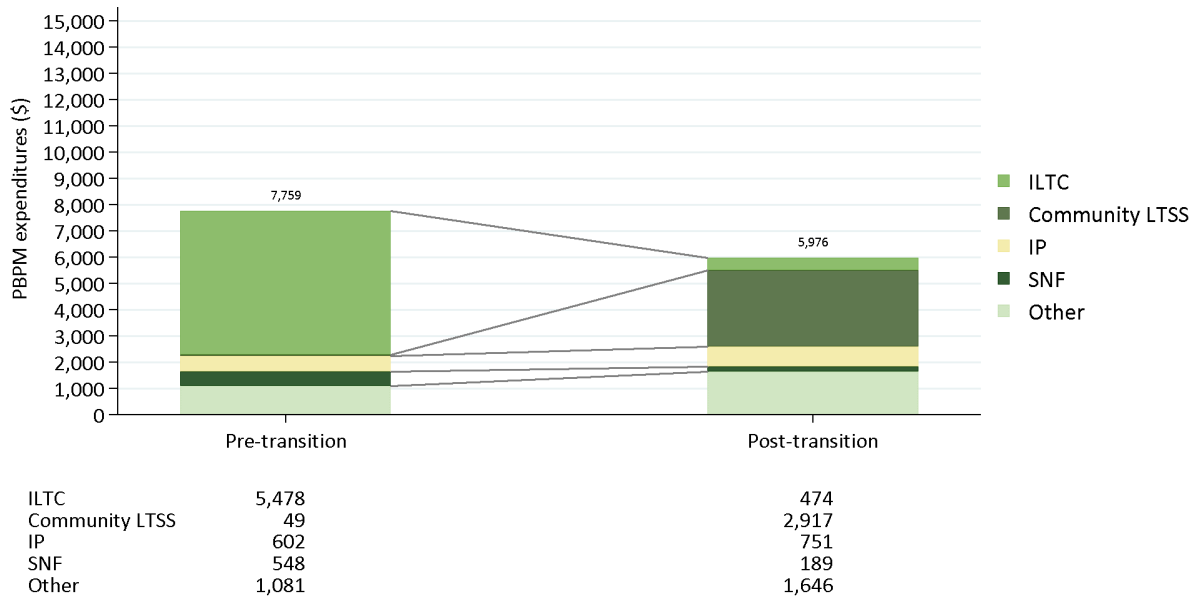


Source: Mathematica’s analysis of Medicaid and Medicare claims and enrollment data for Medicaid beneficiaries who transitioned from institutional to community-based LTSS from 2008 through 2013 in 32 states.

Note: This analysis is based on an unweighted sample of 4,413 older adult MFP participants who had transitioned by the end of 2013, regardless of their inclusion in the analyses presented in the following sections. Monthly expenditures are based on 6 months of pre-transition data and 12 months of post-transition data.

ILTC = institutional long-term care; IP = Medicare- and Medicaid-paid inpatient, short-stay hospitalization; PBPM = per-beneficiary-per-month; Other = all other services, including, but not limited to, emergency department, physician, hospice, ambulatory surgery, durable medical equipment, and outpatient radiology services; SNF = Medicare-paid skilled nursing facility.

**Figure V.2. Distribution of pre- and post-transition monthly expenditures for MFP participants with physical disabilities transitioning from nursing homes**



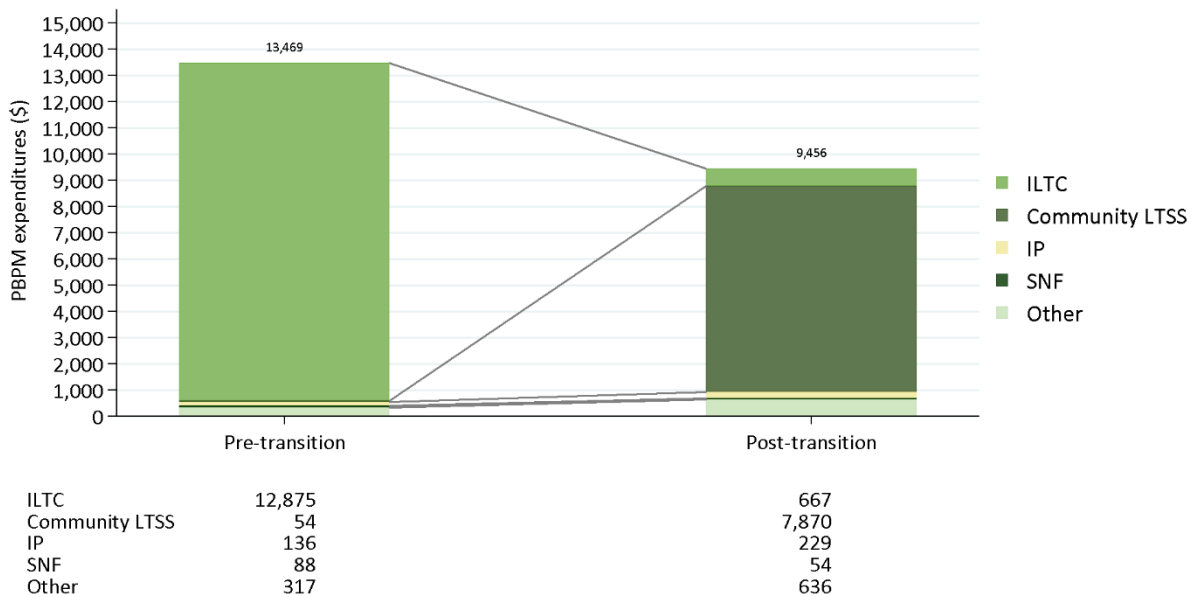
Source: Mathematica’s analysis of Medicaid and Medicare claims and enrollment data for Medicaid beneficiaries who transitioned from institutional to community-based LTSS from 2008 through 2013 in 32 states.

Note: This analysis is based on an unweighted sample of 11,215 MFP participants who had transitioned by the end of 2013, regardless of their inclusion in the analyses presented in the following sections. Monthly expenditures are based on 6 months of pre-transition data and 12 months of post-transition data.

ILTC = institutional long-term care; IP = Medicare- and Medicaid-paid inpatient, short-stay hospitalization; PBPM = per-beneficiary-per-month; Other = all other services, including, but not limited to, emergency department, physician, hospice, ambulatory surgery, durable medical equipment, and outpatient radiology services; SNF = Medicare-paid skilled nursing facility.



**Figure V.3. Distribution of pre- and post-transition monthly expenditures for MFP participants transitioning from intermediate care facilities for individuals with intellectual disabilities**



Source: Mathematica’s analysis of Medicaid and Medicare claims and enrollment data for Medicaid beneficiaries who transitioned from institutional to community-based LTSS from 2008 through 2013 in 32 states.

Note: This analysis is based on an unweighted sample of 4,600 MFP participants with intellectual disabilities who had transitioned by the end of 2013, regardless of their inclusion in the analyses presented in the following sections. Monthly expenditures are based on 6 months of pre-transition data and 12 months of post-transition data.

ILTC = institutional long-term care; IP = Medicare- and Medicaid-paid inpatient, short-stay hospitalization; Other = all other services, including, but not limited to, emergency department, physician, hospice, ambulatory surgery, durable medical equipment, and outpatient radiology services; PBPM = per-beneficiary-per-month; SNF = Medicare-paid skilled nursing facility.

Average LTSS expenditures decline for all MFP target populations but still account for the majority of total spending in the post-transition period. The shift from institutional to community-based care appears to reduce total LTSS spending on a per beneficiary per month basis by \$1,650 to \$2,100 for participants transitioning from nursing homes, and \$4,400 per beneficiary per month for the population with intellectual disabilities. These notable declines in LTSS spending after the transition account for the majority of the decline observed in total expenditures.

The changes in non-LTSS spending, however, vary by target population. Non-LTSS spending declines for participants transitioning from nursing homes but increases for participants who transition from intermediate care facilities for individuals with intellectual disabilities. The increase for this population is driven primarily by inpatient hospitalization and other Medicare- and Medicaid-paid medical services. Skilled nursing and home health care are the next-largest expenditure categories, but these categories show little change between the pre- and post-transition periods. Other medical services, such as physician and emergency department (ED) visits, make up a small proportion of overall expenditures, and changes in those costs have little influence on overall total expenditures.

Changes in Medicare and Medicaid spending are difficult to interpret because of changing eligibility. For people transitioning from nursing homes, Medicare and Medicaid spending decline after the transition, but 3 percent of MFP participants gained Medicare eligibility after transition. For people with intellectual disabilities, Medicaid expenditures declined, but Medicare expenditures increased because about 6 percent of the target population with intellectual disabilities gained Medicare eligibility after transition.

## 2. Associated cost savings

Among MFP participants, the transition to community living appears to save health care costs.<sup>38</sup> On average, monthly per beneficiary expenditures declined by \$1,840 among older adults transitioning from nursing homes, which translates to average health care costs savings of \$22,080 during the first year someone transitions to community-based LTSS. By the end of 2013, grantee states had transitioned 12,434 older adults from nursing homes, which translates to roughly \$275 million in medical and LTSS cost savings for the first year after the transition.

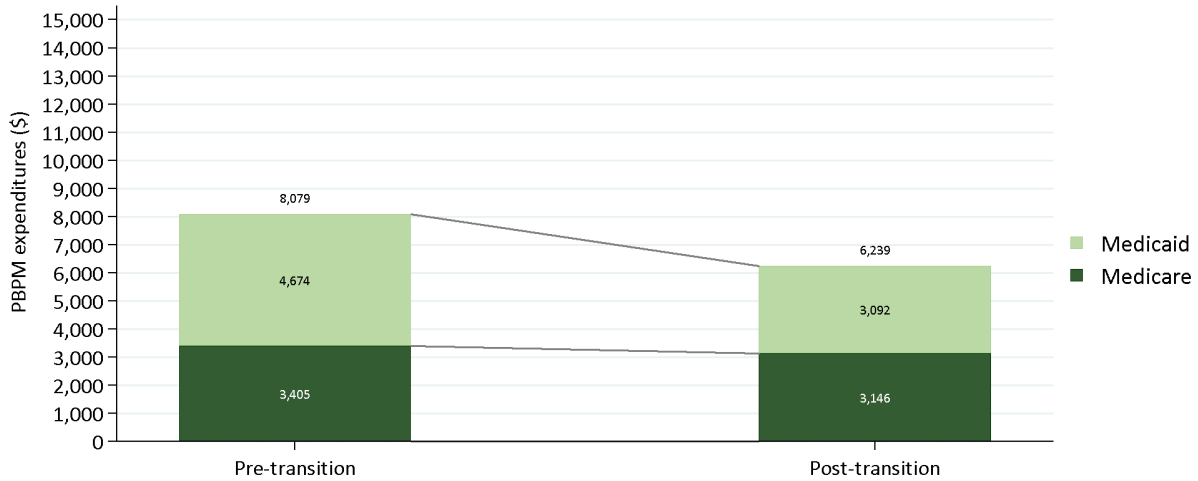
Similarly, the monthly expenditures for younger adults with physical disabilities declines on average by \$1,783 per beneficiary, which represents total health care cost savings of \$21,396 per beneficiary for the first year after the transition to the community. Grantee states had transitioned 16,039 younger adults with physical disabilities by the end of 2013, which means their first year of community living represents about \$343 million in health care cost savings. For the population with intellectual disabilities, we estimate a decline in monthly expenditures of \$4,013 per beneficiary, or total savings of \$48,156 for each person for the first year after the transition. By the end of 2013, grantee states had transitioned 7,487 beneficiaries with intellectual disabilities for a cost savings of \$361 million.

The decline in spending is attributable primarily to Medicaid-paid services, but Medicare-paid expenditures slightly increase for some target populations due to gains in Medicare eligibility after transition (Figures V.4, V.5, and V.6). Medicare expenditures decline only for MFP participants over age 65 transitioning from nursing homes (Figure V.4). Average Medicaid and Medicare cost savings for each state are presented in Appendix F.

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<sup>38</sup> Per-beneficiary cost savings are based on those with available data, but the number of MFP participants used to assess total cost savings use all MFP participants regardless of data availability.

**Figure V.4. Distribution of Medicare and Medicaid pre- and post-transition monthly expenditures for older adult MFP participants transitioning from nursing homes**

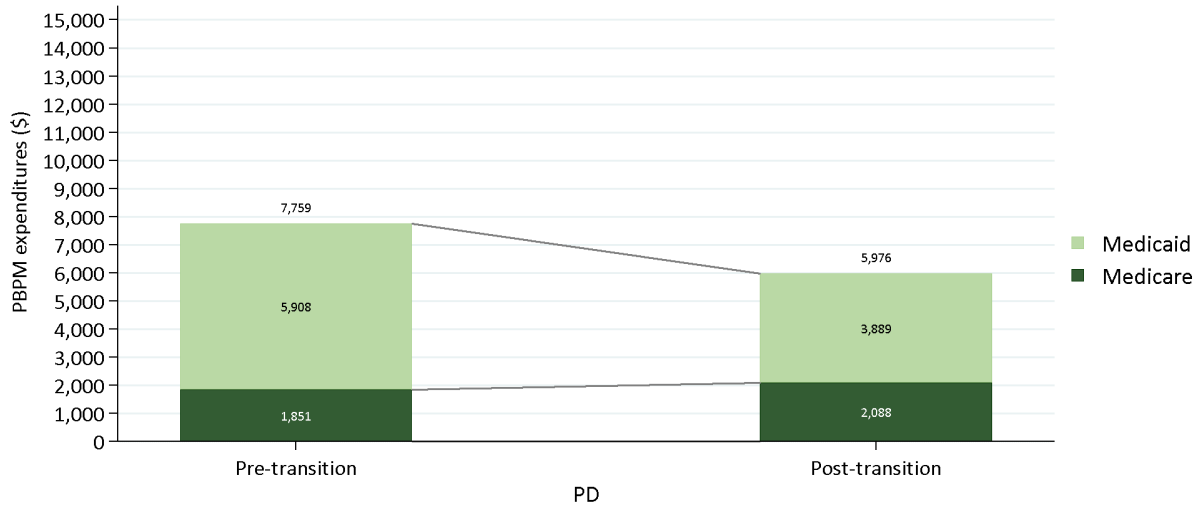


Source: Mathematica’s analysis of Medicaid and Medicare claims and enrollment data for Medicaid beneficiaries who transitioned from institutional to community-based LTSS from 2008 through 2013 in 32 states.

Note: This analysis is based on an unweighted sample of 4,413 older adult MFP participants who had transitioned by the end of 2013, regardless of their inclusion in the analyses presented in the following sections. Monthly expenditures are based on 6 months of pre-transition data and 12 months of post-transition data.

PBPM = per-beneficiary-per-month.

**Figure V.5. Distribution of Medicare and Medicaid pre- and post-transition monthly expenditures for MFP participants with physical disabilities transitioning from nursing homes**

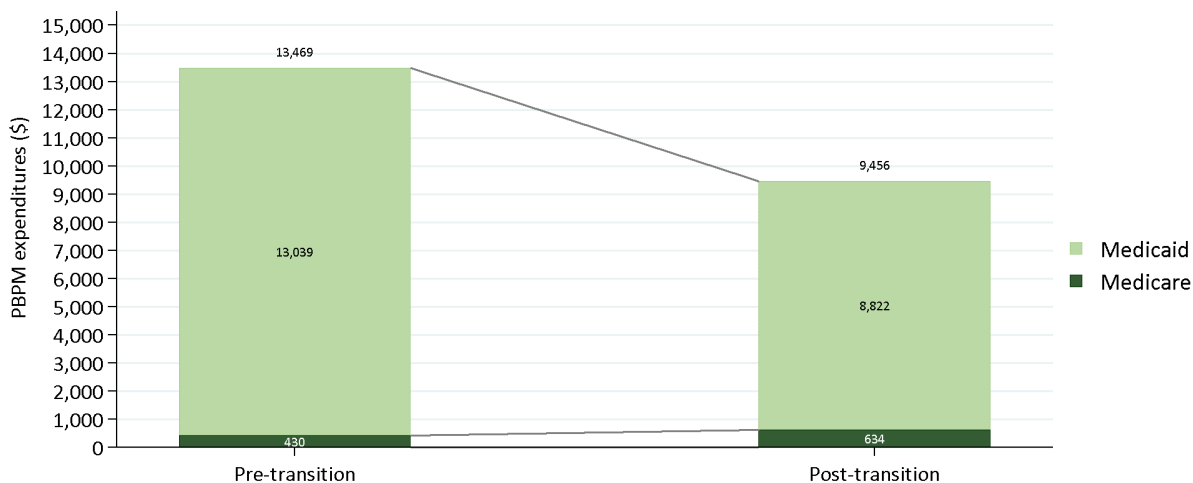


Source: Mathematica’s analysis of Medicaid and Medicare claims and enrollment data for Medicaid beneficiaries who transitioned from institutional to community-based LTSS from 2008 through 2013 in 32 states.

Note: This analysis is based on an unweighted sample of 11,215 MFP participants with physical disabilities who had transitioned by the end of 2013, regardless of their inclusion in the analyses presented in the following sections. Monthly expenditures are based on 6 months of pre-transition data and 12 months of post-transition data.

PBPM = per-beneficiary-per-month.

**Figure V.6. Distribution of Medicare and Medicaid pre- and post-transition monthly expenditures for MFP participants transitioning from intermediate care facilities for individuals with intellectual disabilities**



Source: Mathematica's analysis of Medicaid and Medicare claims and enrollment data for Medicaid beneficiaries who transitioned from institutional to community-based LTSS from 2008 through 2013 in 32 states.

Note: This analysis is based on an unweighted sample of 4,271 MFP participants with intellectual disabilities who had transitioned by the end of 2013, regardless of their inclusion in the analyses presented in the following sections. Monthly expenditures are based on 6 months of pre-transition data and 12 months of post-transition data.

PBPM = per-beneficiary-per-month.

Combining all three population groups, we estimate that MFP participants generated \$978 million in cost savings during the first year after the transition to community-based LTSS. This estimate assumes that MFP participants would have maintained their pre-transition level of spending.<sup>39</sup> When broken out into Medicaid and Medicare costs and savings, we find \$1,003 million in cost savings for Medicaid, but \$25 million in additional costs for Medicare. Medicare costs increase because of increased Medicare enrollment over time as some participants age into Medicare coverage or beneficiaries of the Social Security Disability Insurance program complete their two-year waiting period.

These cost savings represent an upper bound estimate for two reasons. First, they do not account for administrative costs of running an MFP demonstration. We do not have estimates of the administrative costs associated with monitoring a Medicaid beneficiary in institutional care, so it would be inappropriate to adjust for the costs of operating an MFP demonstration. MFP administrative costs include salaries for paid staff, such as a full-time project director and transition coordinators and housing specialists in some states; outreach and education activities and materials; upgrades to information systems; and establishment and maintenance of critical

<sup>39</sup> In a sample of Medicaid beneficiaries with 24 continuous months of institutional LTSS use between 2006 and 2011, expenditures increased by 3.8 percent per year on average.

incident reporting systems. MFP administrative expenditures vary from state to state, but using budget worksheets that MFP grantees submitted to CMS, we estimate that administrative costs were about 14 percent of the costs for the community-based LTSS provided to MFP participants during the first year after the transition. That is, for every dollar spent on community-based LTSS for MFP participants, grantee states spent about \$0.14 administering the demonstration.<sup>40</sup>

As the next section will illustrate, the decline in expenditures that occurs when an MFP participant transitions from institutional care to community-based LTSS is not unique to this group of Medicaid beneficiaries. When other Medicaid beneficiaries experience the same transition, their Medicaid and Medicare expenditures also decline in the same way. MFP participants have higher Medicaid costs after the transition compared to other transitioners, primarily because of the additional community-based LTSS they receive. Given the cost savings that occur when a Medicaid beneficiary transitions from institutional care to community-based LTSS are not unique to the MFP demonstration, the MFP demonstration will only generate additional cost savings above what would have occurred without the demonstration if MFP increases transition rates and helps people move who would not have otherwise done so. As presented in chapter II, if 25 percent of older adults and 50 percent of individuals with intellectual disabilities would not have transitioned without the MFP demonstration, then the lower bound estimate of the additional savings the MFP demonstration generated is \$249 million. That is, the MFP demonstration can be credited for generating these additional savings because they would not have occurred if this demonstration had not been implemented. These estimates should be considered conservative because they represent cost savings only after the first year of the program and they do not incorporate the compounded cost savings that occur when someone remains in the community longer than a year.

### **C. MFP and post-transition expenditures**

Compared to the matched sample of Medicaid beneficiaries who transition outside MFP (“other transitioners”), total monthly expenditures for MFP participants are greater in the year after transition (Table V.2). For the nursing home population (both older and younger adults), these differences are driven primarily by LTSS expenditures. MFP participants have greater LTSS expenditures in the post-transition period because they receive more community-based LTSS, which is by design. The same pattern holds for people with intellectual disabilities, but in this target population, MFP participants seem to have higher institutional LTSS expenditures, which suggests that they are more likely to be reinstitutionalized, and their post-acute costs for Medicare-financed SNF and home health services are higher as well. Post-transition institutional expenditures in this analysis are not restricted to only stays that are 30 days or longer as used in the reinstitutionalization rate analysis presented in chapter II. In this analysis, post-transition institutional expenditures include all types of admissions to institutional care, regardless of the length of stay, post transition. The data indicate that despite the use of institutional services, beneficiaries once again returned to the community after a subsequent institutional stay.

When the data are adjusted to control for demographics and pre-transitioning characteristics, the results indicate that the post-transition health care expenditures of MFP participants are

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<sup>40</sup> This estimate did not include the reimbursement state grantees received for each completed MFP quality-of-life survey submitted.

greater than those of other transitioners (Table V.3). Average total expenditures decline for all persons who transition, but MFP participants' expenditures decline to a lesser extent than other transitioners. For older adults transitioning from nursing homes, total monthly expenditures decline by \$2,445 for other transitioners but for MFP participants the decline is \$1,815. The smaller decline in total expenditures for MFP participants is observed for all target populations.

**Table V.2. Post-transition per-beneficiary-per-month expenditures for MFP participants and other transitioners**

Expenditure category	Older adults		Persons with physical disabilities		Persons with ID/DD	
	MFP	Other transitioners	MFP	Other transitioners	MFP	Other transitioners
<b>Total</b>	6,239	6,045	5,976	5,526	9,456	10,526
Medicaid	3,092	2,731	3,889	3,374	8,822	9,767
Medicare	3,146	3,315	2,088	2,152	634	759
Total LTSS	2,906	2,340	3,390	2,389	8,537	9,225
Community LTSS	2,329	1,797	2,917	1,991	7,870	8,666
Institutional LTSS	577	543	474	399	667	559
Total medical	3,333	3,705	2,586	3,137	919	1,301
Inpatient	928	1,020	751	779	229	301
SNF	473	638	189	261	54	83
Home health	602	511	279	263	51	41
ED	31	24	23	18	15	15
Physician	68	71	45	39	34	38

Source: Mathematica's analysis of Medicaid and Medicare claims and enrollment data for Medicaid beneficiaries who transitioned from institutional to community-based LTSS from 2008 through 2013 from 33 states.

Note: This table shows the unadjusted means for expenditure categories for the 12 months after transition. SNF and home health include only Medicare-paid services.

ED = emergency department; ID/DD = intellectual or developmental disabilities; LTSS = long-term services and supports; SNF = skilled nursing facility.

**Table V.3. Change in per-beneficiary-per-month expenditures for MFP participants relative to a matched comparison group of other transitioners**

Expenditure category	Older adults		Persons with physical disabilities		Persons with ID/DD	
	MFP	Other transitioners	MFP	Other transitioners	MFP	Other transitioners
<b>Total</b>	-1,815***	-2,455	-1,673***	-2,757	-4,072***	-5,372
Medicaid	-1,580***	-2,351	-1,911***	-2,853	-4,276***	-5,486
Medicare	-257	-139	219	-32	277	164
Total LTSS	-1,664***	-2,454	-2,016***	-3,020	-4,443***	-5,775
Community LTSS	2,284***	1,440	2,887***	1,889	7,858***	6,698
Institutional LTSS	-3,945	-3,894	-4,903	-4,909	12,302	12,473
Total Medical	-151	-2	343	263	371	403
Inpatient	161	103	160*	55	83	75
SNF	-943***	-658	-800	-810	-61	-80
Home health	579***	505	535	511	85***	47
ED	13***	8	12***	6	9*	6
Physician	36*	33	28***	21	25***	19

Source: Mathematica's analysis of Medicaid and Medicare claims and enrollment data for Medicaid beneficiaries who transitioned from institutional to community-based LTSS from 2008 through 2013 from 33 states.

Note: The matched sample of other transitions is based on a propensity-score-matching approach described in more detail in Appendix F. The results show the change in monthly expenditures post transition. We test whether these changes differ between the MFP and other transitioner groups. All numbers are in dollars.

Statistical notation: \*/\*\*/\*\* = P-value < \*0.05/\*\*0.001/\*\*0.0001.

ED = emergency department; ID/DD = intellectual or developmental disabilities; LTSS = long-term services and supports; SNF = skilled nursing facility.

The greater total spending for MFP participants is due almost entirely to significantly greater post-transition spending on community-based LTSS (Table V.3). MFP participants receive an additional \$844 (older adults) to \$1,160 (people with intellectual disabilities) in community-based LTSS per month relative to other transitioners. This difference is most likely attributable to the additional demonstration and supplement services available to MFP participants.

Because community-based LTSS are covered only by Medicaid, most of the additional expenditures incurred by MFP participants are for Medicaid-paid services (Table V.3). However, Medicare expenditures are statistically significantly greater for MFP participants relative to other transitioners. This difference does not drive the overall differences in total expenditures, because they represent only a small proportion of total expenditures.

Differences in medical subcategories of expenditures are not as pronounced as those for LTSS expenditures (Table V.3). Post-transition expenditures for physician services and home health grow more among MFP participants, but older adult MFP participants experience a larger decline in SNF expenditures compared to other transitions after moving to the community.

#### **D. MFP and post-transition service utilization**

As the previous analyses demonstrate, transitioning from institutional to community-based LTSS has a small effect on medical care service expenditures relative to LTSS expenditures.



However, there are important differences in medical expenditures between MFP participants and other transitioners, differences which suggest that MFP influences the use of medical care services post-transition.

Use of medical and rehabilitation services are high for everyone transitioning to the community, not just MFP participants, and there are few significant differences in utilization between MFP participants and other transitioners (Table V.4). Nearly half of people transitioning from nursing homes are hospitalized in the year after transition, and ED use ranges from 52 to 55 percent among people with intellectual disabilities to 67 to 68 percent among persons with physical disabilities. For reference, 30 to 40 percent of Medicaid beneficiaries residing in an institution for two or more years visit the ED each year, and 14 to 30 percent are hospitalized (data not shown). Among those using community-based LTSS for at least two consecutive years, 30 to 47 percent visited the ED each year and 10 to 32 percent were hospitalized (data not shown). There are few significant differences in the use of services between MFP participants and other transitioners, but utilization varies by target population. Older MFP participants are significantly less likely to be hospitalized than other transitioners (OR = 0.86,  $p < 0.001$ ), and after discharge, are more likely to use home health (OR = 1.33,  $p < 0.001$ ). For persons with physical disabilities, patterns are somewhat reversed: MFP participants have greater odds of emergency hospitalization (OR = 1.12,  $P < 0.001$ ) and are less likely to use home health after discharge (OR = 0.75,  $p < 0.001$ ). These results suggest that regardless of someone's participation in MFP, those who use LTSS and transition from institutional to community settings are vulnerable and use acute-care services at similarly high rates.

Although MFP participants and other transitioners use medical care services at high rates, the cost analyses presented above, indicate that Medicaid programs still realize cost savings by transitioning long-term residents of institutions to community-settings. Finding few differences in the use of inpatient and ED services indicates that MFP participants are not at higher risk than other transitioners and in a few cases, may be at lower risk for needing these services. Lastly, these results conform with how grantee states have focused the MFP demonstrations on the transition itself and establishing community services, including connections with primary care, but they have not focused on post-transition management of medical care needs.

**Table V.4. Difference in post-transition utilization of services for MFP participants relative to a matched comparison group of other transitioners**

Utilization outcome	Older adults			Persons with physical disabilities			Persons with ID/DD		
	MFP (%)	Other transitioners (%)	OR	MFP (%)	Other transitioners (%)	OR	MFP (%)	Other transitioners (%)	OR
Inpatient admission	48%	50%	0.86***	49%	46%	1.05	22%	21%	1.02
Emergency inpatient admission	11%	19%	1.05	20%	23%	1.12**	8%	11%	0.90
Home health after IP discharge	6%	6%	1.33**	3%	3%	0.94	1%	1%	2.46*
Inpatient rehab after IP discharge	8%	10%	0.92	5%	5%	0.75**	1%	1%	0.68
ED visit	62%	60%	0.97	67%	68%	0.99	55%	52%	1.04
Physician visit	94%	93%	1.06	92%	91%	1.10	93%	90%	1.11

Source: Mathematica's analysis of Medicaid and Medicare claims and enrollment data for Medicaid beneficiaries who transitioned from institutional to community-based LTSS from 2008 through 2013 from 33 states.

Note: The matched sample of other transitioners is based on a propensity-score-matching approach described in more detail in Appendix F. The percentages show the unadjusted utilization of each service in the matched sample. The effect estimates are presented as odds ratios (OR) based on a logistic regression model that adjusts for individual characteristics.

ED = emergency department; ID/DD = intellectual or developmental disabilities; Inpatient rehab = Medicare-paid skilled nursing facility, long-term acute care hospital, or inpatient rehab facility; IP = inpatient short-stay hospital.

Statistical notation: \*/\*\*/\*\* = P-value < \*0.05/\*\*0.001/\*\*\*0.0001.

## E. MFP and post-transition quality of care

Although MFP participants incur more costs after transitioning to the community relative to others who transition without the benefit of MFP, we hypothesize that this differential might translate to higher quality of care or more desirable post-transition outcomes. One hypothesis is that the additional services MFP participants receive help them stay connected to medical and social services and thus remain in the community longer. For example, the additional community services might help MFP participants prevent returns to institutional care or costly medical care related to accidents and injuries; these services might also help them return to the community more quickly after an inpatient stay.

Compared with others who transition, MFP participants are less likely to be readmitted to institutional-level care after the initial transition to the community (Table V.5). We developed two related measures of reinstitutionalization. The first one, assesses the likelihood someone is reinstitutionalized for 30 days or more within 180 days of the initial transition. The national evaluation has used this definition in previous research and it only assesses longer readmissions that would cause a grantee to suspend someone's eligibility for MFP benefits. The second measure of reinstitutionalization captures any readmission to an institution of any length within 180 days of transition. The difference in the rates between the measure restricted to stays of 30 days or more and the broader measure of stays of any length indicate that for both MFP

participants and other transitioners, brief readmissions to institutional care are common. When controlling for individual characteristics and other observable factors, the estimated odds ratios indicate that MFP participants have statistically significantly lower institutional care use within 180 days of transition. The largest difference is seen among older adults transitioning from nursing homes, only 6 percent of MFP participants were reinstitutionalized for 30 days or longer compared to 15 percent of other transitioners and the estimated odds ratio that adjusts for differences in individual characteristics and other observable factors is 0.37 which is statistically significant at the  $p < 0.0001$  level. Interestingly, although reinstitutionalizations vary between MFP participants and other transitioners, institutional LTSS spending is similar between the groups (Tables V.2 and V.3). The conflicting cost and utilization results suggest that if and when reinstitutionalization happens, it happens either with a delay for MFP participants or they have longer stays compared with other transitioners.

**Table V.5. Difference in post-transition quality of care for MFP participants relative to a matched comparison group of other transitioners**

Utilization outcome	Older adults			Persons with physical disabilities			Persons with ID/DD		
	MFP	Other transitioners	OR	MFP	Other transitioners	OR	MFP	Other transitioners	OR
Reinstitutionalization of 30 days or more within 180 days	6%	15%	0.37***	5%	8%	0.59***	2%	2%	0.57***
Any institutional LTSS use within 180 days	42%	48%	0.76***	43%	51%	0.71***	43%	53%	0.64***
IP admission 90 days post-transition	22%	23%	0.90*	23%	21%	1.07	9%	8%	0.92
90-day readmission after IP discharge	9%	10%	0.92	9%	9%	0.80*	5%	3%	1.22
ACSC within 90 days	9%	8%	0.99	8%	8%	1.07	3%	3%	0.98
Physician visit 30 days post-transition	62%	59%	1.11*	61%	59%	1.01	51%	49%	0.97

Source: Mathematica's analysis of Medicaid and Medicare claims and enrollment data for Medicaid beneficiaries who transitioned from institutional to community-based LTSS from 2008 through 2013 from 33 states.

Note: The matched sample of other transitions is based on a propensity-score-matching approach described in more detail in Appendix F. The percentages show the unadjusted utilization of each service in the matched sample. The effect estimates are presented as odds ratios (OR) based on a logistic regression model that adjusts for individual characteristics.

ACSC = ambulatory care sensitive condition; ID/DD = intellectual or developmental disabilities; IP = inpatient short-stay hospital; LTSS = long-term services and supports.

Statistical notation: \*/\*\*/\*\* = P-value < \*0.05/\*\*0.001/\*\*\*0.0001.

Quality measures related to hospitalization and health care use indicate few statistically significant differences (Table V.5). For example, older adult MFP participants transitioning from nursing homes are more likely to visit a physician within 30 days of the transition relative to other transitioners (they are 1.11 times more likely to have this visit compared to other transitioners after adjusting for observable differences).

## F. MFP and cost, utilization, and quality of care long term

For beneficiaries who live for more than a year after the transition to the community, it is possible that MFP has longer-term effects on the health care costs and utilization of participants after they leave the MFP demonstration. Although former participants are without the additional supports of MFP, the services they received through the demonstration might have lasting effects. One example would be if the MFP demonstration was able to establish services that stay in place after eligibility for MFP ends, such as assistive technology or care providers, or if MFP participants have more stable care because of the upfront work done by transition coordinators.

Between the first and the second year after transition, MFP participants' total monthly expenditures decline more than those for other transitioners (Table V.6), a result of significantly lower spending on community-based LTSS relative to other transitioners; however, older adults and persons with physical disabilities who transition through MFP have greater institutional care in the second year compared to other transitioners. This difference indicates that although MFP participants are less likely to return to institutional care in the second year after transitioning, when readmissions occur, they are more costly.

**Table V.6. Changes in expenditures and utilization two years after transition for MFP participants relative to a matched comparison group of other transitioners: Preliminary analysis**

Outcome	Older adults		Persons with physical disabilities		Persons with ID/DD	
	MFP	Other transitioners	MFP	Other transitioners	MFP	Other transitioners
Expenditures	Change relative to pre-transition expenditures					
Total	-438***	26	-929***	203	-834***	1,167
Total LTSS	-250***	508	-1,060***	228	-961***	1,190
Community LTSS	-691***	-161	-1,297***	-105	-856***	150
Institutional LTSS	441***	669	237**	332	-105	1,040
Medical	-188**	-481	131*	-24	127***	-23
Utilization	Odds ratio for using LTSS 2 years post-transition					
Institutional LTSS use	0.87**	NA	0.99	NA	0.57***	NA
Community LTSS use	1.12**	NA	0.77***	NA	1.28***	NA

Source: Mathematica's analysis of Medicaid and Medicare claims and enrollment data for Medicaid beneficiaries who transitioned from institutional to community-based LTSS from 2008 through 2013 from 33 states.

Note: The matched sample of other transitions is based on a propensity-score-matching approach described in more detail in Appendix F. Expenditures are adjusted for inflation. The matched sample results are the slopes from difference-in-differences models. All slopes represent changes in dollars.

Statistical notation: \*/\*\*/\*\* =  $p$ -value < \*0.05/\*\*0.001/\*\*0.0001.

ID/DD = intellectual or developmental disabilities.

NA = not applicable.

## G. Mental illness and the relationship between MFP and post-transition costs, utilization, and quality of care

As noted elsewhere in this report, a large proportion of MFP participants have a mental or behavioral health condition, and there is policy interest in how MFP participants with mental

health conditions fare. In the analyses presented above, we controlled for mental health conditions as part of the process we used to match comparison group members to MFP participants, and we also controlled for the presence of a mental health condition when estimating the difference in post-transition outcomes between MFP participants and other transitioners. Independent of other observable factors, MFP participants are more likely to have mental health conditions relative to the population of other transitioners. The propensity-score-matching process we used to match comparison group members and MFP participants did not completely eliminate differences in mental health conditions between MFP participants and the other transitioners in the analysis. When estimating the association between MFP and post-transition outcomes, we noted that mental health conditions were associated with lower total expenditures. We re-ran our analyses stratifying MFP participation by mental health conditions to test for the possibility that mental illness would modify the effect of MFP on expenditures, utilization, and quality of care.

The presence of a mental health condition does not appear to change the overall effect of MFP on cost, utilization, and the quality of care (Table V.7). The one exception is that MFP participants with intellectual disabilities have similar declines in total expenditures relative to other transitioners with mental health conditions. When reviewing mental illness related quality measures, we observe that older adult MFP participants with mental health conditions transitioning from nursing homes have lower rates of admission to a mental health treatment facility within 90 days of transition compared to other transitioners; however, there are no other associations between MFP and mental health inpatient admissions for other target populations.

**Table V.7. Change in per-beneficiary per-month expenditures and utilization for MFP participants with mental health conditions relative to a matched sample of other transitioners**

Outcome	Older adults		Persons with physical disabilities		Persons with ID/DD	
	MFP	Other transitioners	MFP	Other transitioners	MFP	Other transitioners
Total expenditures	-1,738***	-2,448	-1,505***	-2,627	-2,177	-2,638
Total LTSS	-1,591***	-2,459	-1,820***	-2,862	-2,441*	-3,055
Community LTSS	2,267***	1,376	2,739***	1,709	7,623***	7,018
Institutional LTSS	-3,858	-3,836	-4,559	-4,571	-10,064	-10,07
Medical	-147	11	315	236	264*	417
Utilization	Odds ratio for using service					
IP stay	0.89**	NA	1.13**	NA	1.04	NA
Institutional LTSS within 180 days	0.76***	NA	0.71***	NA	0.82***	NA
Quality measures	Odds ratio for using service					
180-day reinstitutionalization	0.39***	NA	0.61***	NA	1.06	NA
Inpatient admission for MI within 90 days	0.37***	NA	0.69	NA	1.32	NA

Source: Mathematica's analysis of Medicaid and Medicare claims and enrollment data for Medicaid beneficiaries who transitioned from institutional to community-based LTSS from 2008 through 2013 from 33 states.

Notes: The matched sample of other transitions is based on a propensity-score-matching approach described in more detail in Appendix F. The matched sample results are the slopes from difference-in-differences models. All slopes represent changes in dollars.

Statistical notation: \*/\*\*/\*\* =  $p$ -value < \*0.05/\*\*0.001/\*\*0.0001.

ID/DD = intellectual or developmental disabilities; IP = inpatient; LTSS = long-term services and supports; MI = mental illness.

## H. Discussion

In the year after the transition to the community, total Medicaid and Medicare expenditures decline for everyone who transitions, regardless of their participation in the MFP demonstration. Relative to other transitioners, MFP participants have higher post-transition total expenditures, mainly because of greater expenditures for community-based LTSS, which is by design. However, the data provide some evidence that MFP demonstrations may be successful at ensuring that people remain in the community longer. For example, compared to others who transition without the benefit of MFP, MFP participants have lower reinstitutionalization rates and longer periods using community-based LTSS. In addition, MFP participants generally had similar outcomes for quality of care measures (such as, hospital readmissions) relative to the comparison group.

During the matching process for the selection of the comparison group, we identified that MFP participants are quite different from Medicaid beneficiaries transitioning without the support of MFP (Appendix Table F.4 presents comparative data that illustrates some of the differences between MFP participants and other transitioners). Other transitioners are more likely to use hospice around the time of transition, and before the transition they tend to use more

community-based LTSS and spend less time in institutional care. In addition, MFP participants appear to have fewer functional limitations and medical conditions relative to others who transition. We do not know why these differences exist, but they may reflect the possibility that, compared to others who transition, MFP participants may not be as functionally impaired but they may be less likely to have connections to community-based LTSS and providers of these services, which may make it more difficult for them to make arrangements on their own to transition to community-based care. Hence, their need for a formal transition program like MFP that provides the search and coordination functions necessary to successfully find affordable and accessible housing and arrange community services.

The connection to previous use of community-based LTSS also suggest that once individuals connect with community services, either through a state's diversion program or the Medicare home health benefit, it is easier to transition back when admissions to institutional care becomes necessary. It is possible that community providers are already in place and individuals and caregivers are familiar with the benefits of community-based LTSS and engaging with community-based providers and the work of establishing services is minimized.

Although Medicaid costs for MFP participants decline when they return to the community, the savings are not as great as for those Medicaid beneficiaries who transition outside MFP. MFP participants have access to more community-based LTSS than are available to other Medicaid beneficiaries; therefore, all else equal, it is expected that MFP participants have higher post-transition expenditures than other transitioners, at least during the first post-transition year. Even if MFP participants receive more benefits, that could lead to lower expenditures in the future. The question is whether the additional services MFP participants receive provide additional support and benefit to Medicaid beneficiaries.

Because health care costs decline when someone transitions from institutional to community-based LTSS, regardless of their participation in MFP, estimating the proportion of the cost savings that can be attributed to MFP requires merging the analysis of transition rates reported in Chapter II with the estimates of how costs changes post-transition for MFP participants. The analysis of transition rates suggests that among older adults residing in nursing homes, MFP dampened a downward trend in transition and about 25 percent of MFP participants in this target population would not have transitioned had MFP not been implemented. Similarly for individuals with intellectual disabilities, we estimate that about 50 percent of recent transition in this group would also not have transitioned if MFP had not been implemented. Using this information we estimate that the MFP demonstration generated approximately \$249 million in cost savings through 2013. This is potentially a conservative estimate because it only assesses the reduction in costs that occur during the first year after the transition and does not include any additional cost savings that might be realized in subsequent years. We need more research to have a complete understanding of the cost implications of the MFP demonstration. To start, we know expenditures decline after transition, so Medicaid programs have a financial incentive to support transitions (above and beyond improvements in quality of life). In addition, it is possible that the increased post-transition expenditures for MFP participants provide additional benefits, such as improved community living, quality of life, and quality of care, and it is possible that the measures we used simply did not capture the changes occurring. For example, the increased MFP expenditures may help beneficiaries remain in the community longer after MFP program benefits end, which suggests the evaluation should examine health care costs over a much longer time



period. However, because of data limitations we believe our estimates for the second year, post transition are still too preliminary to address this hypothesis.

In addition, it is possible we need a broader counterfactual to use when estimating cost savings. The counterfactual in this chapter represented Medicaid beneficiaries who transitioned during the same time frame from institutional care to community-based LTSS without the benefit of the MFP demonstration. It is possible that a better counterfactual would be a blend of two groups of Medicaid beneficiaries: (1) those unable to transition and who remain in institutional care, and (2) those who transition without the support of MFP. The counterfactual sample used in this analysis includes the second group, but not the first. Given that we know that beneficiaries residing long-term in institutions have higher Medicaid costs, suggest we underestimated the cost savings associated with the MFP demonstration.

Finally, the total cost of healthcare and community-based LTSS was not emphasized when the demonstration was originally designed and this aspect is not a component of the legislation that established the demonstration. The MFP grantees have always been required to have systems in place to address the health and safety of Medicaid beneficiaries who transition under the program, but the demonstration's effect on broader health care costs have not been emphasized. MFP programs are not designed to specifically reduce health care utilization, but they have affected its use. Future program design and evaluations may want to consider focusing the efforts of the program to create a bridge between healthcare, behavioral health, and community-based LTSS systems that will specifically target the effectiveness and quality of care. For example, program design might be linked with targeted quality metrics that include health information technology for data sharing with the participant, healthcare, behavioral health, and community service providers and care coordinators in a way that will ensure real-time support for the participant across all service sectors.



## VI. CHANGES IN MFP PARTICIPANTS' QUALITY OF LIFE

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The MFP demonstration addresses the belief that many Medicaid beneficiaries who reside in institutions would rather live independently in their communities; that community living contributes to an increased sense of autonomy and life satisfaction; and that the increase is a function of enhancements across many life domains. However, those transitioning from institutional to community settings might not experience an improvement in quality of life (QoL) if the home care services they receive are not adequate, the available and affordable housing is of poor quality, they feel more isolated, or family and friends cannot provide the support they need.

One concern is that people who transition from institutional care to the community may not receive the assistance they need to conduct daily activities. Lack of adequate supports in the community may result in declines in health, increased isolation, or depressed mood. It is also important to identify whether certain participant-level characteristics, such as clinical diagnoses, presence of depressive symptoms, or cognitive and functional status are associated with poor post-transition quality-of-life outcomes so that programs such as MFP can develop strategies to address such risk factors. An overarching goal of the demonstration is to offer MFP participants an expanded set of community-based LTSS soon after transition, beyond those normally available to Medicaid enrollees, to increase their chances of a successful placement in the community. Advance knowledge of which characteristics are associated with adverse post-transition outcomes can inform the care planning, transition coordination, and service delivery for MFP participants, so that adequate community-based LTSS are in place at the time of transition.

Analyses to date have shown that participants experience significant improvements in reported quality of life across several domains (Simon and Hodges 2011; Irvin et al. 2011, 2012, 2013, 2015). This chapter builds on earlier work by using a larger sample to explore changes in quality of life after one and two years of community living. Previous research has also examined how participants' unmet needs for personal assistance services<sup>41</sup> were associated with adverse health outcomes, such as a pressure ulcer or fall, and medical service use during the first year in the community. Overall, past studies suggested that few MFP participants reported unmet needs for personal assistance services. However, the data also indicated that when participants reported unmet needs for personal assistance services, they were more likely to use medical services when residing in the community; 80 percent of participants in the sample with an unmet need for personal assistance services experienced a medical event during their first year of community living, compared to 76 percent of participants who reported no unmet needs for personal

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<sup>41</sup> Having an "unmet need for personal assistance services" is defined as a participant who goes without needed assistance in at least one of four personal care areas (bathing, meals, medication, and/or toileting). This is assessed through a two-part question, (1) "Do you ever go without [a bath or shower/a meal/taking your medicine] when you need one?" or "Are you ever unable to use the bathroom when you need to?" and (2) "Is this because there is no one there to help you?" These two-part questions are asked separately for each of the four care needs. Participants who answer yes to both questions for at least one of the care needs are identified as having an unmet need for personal assistance services.

assistance services (Irvin et al. 2015).<sup>42</sup> In this chapter, we build on this work by assessing whether and to what extent the diagnoses, functional, and cognitive status of those who report unmet needs for personal assistance services pre- and post-transition differ from those who report no unmet needs for personal assistance services.

Finally, earlier work conducted under the MFP evaluation found that the percentage of MFP participants reporting depressed mood declines by nearly 7 percentage points between pre-transition and one year of community living, but it remains high (35–38 percent) one and two years post-transition (Irvin et al. 2011, 2012, 2013, 2015; Simon and Hodges 2011). In this chapter, we examine participants' post-transition reports of depressive symptoms in depth to explore the association between depressive symptoms and community integration and other areas of quality of life.

This chapter cites findings for all participants and, where applicable, reports results separately for four MFP target populations: (1) older adults (at least 65) transitioning from nursing facilities, (2) younger adults (under 65) with physical disabilities transitioning from nursing facilities, (3) participants transitioning from intermediate care facilities for individuals with intellectual disabilities, and (4) participants transitioning from psychiatric facilities and other types of institutions (such as long-term care hospitals) characterized as "other." The chapter uses data collected from the MFP Quality-of-Life (QoL) survey, which grantee states administer at three points: (1) immediately before transitioning to the community; (2) one year after transitioning; and (3) two years after transitioning, one year after participation in MFP has ended and they are regular Medicaid beneficiaries. The QoL instrument captures three areas of participant quality of life: (1) overall life satisfaction, (2) quality of care, and (3) community life.

## **A. Research questions**

The following three research questions guided the analyses presented in this chapter:

1. Compared to pre-transition status, how do key aspects of MFP participants' quality of life change after one and two years of community living? Are earlier results showing improvements in quality of life upon transition to the community sustained one year after participants leave the MFP demonstration, and are they robust to the inclusion of larger samples of participants?
2. Is there an association between participants' health status and later reports of unmet needs for personal assistance services during their first year of community living? We also explore the relationship between participants' clinical diagnoses, health status, and unmet needs for personal assistance services during their first year in the community to determine whether these participant-level characteristics appear to be associated with poor quality-of-life outcomes post-transition.<sup>43</sup>

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<sup>42</sup> Medical events examined include (1) an ED visit that did not result in an inpatient hospitalization, (2) an ED visit that ended in an inpatient hospitalization, (3) an inpatient admission, or (4) an admission to nursing homes or subacute-care facilities, as captured in the 2012 MAX claims records.

<sup>43</sup> The assessment did not include analyses of the relationship between participants' clinical diagnoses, health status, and unmet needs for personal assistance services while in institutional care settings.

3. What aspects of a participant's quality of life, such as low levels of community integration, lack of autonomy, and unmet needs for personal assistance services, are associated with reports of depressive symptoms in the first and second years of community living? Similarly, are changes in these factors associated with changes in depressive symptoms after participants move to the community?

We report our key findings below. The rest of this chapter describes aspects of participants' quality of life after one and two years of community living. Section C examines changes in participants' reported quality of life, focusing on life satisfaction, quality of care, and community life. Section D discusses changes in participants' unmet needs for personal assistance services one year post-transition. Section E examines factors associated with unmet needs for personal assistance services, particularly the care needs, cognitive status, and diagnoses of participants who transitioned from nursing homes from 2008 through 2014. Section F explores aspects of a participant's quality of life that are associated with reports of depressive symptoms one and two years post-transition. It also examines how changes in quality of life after a participant transitions to the community are associated with improvements or declines in depressive symptoms.

Detailed information about the data sources, analytic samples, and limitations can be found in Appendix G. Appendix H presents state-level data tables showing QoL survey outcomes at pre-transition, one year follow-up, and two years follow-up.

## **B. Key findings**

Our findings support earlier research and add new information about associations between unmet needs for personal assistance services and participants' clinical diagnoses and health status, as well as insights into the relationship between depressive symptoms and participants' quality of life in the community. Key findings include:

1. MFP participants reported significant improvements in all seven quality-of-life domains one year after moving to the community. These improvements were reported across all target groups and were largely sustained two years later, suggesting that participants experience a higher quality of life in the community than they do in institutional settings, and that this improvement persists one year after participants exit the demonstration. Of all domains assessed, the largest improvement was in satisfaction with living arrangements; nearly all participants (92 percent) reported satisfaction with where they lived after one year in the community, compared to 62 percent reporting liking where they lived while in the institution (pre-transition). Participants also reported large improvements in community integration, overall life satisfaction, and being treated with respect and dignity.
2. The personal care needs (bathing, meals, medications, and toileting) of MFP participants are met at significantly higher levels in the community than in institutional settings, suggesting that MFP is successfully ensuring that participants are able to access the care they need in the community. Before moving to the community, 18 percent of participants reported at least one unmet need for personal assistance services in these four care areas. One year after transitioning, only 8 percent reported an unmet need for these services.
3. The finding that personal care needs were met at a higher level in the community was true across MFP participants with a wide variety of care needs; for each of the most common

diagnoses among MFP participants, levels of unmet needs for personal assistance services declined between pre-transition and one-year post-transition. This decline suggests that MFP services are successfully reaching all participants, regardless of care needs or conditions. Among the 15 most common diagnoses, participants with hemiplegia experienced the largest decline in reported unmet needs for personal assistance services (from 23 percent to 8 percent). Participants with chronic conditions, such as seizure disorders, stroke, and arthritis, also reported large declines. Participants with bipolar disease reported the smallest decline in unmet needs for personal assistance services over the same period, from 22 percent to 12 percent. Furthermore, one year after moving to the community, participants with bipolar disorder or anxiety disorder reported the highest levels of unmet needs for personal assistance services.

4. Among MFP participants transitioning from nursing homes, those with high care needs while in the institution reported the largest improvement in unmet needs for personal assistance services after one year of community living (declining from 28 percent pre-transition to 8 percent post-transition) suggesting that participants with the high care needs may have benefitted the most from the transition. In contrast, those with low care needs while in the institution reported the smallest improvement in unmet needs for personal assistance services after moving to the community, declining from 14 percent pre-transition to 9 percent one year post-transition.
5. Regardless of how depressive symptoms are defined, MFP participants report fewer symptoms after they transition. When using a broad definition of depressive symptoms, reports of depressive symptoms decline 7 percentage points after the transition, from 46 percent while in institutional care to 39 percent after the first year of living in the community. When using a more conservative definition of depressive symptoms, we observe a 6 percentage point decline, from 28 to 22 percent, suggesting that participants living in the community are less likely to experience depressive symptoms than they were before transitioning. Both pre- and post-transition, participants most likely to report depressive symptoms tended to have a mental illness, were younger and under 22 years old, or were female.
6. One year after moving to the community, participants without depressive symptoms had higher levels of community integration (scoring 3.9 on the community integration index compared to 3.1), autonomy (61 percent compared to 53 percent), sleep quality (97 percent compared to 89 percent), and lower levels of unmet care needs for personal assistance services (5 percent compared to 14 percent). These results suggest that participants with no depressive symptoms experience a higher quality of life in some dimensions than those who report depressive symptoms.

### **C. Participants' quality of life following transition to community living**

For the MFP demonstration to be successful, participants' life satisfaction must be maintained or improved after they transition from a long-term care institution to community living. In this section, we examine how reported quality of life across several domains changes after the transition. We also assess quality of life two years post-transition, one year after participants complete their 365 days of MFP eligibility and leave the program.

Table VI.1 summarizes the demographic characteristics of our samples and how they compare to the overall population of participants who transitioned through MFP.<sup>44</sup> Similar to the overall population of MFP participants, our samples were comprised largely of individuals with physical disabilities and older adults. The largest age group represented was between the ages of 45-64 years followed by 65-84 years. There were slightly more females than males.

Consistent with what was observed in prior studies of MFP participants' quality of life, survey respondents reported improvements in all aspects of life after one year of community living, and the improvements were sustained or increased two years later, one year after participants had left the MFP demonstration (Irvin et al. 2012, 2013, 2015). Two years post-transition, participants continued to report improvements reducing barriers to participating in the community, a key goal of the MFP demonstration. In one domain, however, reported quality of life declined after participants left the demonstration: satisfaction with living arrangements declined slightly two years post-transition. Although it is not clear that this decline represents a policy-relevant change, it may take additional effort after participation in the MFP demonstration ends to sustain people's satisfaction with their living arrangements. Figure VI.1 summarizes participants' rating of quality of life at each survey interval.

### 1. Overall life satisfaction

Responses to the QoL survey appear to confirm MFP's basic premise that people, when given the option, prefer to reside in the community. Among all participants in the analytic sample, we observed significant improvements in life satisfaction. Sixty-six percent reported being satisfied with the way they live their life while in institutional care, which increased to 83 percent of participants reporting life satisfaction one year after transition. Improved life satisfaction was sustained after two years in the community (84 percent) (Figure VI.1).<sup>45</sup> These results were statistically significant and p consistent with previous findings based on smaller samples of participants (Irvin et al. 2011, 2012, 2015).

We observed the largest improvements in quality of life among participants with other types of impairments, such as traumatic brain injury or dual diagnoses. Among this group, 65 percent reported satisfaction with the way they live their life while in institutional care, and 89 and 84 percent reported life satisfaction at one and two years post-transition, respectively.

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<sup>44</sup> More information about how our samples were constructed and how they compare to the overall MFP population is provided in Appendix G.

<sup>45</sup> The survey asks at pre-transition and follow-up: "Taking everything into consideration, during the past week have you been happy or unhappy with the way you live your life?"

**Table VI.1. Demographic characteristics of analytic samples, by survey status**

Characteristics	Participants with pre-transition and one-year post-transition surveys <sup>a</sup>	All MFP participants who transitioned through March 2015	Participants with pre-transition, one-year, and two-year post-transition surveys <sup>b</sup>	All MFP participants who transitioned through March 2014
Total (N)	13,794	52,852	6,688	40,502
<b>Target population (%)</b>				
Older adults	30.0	30.7	27.3	30.0
Physical disabilities	42.1	39.6	42.9	40.2
Intellectual disabilities	12.8	14.2	16.2	15.3
Psychiatric conditions	0.6	1.1	0.4	0.8
Other/unknown	14.5	14.4	13.2	13.8
<b>Race/ethnicity (%)</b>				
White	51.9	36.7	62.9	44.7
Black or African American	14.2	11.0	17.3	13.3
Asian	1.0	0.6	1.2	0.8
Hispanic or Latino	2.2	1.2	2.6	1.6
American Indian or Alaska Native	0.6	0.3	0.9	0.4
Other/unknown	1.0	0.7	1.1	0.8
Missing	29.0	49.5	14.0	38.5
<b>Age group<sup>c</sup> (%)</b>				
< 21	1.7	4.8	2.0	4.4
21–44	15.9	14.4	16.8	15.1
45–64	46.6	44.0	48.2	44.3
65–84	29.1	29.8	27.0	29.1
≥ 85	6.7	7.1	6.0	7.1
<b>Gender (%)</b>				
Female	50.5	50.4	50.9	50.4
Male	49.5	49.6	49.1	49.6

Source: Mathematica's analysis of MFP QoL surveys and program participation data submitted to CMS through May 2016.

<sup>a</sup>This sample includes participants who transitioned to the community sometime between 2008 and 2015. Data from Minnesota, South Dakota, and West Virginia were excluded because their QoL survey data could not be linked to administrative data or the state did not submit completed QoL survey data.

<sup>b</sup>This sample includes participants who transitioned to the community between 2008 and 2014. Data from Alabama, Colorado, Delaware, Indiana, Minnesota, Montana, South Dakota, and West Virginia were excluded from the sample of participants with pre-transition, one-year, and two-year post-transition surveys because (1) their QoL data could not be linked to administrative data, (2) the state did not submit completed QoL survey data, or (3) their year two surveys were not completed within 18 to 30 months of transitioning to the community.

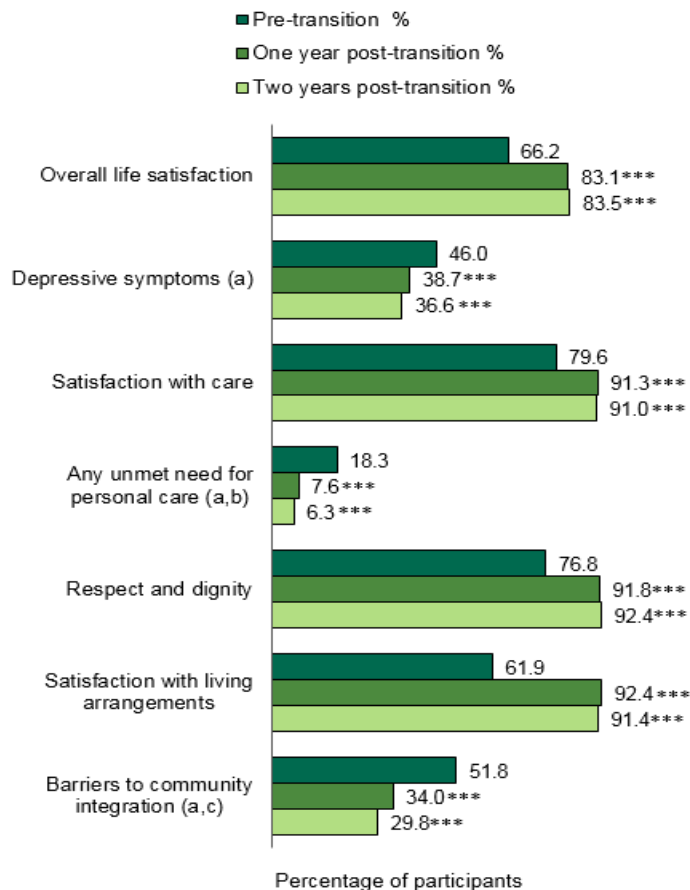
<sup>c</sup>The first two age group categories are slightly different between the QoL survey data and the program participation data; QoL survey data are categorized as < 21 and 21–44 years, and program participation data are categorized as ≤ 21 and 22–24 years. This table presents data using the QoL survey categories.

The next-largest improvements in life satisfaction were among participants with physical disabilities, who reported the lowest life satisfaction pre-transition, with 61 percent of participants reporting satisfaction with the way they lived their life while in institutional care. Among this group, 81 percent of participants reported life satisfaction at one year post-transition; this improvement was sustained two years after transition from a qualified institution (81 percent). We also saw increases in overall life satisfaction among older adults; life satisfaction increased from 65 percent at pre-transition to 81 percent one year after exiting



institutional care and 80 percent two years post-transition. The smallest changes in life satisfaction were among participants with intellectual disabilities, the group with the highest percentage reporting satisfaction with the way they live their life pre-transition (89 percent). Post-transition, 94 percent reported life satisfaction after one year of community living, and 95 percent reported life satisfaction after two years (Appendix G).<sup>46</sup>

**Figure VI.1. Quality of life over time**



Source: Mathematica's analysis of MFP QoL surveys and program participation data submitted to CMS through May 2016.

Note: The analyses are based on surveys from 13,795 MFP participants. Excludes data from Alabama, Colorado, Delaware, Indiana, Minnesota, Montana, South Dakota, and West Virginia because their QoL survey data could not be linked to administrative data or the state did not submit completed QoL survey data.

<sup>a</sup>A declining percentage indicates improvement in depressive symptoms, or fewer unmet needs, or fewer barriers to community integration. Depressive symptoms are defined by affirmative responses to either of two questions: "During the past week have you felt sad or blue?" and "During the past week have you felt irritable?"

<sup>b</sup>Measured as "Any unmet need for personal assistance services" in bathing, eating, medication management, and toileting.

<sup>c</sup>Measured as affirmative responses to the question: "Is there anything you want to do outside [the facility/your home] that you cannot do now?"

\*\*\*Significantly different from pre-transition at the .01 level, two-tailed test.

<sup>46</sup> Participants with mental illness who transitioned from psychiatric facilities reported slightly smaller improvements, but the small size of the group makes the estimate imprecise.

## 2. Quality of care

The QoL survey is designed to assess three aspects of the quality of care received: reported satisfaction with care, unmet need for personal assistance services, and treatment by LTSS providers.<sup>47,48</sup> When asked to rate their satisfaction with the quality of care received, 80 percent of participants in the analytic sample reported satisfaction with the care received while in the institution (Figure VI.1).<sup>49</sup> However, an even larger proportion of participants reported satisfaction with their care one year post-transition (91 percent), and this satisfaction remained equally high (at 91 percent) after two years of community living, which indicates that MFP participants view the care they receive in the community more favorably than the care provided before they transitioned.

While in institutional care, participants receive 24-hour supervision and assistance with activities of daily living, such as bathing and toileting. After moving to a qualified residence in the community, participants may not receive the personal assistance services they need if formal or informal supports are not readily available. Overall, 18 percent of participants in the sample reported having unmet needs for personal assistance services (defined as one or more unmet needs related to eating, bathing, toileting, and medication administration) while in institutional care, and this share declined to between 8 and 6 percent one and two years later, which indicates that a much larger percentage are having their service needs met in the community (Figure VI.1).

With regard to quality of care, we observed the largest improvements in participants reporting being treated with respect and dignity by providers. Before transitioning, 77 percent of participants in the sample reported being treated the way they wanted and listened to carefully by the people who help them. One year post-transition, the proportion reporting respectful treatment by providers increased to 92 percent, a 15-percentage-point increase, and this higher level of respect remained so after two years in the community. This trend is statistically significant and similar to what was observed in prior studies of MFP participants' quality of care (Irvin et al. 2012, 2015).

## 3. Community life

MFP demonstrations strive to locate and secure affordable and accessible housing for MFP participants that are in communities where they want to live. Among all seven domains of participants' quality of life, we observed the greatest improvements in the levels of reported satisfaction with living arrangements.<sup>50</sup> At pre-transition, 62 percent of participants in the analytic sample reported liking their living arrangement while in institutional care. Nearly all

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<sup>47</sup> To assess satisfaction with care, the survey asks at pre-transition and follow-up, "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?"

<sup>48</sup> Unmet needs are defined as not accomplishing a particular activity because the respondent lacked assistance.

<sup>49</sup> To assess satisfaction with care, the survey asks at pre-transition and follow-up, "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?"

<sup>50</sup> To assess satisfaction with living arrangements, the survey asks at pre-transition and follow-up: "Do you like where you live?"



(92 percent) reported liking where they lived one year after community living, a 30-percentage-point increase compared to when they were in institutional care. This suggests that the vast majority of participants enjoy residing in the community, substantially more than report enjoying residing in an institutional setting. The share reporting satisfaction with where they live was essentially unchanged (91 percent) after two years in the community.

Another aspect of living in a community setting is whether participants can be active in their community as much as they would like.<sup>51</sup> The QoL survey measures reported barriers to community integration by asking participants if there is anything they want to do outside the facility/home that they cannot do now. More than half of participants in the analytic sample (52 percent) reported barriers to community integration while in institutional care; this proportion decreased to 34 percent after one year in the community and 30 percent two years post-transition. Declines in reported barriers to integration indicate that participants experience greater independence and autonomy in the community after exiting institutional care, which is sustained and improved slightly over time.

#### **D. Changes in participants' unmet needs for personal assistance services one year post transition**

Institutional care offers residents structured round-the-clock supports and assistance with activities of daily living, such as eating, bathing, and dressing. After transitioning to the community, MFP participants may encounter difficulties obtaining enough personal care if paid or unpaid caregivers who provide assistance are not readily available every time they are needed. To assess the adequacy of care in the community, the QoL survey asks whether or not a participant's daily living needs are being met. We examined four unmet needs for personal assistance services reported by participants in the areas of (1) bathing, (2) meal preparation, (3) medication administration, and (4) toileting. These needs were measured by asking participants if they ever went without doing the activity because there was no one there to help them.<sup>52</sup>

Overall, among participants in our sample, levels of unmet needs for personal assistance services across all four activities were significantly higher while in institutional care (pre-transition) compared to a year after living in the community. Pre-transition, 18 percent of participants in the analytic sample reported having any unmet need (Table VI.2.). The highest unmet needs were bathing and toileting: 11 percent of MFP participants reported going without bathing because no one was there to help them before the transition, and 8 percent reported not using the toilet when they needed to because no one was there to help. After one year of living independently in the community, 8 percent of participants in the sample reported they had any

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<sup>51</sup> The QoL survey asks several questions about community integration. This analysis focuses on the question: "Is there anything you want to do outside [the facility/your home] that you can't do now?"

<sup>52</sup> Having an "unmet need for personal assistance services" is defined as a participant who goes without needed assistance in at least one of four personal care areas (bathing, meals, medication, and/or toileting). This is assessed through a two-part question, (1) "Do you ever go without [a bath or shower/a meal/taking your medicine] when you need one?" or "Are you ever unable to use the bathroom when you need to?" and (2) "Is this because there is no one there to help you?" These two-part questions are asked separately for each of the four care needs. Participants who answer yes to both questions for at least one care need are identified as having an unmet need for personal assistance services.

unmet needs for personal assistance services, a 10-percentage-point decrease relative to pre-transition (18 percent). Of the four activities, bathing continued to be the most frequently reported as unmet (4 percent), followed by toileting (3 percent). Contrary to concerns that transitioning to the community could lead to unintended increases in unmet needs for personal assistance services, these data indicate that after one year in the community, the care needs of MFP participants in our sample were met at higher levels than what was reported while in institutional care.

The level of unmet needs for personal assistance services varied by target population in our sample; however, across all groups, the proportion reporting any unmet need for personal assistance services declined from pre-transition to one year post-transition, which suggests that MFP participants' care needs are being met in the community at least as well as they are in an institution (Table VI.2.). At pre-transition, participants with physical disabilities and those with mental illness were most likely to report an unmet need for personal assistance services, at 22 and 20 percent, respectively. One year after transitioning, the care needs of participants with mental illness in our sample remained high, with 19 percent reporting any unmet need for personal assistance services (compared to 20 percent at pre-transition). The percentage reporting going without bathing because no one was there to help them increased after transition, from 9 percent at pre-transition to 13 percent one-year post-transition. Unmet need for help with medication was essentially unchanged after the transition, 3 percent at pre-transition and 4 percent one-year post-transition. Higher unmet needs related to bathing after participants relocate to the community suggest that participants with mental illness could benefit from increased supports with self-care while living independently in the community.

**Table VI.2. Percentage of MFP participants reporting unmet needs for personal assistance services, by target population, pre-transition and post-transition**

Type of unmet service need	Pre-transition					One year post-transition				
	All	OA	PD	ID	SMI	All	OA	PD	ID	SMI
Bathing	10.8	9.7	14.0	1.5	8.6	4.1**	3.9	5.5	1.0	13.2
Meals	1.6	1.1	2.2	0.1	4.3	1.4*	0.8	2.3	0.3	3.8
Medications	2.7	2.2	3.6	0.4	2.9	1.5**	1.5	2.2	0.3	3.7
Toileting	8.0	10.1	8.1	0.9	5.7	2.6**	3.6	3.1	0.2	1.9
Any unmet care need <sup>a</sup>	18.3	19.0	21.7	2.6	20.0	7.6**	8.4	10.1	1.6	18.5

Source: Mathematica's analysis of MFP QoL surveys and program participation data submitted to CMS through May 2016.

Notes: The analyses are based on surveys from 13,795 MFP participants. Excludes data from Minnesota, South Dakota, and West Virginia because their QoL survey data could not be linked to administrative data or the state did not submit completed QoL survey data.

Significance tests were conducted for the entire population only, and not separately for each target population group.

<sup>a</sup>Measured as "Any unmet need for personal assistance services" in the areas of bathing, eating, medication management, and toileting at one year follow-up.

ID = intellectual disabilities; OA = older adults; PD = physical disabilities; SMI = severe mental illness.

\*\*Significantly different from pre-transition at the .05/.01 level, two-tailed test.

## **E. Factors associated with unmet needs for personal assistance services**

To gain a deeper understanding of which types of MFP participants are most likely to experience unmet needs for personal assistance services, we examined the clinical characteristics of a subset of participants who transitioned from a nursing home. We first look at the relationship between the type of diagnosis and the prevalence of unmet needs for personal assistance services to identify subgroups of participants most vulnerable to experiencing an unmet need. We conduct the same analysis, categorizing MFP participants only by their level of care needs and cognitive and functional status. Again, the focus was to identify participants who experienced an unmet need for personal assistance services at higher-than-average rates.<sup>53</sup>

### **1. Participants' medical diagnoses**

Most MFP participants have multiple medical conditions. Of the older adults and participants under 65 with physical disabilities who transitioned from nursing homes, nearly 80 percent had three or more medical diagnoses, and half had five or more. Knowing which conditions are associated with higher unmet needs for personal assistance services can help transition coordinators assess each candidate's needs and potential risks and then fill gaps in care to facilitate a successful placement in the community. We used NF-MDS assessment data<sup>54</sup> collected from participants who transitioned from a nursing home after a stay lasting 90 days or more to identify their 15 most common conditions, which are presented in rank order in Table VI.3. Not surprisingly, many of the most common diagnoses are chronic conditions such as depression, diabetes, congestive heart failure, asthma, and dementia other than Alzheimer's disease. We then compared reports of unmet needs for personal assistance services by participants' medical diagnoses to identify which diagnoses at pre-transition appear to be associated with higher levels of unmet needs for personal assistance services after one year of community living.

Overall, 21 percent of participants in the sample reported any unmet need for personal assistance services while in the nursing home (one or more needs related to bathing, meal preparation, medication administration, and toileting), which declined to 8 percent after one year of community living. When looking at reported levels of unmet needs for personal assistance services by type of diagnoses, as expected, we observed differences across diagnoses. Levels of unmet needs for personal assistance services after one year ranged from a low of 7 percent among participants with an active diagnosis of dementia other than Alzheimer's to a high of 12 percent among participants with bipolar disorder (Table VI.3.). Overall, levels of unmet needs for personal assistance services declined between pre-transition and one-year post-transition for each of the most common diagnoses, which indicates that personal care needs are met at a higher level in the community for participants with a wide variety of care needs. Among the 15 most common diagnoses, participants with hemiplegia, seizure disorders, stroke, and arthritis experienced the largest declines in reported unmet needs between pre- and post-transition.

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<sup>53</sup> The results of the analyses of unmet care needs presented in this section should be interpreted with caution, as we have not controlled for unmeasured program- and individual-level factors, such as participants' health status, participants' level of informal or formal LTSS supports, or community-level factors that could affect a participant's reported quality of life and influence our assessment of poor health outcomes or changes to quality of life.

<sup>54</sup> These data are described in more detail in Appendix G.

Participants with bipolar disorders and congestive heart failure, on the other hand, reported the smallest declines in unmet needs for personal assistance services over the same period.

**Table VI.3. Active diagnoses among older adults and participants with a physical disability, by unmet needs for personal assistance services, pre-transition and post-transition**

Active diagnoses of participants*	Percentage reporting any unmet need pre-transition	Percentage reporting any unmet need post-transition
Hypotension	20.3	8.9**
Depression	23.0	9.5**
Diabetes mellitus	21.1	10.0**
Hyperlipidemia	19.8	8.1**
Anxiety disorder	24.4	11.7**
Anemia	19.8	8.6**
Asthma	21.5	10.4**
Cerebrovascular accident/stroke	21.6	7.3**
Congestive heart failure	20.4	9.8**
Dementia other than Alzheimer's disease	19.3	7.2**
Hemiplegia/hemiparesis	23.2	7.7**
Seizure disorder	22.5	8.0**
Gastroesophageal reflux disease (GERD)	20.7	9.2**
Arthritis	23.6	9.4**
Bipolar disease	21.6	12.2**
Percentage reporting any unmet service need <sup>a</sup>	21.1	8.9 <sup>b</sup>

Source: Mathematica's analysis of MFP QoL surveys and program participation data submitted to CMS through May 2016 and nursing facility Minimum Data Set data for 2014.

Notes: The analyses are based on surveys from 11,177 MFP participants. Excludes data from Minnesota, Montana, South Dakota, and West Virginia because their QoL survey data could not be linked to administrative data or the state did not submit completed QoL survey data. For each diagnostic group, the denominators for the "Unmet need" rows are restricted to include those participants who answered "Yes" to the following question from the MFP QoL survey at one year follow-up: "Does anyone help you with things like bathing, dressing, or preparing meals?" or "Yes" to having an unmet need for personal assistance services in the areas of bathing, eating, medication management, or toileting at one-year follow-up.

<sup>a</sup>Measured as "Any unmet need for personal assistance services" in bathing, eating, medication management, or toileting at one-year follow-up.

<sup>b</sup>Difference from pre-transition not tested statistically.

\*\*Significantly different from pre-transition at the .01 level, two-tailed test.

## 2. Participants' level of care needs and cognitive and functional status

Advance knowledge about participants' health status prior to transition can inform the transition coordination and service delivery processes so that participants have adequate LTSS in place at the time of transition, which will increase each individual's chance of a successful placement in the community. The NF-MDS assessment tool collects a standardized set of information about the clinical and functional status of nursing home residents. We linked these data with the QoL data to examine whether there is an association between participants' cognitive and functional status while in the nursing home and reported unmet needs for personal assistance services during their first year of community living.

We compared the percentage of participants reporting any unmet need for personal assistance services (one or more needs related to bathing, meal preparation, medication administration, or toileting) across several measures of level of care need and cognitive and functional status (Table VI.4.).<sup>55</sup> For each care level, we compared the proportion of participants that reported any unmet need for personal assistance services at pre-transition and after one year in the community. Overall, 22 percent of participants in the sample had high care needs (data not shown) while in the institution, and this group reported the largest improvement: 28 percent reported any unmet need for personal assistance services at pre-transition, which declined to 8 percent after one year of community living. This steep decline of 20 percentage points suggests that nursing home residents with high care levels have the greatest need for personal assistance services and experience the greatest improvement after moving to the community. In contrast, 34 percent of the sample had low care needs while in the institution, and they reported the smallest improvement in unmet needs for personal assistance services, in part because they were much less likely to have an unmet need while in institutional care; 14 percent reported any unmet need for personal assistance services pre-transition, compared to 21 percent overall, which declined to 9 percent after one year of community living.

The NF-MDS contains several questions that determine nursing home residents' cognitive impairment, such as their orientation and ability to register and recall information. We constructed a categorical variable, ranging from a value of 0 (no impairment) to 6 (very severe impairment), and then calculated the average cognitive performance score (CPS) among all participants in our sample. About 27 percent of participants with severe or very severe cognitive impairment reported having any unmet needs for personal assistance services at pre-transition, which decreased to 4 percent one year post-transition. This large change suggests that the transition for this group was very beneficial in terms of their personal care needs (Table VI.4.). A similar trend is observed among those participants with mild to moderately severe cognitive impairments: the percentage reporting any unmet need for personal assistance services decreased from 23 percent pre-transition to 9 percent one year post-transition. Finding that participants with severe or very severe cognitive impairment experiencing the lowest level of unmet needs for personal assistance services one year post-transition was unexpected. There are a couple of possible explanations, including that the group is small ( $n=321$ , or 2.9 percent of the sample), so this estimate is likely not very precise. Additionally, given the severity of their cognitive impairments, this group is more likely to have the QoL survey administered by a proxy respondent or survey assister; thus the data reported may not fully reflect the direct experiences of this group of MFP participants, which could bias the survey results.

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<sup>55</sup> The values for the categorical cognition variable range from 0–6 with the following component categories: None/Low (0–1 = intact to borderline intact), Mild/Moderate (2–4 = mild to moderately severe impairment), Severe/Very severe (5–6 = severe to very severe impairment).

**Table VI.4. Care needs and CPS and ADL scores of older adults and participants with physical disabilities by unmet needs for personal assistance services, pre-transition and post-transition**

NF-MDS Measure	Pre-transition (% of participants)	One year post-transition (% of participants)
<b>Care needs</b>		
Low	14.1	9.0 <sup>ref,**</sup>
Medium	22.0 <sup>++</sup>	8.9 <sup>++,**</sup>
High	27.9 <sup>++</sup>	8.4 <sup>++,**</sup>
Uncategorized	19.3 <sup>++</sup>	11.4 <sup>++, a</sup>
<b>Average cognitive performance score (CPS)<sup>a</sup></b>		
None/Low (0–1)	25.6	10.5 <sup>ref,**</sup>
Mild/Moderate (2–4)	22.7 <sup>++</sup>	8.6 <sup>++,**</sup>
Severe/Very Severe (5–6)	27.0 <sup>++</sup>	3.7 <sup>++,**</sup>
Percentage reporting any unmet service need <sup>b</sup>	21.1	8.9 <sup>b</sup>

Source: Mathematica’s analysis of MFP QoL surveys and program participation data submitted to CMS through May 2016 and Nursing Facility Minimum Data Set data for 2014.

Note: The analyses are based on surveys from 11,177 MFP participants. Excludes data from Minnesota, South Dakota, and West Virginia because their QoL survey data could not be linked to administrative data or the state did not submit completed QoL survey data. For each MDS measure, having “Any unmet need” is measured by participants responding “Yes” to the following question from the MFP QoL survey at one year follow-up: “Does anyone help you with things like bathing, dressing, or preparing meals?” or “Yes” to having an unmet service need in the areas of bathing, eating, medication management, or toileting at one-year follow-up.

<sup>\*\*</sup>Significantly different from pre-transition at the .01 level, two-tailed test. For the CPS and ADL summary score measures, differences between pre- and post-transition means were not tested statistically.

<sup>++</sup>Significantly different from any unmet service needs for the reference category (care needs = low, CPS = none/low) within same time period at the .01 level, two-tailed test.

<sup>a</sup>Significance between pre- and post-transition not tested.

<sup>b</sup>Measured as “Any unmet need for personal assistance services” in bathing, eating, medication management, or toileting at one-year follow-up.

ref = reference category for statistical significance testing.

## F. Factors associated with depressive symptoms

Several factors place MFP participants at risk for depression, such as having multiple chronic conditions and reduced mobility. Other factors may include a disabling condition, cognitive impairment, poor health status, social isolation, lack of autonomy, or unmet needs for personal assistance services resulting from reduced supervision in the community (Guthrie et al. 2015; Fiske et al. 2009; Cacioppo et al. 2006; Charney et al. 2003; Cole and Dedukuri 2003). Previous MFP studies found that the percentage of MFP participants reporting depressed mood declined after the move from an institutional setting to the community; that is, mood improved after MFP participants transitioned.<sup>56</sup> However, despite this improvement, the prevalence of poor mood status among MFP participants remained relatively high (35–38 percent) one and two years post-transition (Irvin et al. 2015; Simon and Hodges 2011). The following analysis extends earlier work by using a slightly different and more conservative definition of depressive symptoms and by identifying factors associated with these symptoms among MFP participants

<sup>56</sup> In these earlier studies, mood status is measured by a single question, “During the past week have you felt sad or blue?”



after they have transitioned to the community, which will inform program efforts to coordinate care and deliver LTSS to participants who may be at risk for depression. This analysis also examines how depressive symptoms change among participants after they transition, and how those changes may be associated with changes in quality of life after participants move to the community.

### 1. Prevalence of depressive symptoms among MFP participants

We estimated the prevalence of depressive symptoms among MFP participants using two questions from the QoL survey: “During the past week have you felt sad or blue?” and “During the past week have you felt irritable?” Participants who answered “Yes” to both questions were identified as having depressive symptoms.<sup>57</sup> This is a more conservative definition than is reported in Figure VI.1 where an affirmative response to either question would signify the presence of depressive symptoms. In the following analyses, only participants that responded affirmatively to both questions were identified as having depressive symptoms. It is important to note, that regardless of the definition, this measure does not identify participants who are depressed, only those who report depressive symptoms. The prevalence of depression among MFP participants is likely lower than the prevalence of the symptoms examined in our analysis.

Within the study sample that responded to the baseline and both follow-up surveys, the prevalence of depressive symptoms declined after one year of community living, and this improvement was sustained after two years in the community (from 28 percent pre-transition, to 22 and 21 percent one and two years post-transition) (Figure VI.2). Some demographic groups were more likely than others to report depressive symptoms. Among the target populations, participants with mental illness were most likely to report depressive symptoms but also showed the largest improvement in depressive symptoms between pre- and post-transition (declining from 38 percent pre-transition to 24 percent one and two years post-transition; data not shown). Participants with intellectual disabilities were least likely to report depressive symptoms (17 percent pre-transition; data not shown). The prevalence of depressive symptoms declined with age. At all three time periods, participants younger than 21 years were most likely to report depressive symptoms (33 percent pre-transition), and participants 85 or older were least likely (24 percent pre-transition). Females were more likely than males to report depressive symptoms (31 and 25 percent pre-transition, respectively; data not shown).

Across all demographic groups, with two exceptions, the prevalence of depressive symptoms declined between pre-transition and one year post-transition and declined again or remained stable between one and two years post-transition. Among participants who were American Indian/Alaska Native, the prevalence of depressive symptoms declined from 28 to 17 percent between pre-transition and one year post-transition, then increased to 24 percent at two years post-transition. This change could be random fluctuation due to the small number of American Indian/Alaska Native participants in our sample (Table VI.1). Among Asian

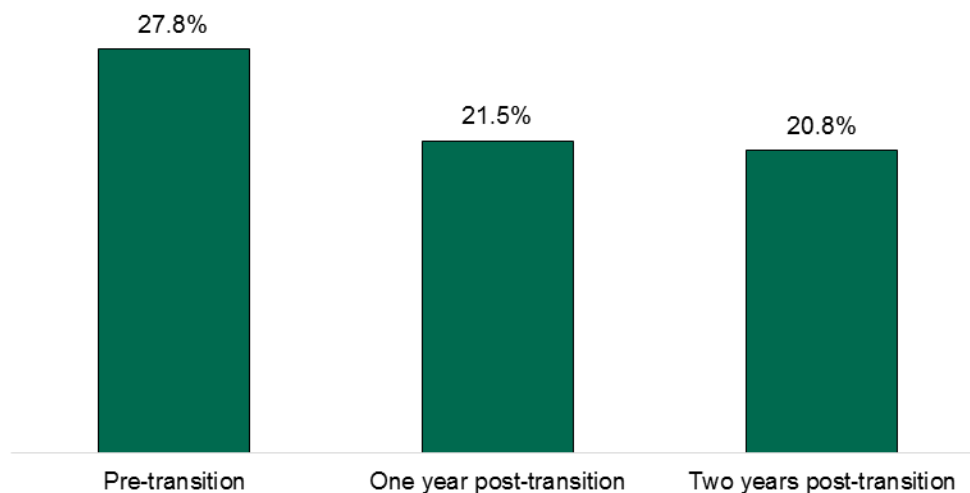
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<sup>57</sup> This approach is different from how mood status has been assessed in prior MFP studies. Prior studies used only the first question, “During the past week have you felt sad or blue?” To more closely assess the risk of depression, this analysis looks at participants who report both feeling sad or blue and feeling irritable in the past week. As a result, the prevalence of depressive symptoms in this section is lower than the prevalence of depressed mood in other analyses of MFP QoL data.

participants, the prevalence of depressive symptoms remained relatively constant across all three time periods; 28 percent pre-transition and 27 percent pre- and post-transition.

The rest of this section will investigate various quality-of-life factors that might be associated with depressive symptoms, to learn how changes in these factors could affect the prevalence of depressive symptoms as participants move through the MFP demonstration.

**Figure VI.2. Prevalence of depressive symptoms among quality-of-life survey respondents, pre- and post-transition**



Source: Mathematica's analysis of MFP QoL surveys and program participation data submitted to CMS through May 2016.

Notes: The analyses are based on surveys from 6,688 MFP participants. Excludes data from Alabama, Colorado, Delaware, Indiana, Minnesota, Montana, South Dakota, and West Virginia because their QoL survey data could not be linked to administrative data or the state did not submit completed QoL survey data .

## 2. Pre-transition factors associated with depressive symptoms

To identify potential risk factors for depression after the transition to the community, we assessed the association between depressive symptoms and functional abilities among participants before they transitioned and while they were still in the nursing facility. We used two measures from the NF-MDS to assess two risk factors for depression: care needs and cognitive functioning.

Our analyses suggest that functional abilities assessed before the transition are not strongly associated with depressive symptoms, but in general they exhibit a positive relationship: people with higher care needs or more severe cognitive impairment were more likely to report depressive symptoms than those with lower care needs or lower levels of cognitive impairment (Table VI.5.). After the transition, the prevalence of depressive symptoms declined across all levels of care needs and cognitive functioning, though those with severe cognitive impairment reported the largest declines in depressive symptoms (Figure VI.3). Among participants with severe or very severe cognitive impairment, the prevalence of depressive symptoms declined



from 35 percent pre-transition to 17 percent one year post-transition.<sup>58</sup> These findings suggest that participants with severe or very severe cognitive impairment may be more likely than other groups to report an improvement in depressive symptoms after transitioning to the community.

**Table VI.5. Prevalence of depressive symptoms pre-transition and one year post-transition, by pre-transition care needs and cognitive impairment**

Pre-transition health risk factors	Depressive symptoms pre-transition	Depressive symptoms one year post-transition
<b>Care needs (%)</b>		
Low	28.6 <sup>ref</sup>	19.4 <sup>ref,+++</sup>
Medium	30.4 <sup>n.s.</sup>	24.4 <sup>***,+++</sup>
High	31.1 <sup>***</sup>	25.7 <sup>***,++</sup>
Uncategorized	27.7 <sup>n.s.</sup>	25.6 <sup>n.s.,n.s.+</sup>
<b>CPS (0–6)<sup>a</sup></b>		
None/Low (0–1)	31.8 <sup>ref</sup>	22.6 <sup>ref,+++</sup>
Mild/Moderate (2–4)	31.0 <sup>***</sup>	24.2 <sup>***,++</sup>
Severe/Very severe (5–6)	35.4 <sup>***</sup>	16.5 <sup>***,+++</sup>

Source: Mathematica’s analysis of MFP QoL surveys and program participation data submitted to CMS through May 2016 and Minimum Data Set data for 2014.

Notes: The analyses are based on surveys from 5,229 MFP participants. Excludes data from Alabama, Colorado, Delaware, Indiana, Louisiana, Minnesota, Montana, South Dakota, and West Virginia because their QoL survey data could not be linked to administrative data or the state did not submit completed QoL survey data.

ref = reference category.

CPS = cognitive performance score.

\*\*\*Significantly different from reference category at the .01 level, two-tailed test.

<sup>n.s.</sup>Not significantly different from reference category at the .10 level, two-tailed test.

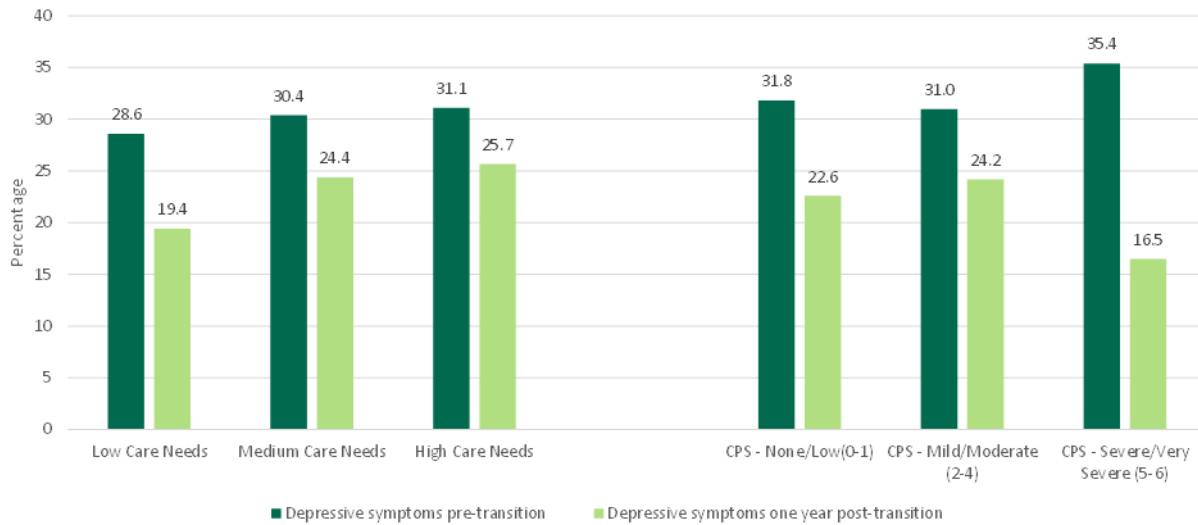
++/+++Significantly different from pre-transition at the .05/.01 level, two-tailed test.

<sup>n.s.+</sup>Not significantly different from pre-transition at the .10 level, two-tailed test.

<sup>a</sup>Both pre-transition and one year post-transition, the mean CPS among participants reporting depressive symptoms was 3.3.

<sup>58</sup> Participants with severe cognitive impairment may be more likely to use proxy respondents than other participants, which may bias the results. Among the full sample of QoL survey respondents, participants with intellectual or developmental disabilities were most likely to use proxy respondents (21 and 16 percent of one- and two-year post-transition respondents, respectively). Limitations associated with proxy respondents are discussed in Appendix G.

**Figure VI.3. Prevalence of depressive symptoms pre-transition and one year post-transition, by pre-transition care needs and cognitive impairment**



Source: Mathematica's analysis of MFP QoL surveys and program participation data submitted to CMS through May 2016 and Minimum Data Set data for 2014.

Notes: The analyses are based on surveys from 5,229 MFP participants. Excludes data from Alabama, Colorado, Delaware, Indiana, Louisiana, Minnesota, Montana, South Dakota, and West Virginia because their QoL survey data could not be linked to administrative data or the state did not submit completed QoL survey data.

CPS = cognitive performance score.

### 3. Areas of quality of life associated with depressive symptoms

To explore factors associated with depressive symptoms, we assessed the association between these symptoms and specific areas of quality of life reported by participants before and after moving to the community. We hypothesized that four measures of quality of life captured in the MFP QoL survey would be associated with depressive symptoms: (1) community integration, (2) autonomy, (3) sleep quality, and (4) unmet needs for personal assistance services. Not surprisingly, participants with depressive symptoms reported lower quality of life than participants without depressive symptoms (Table VI.6.). This was true both before and after transitioning to the community.

**Table VI.6. Quality of life by presence of depressive symptoms pre-transition, one year post-transition, and two years post-transition**

Quality-of-life area	Depressive symptoms pre-transition		Depressive symptoms one year post-transition		Depressive symptoms two years post-transition	
	Yes N = 1,733	No N = 4,507	Yes N = 1,344	No N = 4,921	Yes N = 1,254	No N = 4,778
<b>Community integration</b>						
Community integration index (average)	2.77	3.35	3.11**	3.86	3.13**	3.92
Informal support post-transition <sup>a</sup>	---	---	44.2 <sup>f</sup>	40.5	41.1 <sup>f</sup>	36.5
<b>Employment<sup>b</sup></b>						
Working for pay	---	---	8.3 <sup>f</sup>	8.8	8.9 <sup>f</sup>	9.6
Not working for pay but would like to	---	---	29.7 <sup>f</sup>	23.8	25.9 <sup>f</sup>	19.7
Not working for pay and not interested in working	---	---	62.0 <sup>f</sup>	67.4	65.3 <sup>f</sup>	70.7
<b>Autonomy</b>						
Autonomous in all six areas assessed <sup>c</sup>	13.5	22.5	52.5**	61.0	49.2 <sup>f</sup>	59.9
Average number of areas of autonomy (maximum=6)	4.0	4.4	5.2**	5.4	5.1**	5.4
<b>Sleep quality</b>						
Can get needed sleep <sup>d</sup>	52.4	77.4	89.2**	96.5	87.6 <sup>f</sup>	96.2
<b>Unmet needs for personal assistance services</b>						
Any unmet need for personal assistance services <sup>e</sup>	30.9	14.0	14.3**	4.6	13.1 <sup>f</sup>	4.6
Average number of unmet service needs <sup>f</sup>	1.3	1.2	1.3**	1.2	1.3**	1.2

Source: Mathematica's analysis of MFP QoL surveys and program participation data submitted to CMS through May 2016.

Notes: The analyses are based on surveys from 6,688 MFP participants. Excludes data from Alabama, Colorado, Delaware, Indiana, Minnesota, Montana, South Dakota, and West Virginia because their QoL survey data could not be linked to administrative data or the state did not submit completed QoL survey data.

<sup>a</sup>Percentage answered "Yes" to "During the last week, did any family member or friends help you with things around the house?" Informal support was assessed only post-transition to the community.

<sup>b</sup>Percentage answered "Yes" to working for pay. Employment was assessed only post-transition to the community.

<sup>c</sup>Percentage answered "Yes" to all the following: (1) "Can you go to bed when you want?", (2) "Can you be by yourself when you want to?", (3) "When you are at home, can you eat when you want to?", (4) "Can you choose the foods that you eat?", (5) "Can you talk on the telephone without someone listening in?", and (6) "Can you watch TV when you want to?"

<sup>d</sup>Percentage answered "Yes" to "Can you get the sleep you need without noises or other disturbances where you live?"

<sup>e</sup>Percentage with any unmet needs for personal assistance services. A lower percentage is better.

<sup>f</sup>Difference from pre-transition not tested statistically.

\*\*Significantly different from pre-transition at the .01 level, two-tailed test.

Changes in quality of life after transition to the community may lead to increases or decreases in depressive symptoms, and among MFP participants, depressive symptoms declined on average. In addition to identifying specific areas of quality of life associated with depressive symptoms, this section explores whether changes in those areas are related to changes in depressive symptoms before and the transition to the community. We examined changes in depressive symptoms between pre-transition and post-transition by creating four "mood status" categories of participants:

1. Mood status was always high: participant did not have depressive symptoms pre-transition or one year post-transition.
2. Mood status improved: participant had depressive symptoms pre-transition but did not have depressive symptoms one year post-transition.
3. Mood status declined: participant did not have depressive symptoms pre-transition but did have them one year post-transition.
4. Mood status always low: participant had depressive symptoms both pre-transition and one year post-transition.

We then examined the four areas of quality of life one year post-transition among the four mood status categories. Below we discuss each area separately to identify overall associations with depressive symptoms, and if changes in that area are associated with changes in depressive symptoms.

### **a. Community integration**

The first area, which is also one of the seven domains captured in the QoL survey, community integration, includes three measures: the community integration index, informal support, and employment. We measured community integration and inclusion with the community integration index, a composite score summing positive responses to five QoL survey questions.<sup>59</sup> This index ranges from 0 to 5, with 5 representing high community integration. At all three time points, the average community integration index was higher among participants without depressive symptoms than among participants with them, which suggests that being more engaged with the community and with people in the community is associated with lower levels of depressive symptoms. Before the transition to the community, the average community integration index among participants without depressive symptoms was 3.4, compared to 2.8 among participants with depressive symptoms. After one year of community living, the index increased to 3.9 among participants without depressive symptoms, and to 3.1 among those with them—lower than the pre-transition level for participants without depressive symptoms. Community integration levels were sustained at two years post-transition for participants with and without depressive symptoms.<sup>60</sup>

The availability of informal support reflects a connection to family and friends in the community and is another aspect of community integration.<sup>61</sup> In contrast to our finding that

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<sup>59</sup> 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?”

<sup>60</sup> The component measures of the community integration index were also always higher among participants without depressive symptoms than participants with them, with one exception. At all three time points, a higher percentage of participants without depressive symptoms reported barriers to participating in the community than did participants with depressive symptoms (responded “Yes” to “Is there anything you want to do outside [the facility/your home] that you can’t do now?”; data not shown). This could be because participants with depressive symptoms have less interest in community participation and therefore perceive fewer barriers.

<sup>61</sup> Measured as a positive response to “During the last week, did any family member or friends help you with things around the house?” This question is asked only after participants transition to the community.

participants with depressive symptoms have a lower average community integration index, they reported slightly higher levels of informal support after transitioning to the community than participants without depressive symptoms. One year after transitioning, 44 percent of participants with depressive symptoms reported having a family member or friend help around the house in the past week, compared to 41 percent without depressive symptoms. This pattern also held after two years of community living (Table VI.6.). One possible explanation is that higher levels of informal support may reflect higher care needs instead of higher levels of community integration. This greater need for care and support may contribute to depressive symptoms.

Another important aspect of community integration is employment. We created three categories of employment: participants who were working for pay, participants who were not working for pay but would like to, and participants who were not working for pay and were not interested in doing so.<sup>62</sup> Among participants with and without depressive symptoms, the distribution among these categories was similar; employment does not appear to be strongly associated with depressive symptoms. Participants with depressive symptoms were slightly less likely to report working for pay, and slightly more likely to report not working for pay but wanting to, though these findings were not statistically significant (Table VI.6.).

It is somewhat surprising that the community integration index is associated with depressive symptoms but employment is not. This could be because employment levels among MFP participants are too low to capture variation in depressive symptoms. Box VI.1 has more information about employment among MFP participants.

### **Box VI.1. Employment among MFP participants**

Employment is an important component of quality of life. Opportunities to work can increase MFP participants' integration into the community and their sense of autonomy and self-confidence. MFP grantees offer a variety of supports to participants to assist them with finding or maintaining employment after they transition to the community (Morris et al. 2015). After one year of living in the community, about 8 percent of MFP participants were working for pay, and an additional 27 percent were not working for pay but wanted to do so. These numbers remained relatively constant after two years in the community, with slightly more participants working for pay and slightly fewer not wanting to work although they were not at the time of the survey. The percentage of MFP participants who were volunteering or working without pay was similar to the percentage who were working for pay, with 8 percent volunteering after one year of community living and 21 percent not volunteering but interested in doing so. After two years in the community, 8 percent of participants were volunteering, and 16 percent were not but wanted to at the time of the survey.

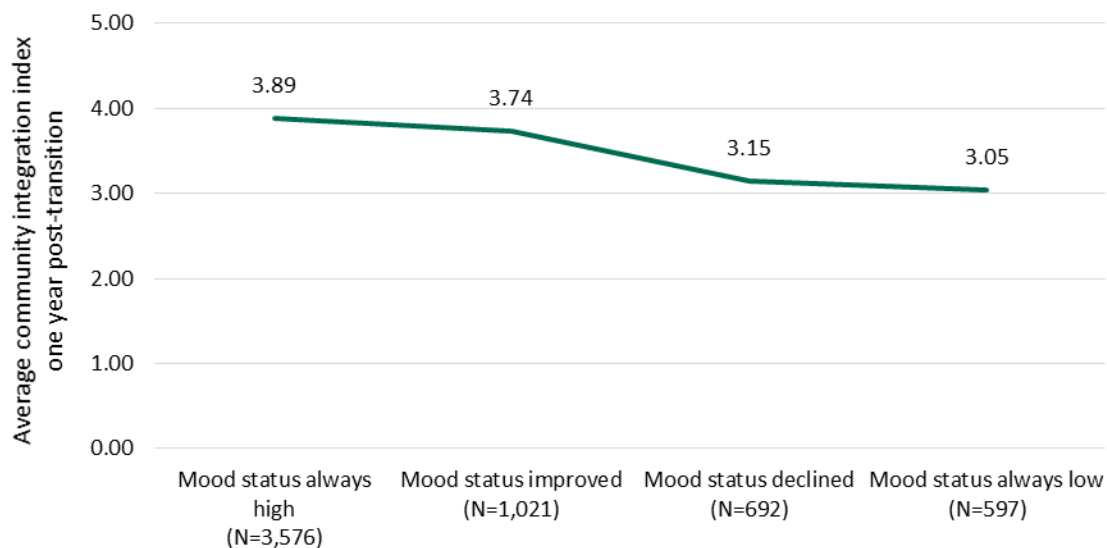
After one year of community living, there was substantial variation in employment status by target population. People with intellectual disabilities had the highest employment rates, with about a third working for pay. The lowest rates were among people with mental illness (0 percent) and older adults (less than 1 percent). There was slightly less variation in the percentages of each population not working for pay but wanting to, ranging from 42 percent among participants classified as "other" to 12 percent among older adults. These high percentages of participants expressing an interest in working suggest that an increased focus on employment opportunities and support may be a way for MFP grantees to increase community engagement, autonomy, and quality of life among participants after they transition to the community.

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<sup>62</sup> Participants were asked, "Are you working for pay right now?" Participants who answered "no" were then asked, "Do you want to work for pay?"

The composite community integration index was clearly associated with depressive symptoms, though other measures of community integration—informal support and employment—were not. We examined whether changes in a participant’s community integration from *before* to *after* the transition to community living were associated with changes in their depressive symptoms.<sup>63</sup> We hypothesized that participants whose mood status improved after transitioning to the community would also report an increase in community integration. The data reported in Figures VI.4 and VI.5 indicate a positive relationship between improvements in community integration and improvement in symptoms. The percentage of participants reporting an increase in community integration between pre- and one year post-transition was greatest (nearly 60 percent) among participants whose depressive symptoms improved and lowest (36 percent) among participants whose depressive symptoms worsened between the pre- and post-transition periods (Figure VI.5). The pattern was nearly identical when examining changes between pre-transition and two years post-transition (data not shown).

**Figure VI.4. Community integration index post-transition, by change in depressive symptoms between pre-transition and one year post-transition**



Source: Mathematica’s analysis of MFP QoL surveys and program participation data submitted to CMS through May 2016.

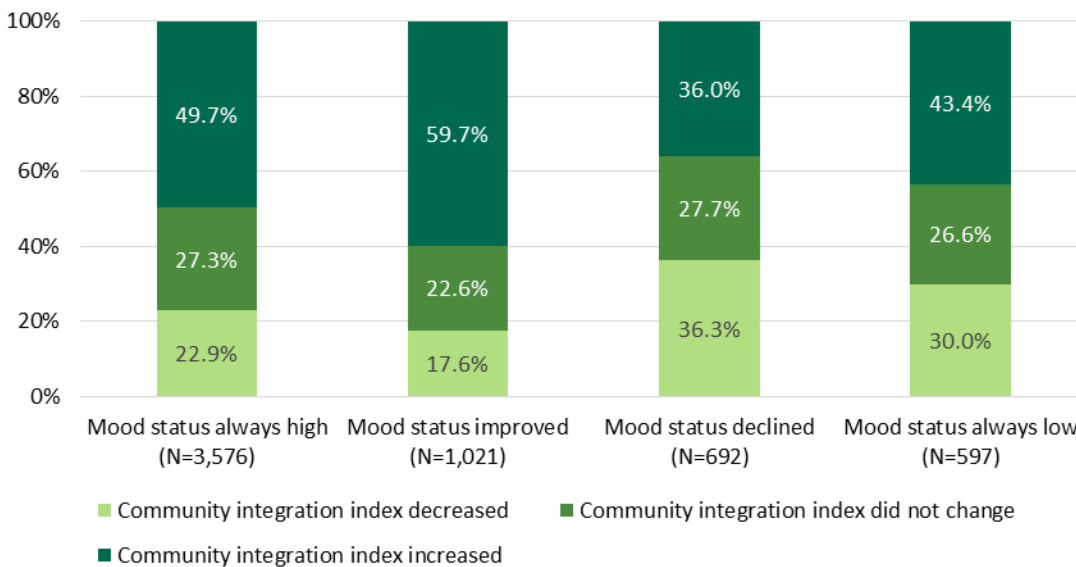
Note: Excludes data from Alabama, Colorado, Delaware, Indiana, Minnesota, Montana, South Dakota, and West Virginia because their QoL survey data could not be linked to administrative data or the state did not submit completed QoL survey data.

These findings suggest that higher levels of community integration are associated with lower levels of depressive symptoms, and that an increase in community integration after moving is associated with a decrease in depressive symptoms. Although these analyses cannot be used to imply a direction of causation, increasing participants’ community integration through informal

<sup>63</sup> We could not investigate changes in informal support and employment, because they were not assessed before participants transitioned to the community.

and formal social connections, such as volunteering, employment, or clubs, may be a means by which MFP grantees can help alleviate depressive symptoms among its participants.

**Figure VI.5. Changes in the community integration index between pre-transition and one year post-transition, by change in depressive symptoms**



Source: Mathematica’s analysis of MFP QoL surveys and program participation data submitted to CMS through May 2016.

Note: Excludes data from Alabama, Colorado, Delaware, Indiana, Minnesota, Montana, South Dakota, and West Virginia because their QoL survey data could not be linked to administrative data or the state did not submit completed QoL survey data.

## b. Autonomy

The second area of quality of life we examined was autonomy, which we assessed by asking participants if they had choice and control over six areas: (1) when to go to bed, (2) when to be alone, (3) when to eat, (4) what to eat, (5) talking on the phone privately, and (6) when to watch TV.<sup>64</sup> Among participants without depressive symptoms, the average number of areas of autonomy was higher than among those with depressive symptoms at all three time points. Participants without depressive symptoms were also more likely than those with them to report that they had autonomy over all six areas measured (Table VI.6.).

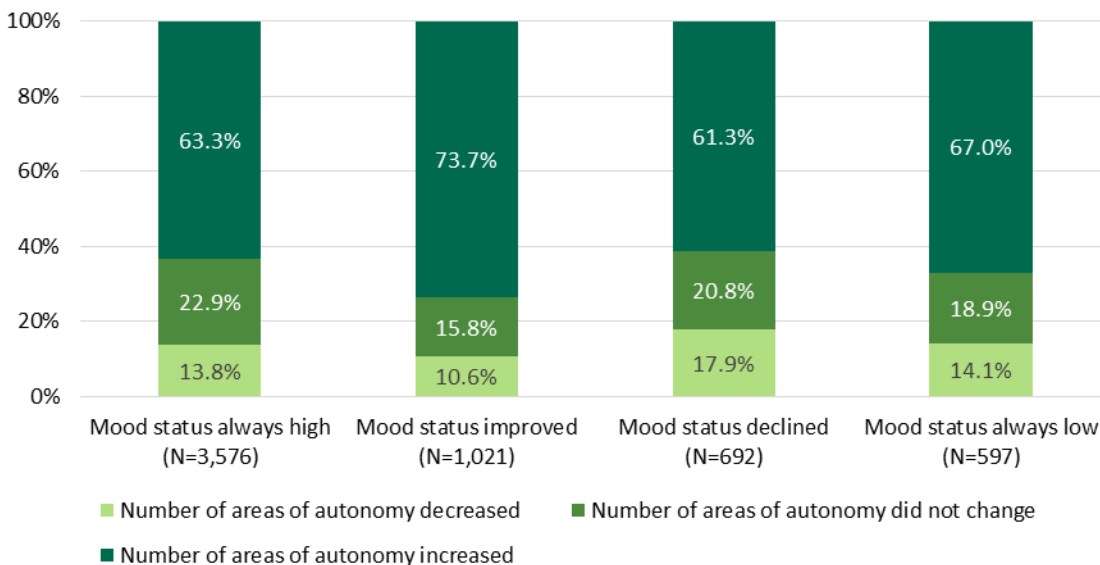
We also examined whether changes in a participant’s autonomy from before to after they transitioned to the community were associated with changes in their depressive symptoms, hypothesizing that an improvement in mood status would be associated with increased autonomy. Across the four categories of change in depressive symptoms, the average number of areas of autonomy one year post-transition were relatively similar and showed little variation

<sup>64</sup> The questions are (1) “Can you go to bed when you want?” (2) “Can you be by yourself when you want to?” (3) “When you are at home, can you eat what you want to?” (4) “Can you choose the foods that you eat?” (5) “Can you talk on the telephone without someone listening in?” and (6) “Can you watch TV when you want to?”



across the four groups of participants, ranging from 5.2 to 5.5 (data not shown).<sup>65</sup> The greatest share of participants reporting an increase in autonomy (74 percent) was among participants whose mood status improved, while the smallest (61 percent) was among those whose mood status declined (Figure VI.6). These findings suggest that declines in depressive symptoms are associated with improvements in autonomy.

**Figure VI.6. Changes in autonomy pre- and post-transition, by change in depressive symptoms**



Source: Mathematica's analysis of MFP QoL surveys and program participation data submitted to CMS through May 2016.

Note: Excludes data from Alabama, Colorado, Delaware, Indiana, Minnesota, Montana, South Dakota, and West Virginia because their QoL survey data could not be linked to administrative data or the state did not submit completed QoL survey data.

### c. Sleep quality

The third quality of life area we investigated was sleep quality. Participants without depressive symptoms were more likely to report that they could get the sleep they needed, as compared to participants with depressive symptoms (Table VI.6).<sup>66</sup> However, after transitioning to the community, high percentages of both groups reported that they could get needed sleep. The key difference between the two groups is in the magnitude of change between pre- and post-transition. Among participants with depressive symptoms, the percentage reporting that they could get needed sleep increased markedly between pre-transition and two years post-transition, from 52 percent to 89 percent. Among participants without depressive symptoms, the increase was smaller, from 77 percent to 96 percent (Table VI.6).

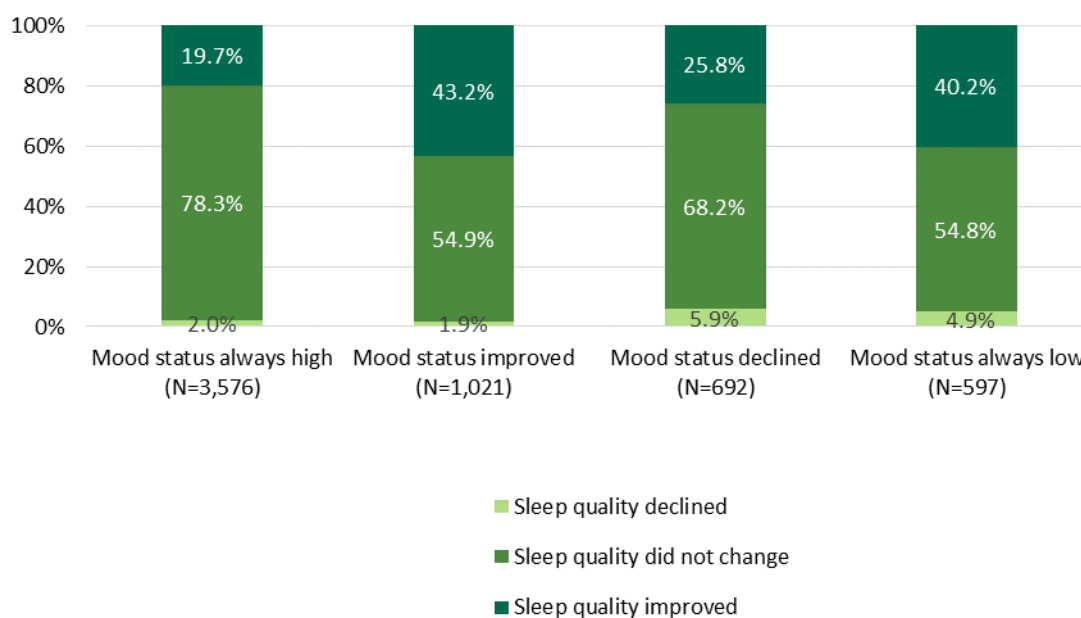
<sup>65</sup> The number of areas of autonomy could range from 0 to 6. Autonomy was assessed by asking participants if they had choice and control over six areas: when to go to bed, when to be alone, when and what to eat, talking on the phone privately, and when to watch TV.

<sup>66</sup> Answered "Yes" to "Can you get the sleep you need without noises or other disturbances where you live?"



We examined this further by looking at whether changes in mood status were associated with changes in sleep quality, and hypothesized that participants whose mood status improved after transitioning to the community would also report an improvement in sleep quality. The largest report of improved sleep quality was among those whose mood status improved after the transition (43 percent), and the largest decline was among those whose mood status declined (6 percent). However, among those who reported depressive symptoms both pre- and post-transition (mood status always low), 40 percent reported improved sleep quality. When combined with the other results, this suggests that there is not a strong relationship between changes in sleep quality and changes in depressive symptoms after participants move to community living (Figure VI.7).

**Figure VI.7. Changes in sleep quality pre- and post-transition, by change in depressive symptoms**



Source: Mathematica's analysis of MFP QoL surveys and program participation data submitted to CMS through May 2016.

Note: Excludes data from Alabama, Colorado, Delaware, Indiana, Minnesota, Montana, South Dakota, and West Virginia because their QoL survey data could not be linked to administrative data or the state did not submit completed QoL survey data.

The large post-transition improvement in sleep quality among participants with depressive symptoms appears to be due to the relatively low percentage reporting they can get needed sleep while residing in an institution and before moving to the community (Table VI.6.). Given that sleep quality is an important contributor to participants' quality of life, facilities should consider taking steps to become more sensitive to the quality of sleep their residents receive and how this might contribute to improve quality of life while beneficiaries are receiving institutional care services.

#### **d. Unmet needs for personal assistance services**

Finally, we examined how unmet needs for personal assistance services were associated with depressive symptoms, hypothesizing that more participants with depressive symptoms would report unmet needs for personal assistance services. As expected, at all three time points, participants with depressive symptoms reported higher levels of any unmet needs for personal assistance services (Table VI.6.).<sup>67</sup>

However, we observed very little variation in unmet needs for personal assistance services one year post-transition among the different categories of change in depressive symptoms. The average number of unmet needs for personal assistance services ranged from 1.2 among participants whose mood status was always high to 1.3 among those whose mood status improved, declined, or was always low (data not shown). These findings suggest that there is not a strong association between unmet needs for personal assistance services and changes in depressive symptoms over time.

### **G. Discussion**

The results of these analyses show that MFP is having a broad effect on improving participants' quality of life in fundamental ways.

- Consistent with past research, our analyses show that participants experience increases across all seven QoL domains measured after transitioning to the community, and the improvements are largely sustained two years post-transition. The changes observed between pre-transition (baseline) and one and two years post-transition are positive and statistically significant across all measures. Participants experienced the highest levels of satisfaction with their living arrangements; nearly all participants (92 percent) reported liking where they lived one year after community living, which represents a 32-percentage-point increase compared to when they were in institutional care. The next biggest improvement was reported in the domain of community integration, where we find an 18-percentage-point decrease in barriers to community integration one year post-transition (from 53 to 18 percent).
- Contrary to concerns that transitioning to the community could lead to unintended declines in meeting personal care needs, our analyses indicate that after one year in the community, the care needs of most participants in our sample were met at similar or higher levels than what was reported while in institutional care. Eight percent of participants in our sample reported any unmet need for personal assistance services after one year in the community, compared to 18 percent pre-transition; assistance with bathing was the most frequently reported unmet need (4 percent) at one year post-transition, followed by toileting (3 percent). When we assessed reported unmet needs by target population, across all groups fewer participants reported unmet needs for personal assistance services one year post-transition compared to pre-transition, with the exception of participants with mental illness, who reported higher levels of unmet needs related to bathing and taking medication one year

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<sup>67</sup> Answered "Yes" to whether they ever went without a care need because there was no one there to help with at least one of the following: bathing, meals, medication, and toileting.

after transition (however, the small number of participants in this component of the sample makes these results unreliable).

- When looking at whether certain medical diagnoses are associated with higher levels of unmet needs for personal assistance services at one year post-transition, we learned that participants with bipolar disorder who exited nursing facilities reported the highest level of unmet needs for personal assistance services (slightly more than 12 percent, compared to 9 percent for the overall sample) after one year in the community, followed by participants with anxiety disorder (slightly less than 12 percent). Reports of higher levels of unmet needs for personal assistance services among participants with psychiatric disorders suggests that this population could benefit from increased monitoring of formal or informal supports to ensure that their care needs are addressed and they are adequately supported during their first year in the community.
- Participants with high care needs while in the institution reported the biggest declines in unmet needs for personal assistance services after the transition: 28 percent reported any unmet need for personal assistance services pre-transition, and this declined to 8 percent after one year of community living. This steep decline reflects in part the relatively high level of unmet need this group experienced while in institutional care, and there was more room for improvement compared to participants with lower levels of care needs.
- We examined the linkages between depressive symptoms and four areas of quality of life (community integration, autonomy, sleep quality, and unmet needs for personal assistance services) and learned that for all areas, participants with depressive symptoms reported lower quality of life than participants without them.
- We also explored the association between changes in quality of life and changes in depressive symptoms upon moving to the community. Of participants whose depressive symptoms declined one year after moving, 60 percent also reported that their community integration increased. In comparison, only 36 percent of participants whose mood status declined upon moving reported an increase in community integration. These data suggest that an increase in community integration upon moving to the community is associated with a decrease in depressive symptoms. Changes in other areas of quality of life were not strongly associated with changes in depressive symptoms.

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## VII. CONCLUSIONS

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The MFP rebalancing demonstration continued to grow in calendar year 2015, the eighth year since the first states began transitioning Medicaid beneficiaries from institutional care to community-based LTSS. At the conclusion of 2015, grantee states had completed a total of 63,337 transitions, an increase of 23 percent over the reported cumulative total from 2014 (51,676). Since 2012, grantee states have transitioned more than 10,000 people annually, and 2015 marks the largest number of transitions in a single year, at 11,661. We estimate this volume of transitions represents about 1 percent of the population eligible for the demonstration, which reflects the level of funding available for the MFP demonstration.

Grantees reported their state Medicaid programs spent a total of \$74.5 billion on community-based LTSS for all Medicaid beneficiaries who used these services in 2015, a 3 percent increase over their reported spending for 2014. When yearly spending amounts are aggregated together, grantee states had spent more than \$473.3 billion on community-based LTSS since the start of the MFP demonstration. This means that the \$4 billion set aside for the MFP demonstration represents less than 1 percent of total spending on community-based LTSS among grantee states since MFP transitions started in 2008. Spending on community-based LTSS encompasses expenditures for all 1915(c) waiver programs, state plan community-based LTSS (such as state plan home health and personal assistance services), and the newer 1915(i), 1915(j), and 1915(k) options.

Grantee states also aggressively increased their spending of MFP rebalancing funds between 2013 and 2014, the most recent year of data available. In 2014, grantee states reported spending \$240 million in MFP rebalancing funds; more than double what they spent in 2013 (\$112 million). Grantees most commonly use the MFP rebalancing funds to expand 1915(c) waiver programs, pursue housing initiatives (such as building partnerships with state housing agencies, maintaining housing registries, and providing tenancy supports), provide transition services, train staff and direct service workers, conduct program outreach, develop assessment tools, and upgrade data systems.

When the MFP demonstration began in 2008, state spending on community-based services was already growing in grantee states and this upward trajectory did not change after grantee states began MFP transitions. The national data indicate that spending on community-based LTSS has grown steadily since the 1990s while spending on institutional care services has been relatively stable, although they started to decline on a yearly basis in 2010. Between 2007 and 2014, inflation-adjusted spending on community-based LTSS increased nationally by nearly 55 percent (or a little less than 8 percent per year on average) compared to a 4 percent decline (or nearly a 0.6 percent decline per year on average) in spending for institutional care services. This compares to the 89 percent growth in spending on community-based LTSS and a 1 percent increase in spending on institutional care services during the seven years leading up to the MFP demonstration from 2000 through 2007.

At least two factors likely influenced the relationship between MFP demonstration and the balance of total LTSS expenditures between community-based LTSS and institutional care. One is the relatively small size of the MFP demonstration compared to overall spending on community-based LTSS. The \$4 billion allocated to the demonstration is being spread across

14 years, from 2007 when the first cohort of states received their first grant allotments through 2020 when grantee states will no longer be able to draw from their grant allotments. In addition, we have estimated that through 2014, MFP expenditures on services have represented less than 0.5 percent of total grantee spending on all community-based LTSS. It is not surprising that given its overall size, the MFP demonstration is not associated with changes in the overall balance of LTSS spending.

A second factor that likely influenced the relationship between MFP and the balance of LTSS spending is the great recession that started in December 2007 and formerly ended in June 2009. The first grantees were implementing their MFP demonstrations during this period. The evaluation has not found a way to determine whether the MFP demonstration effectively dampened the effects of the recession, but it is possible that the MFP demonstration helped grantee states maintain their spending on community-based LTSS during the recession. During this recessionary period, and for several years after, state grantees routinely reported in their semiannual progress reports that tight state budgets made it difficult for them to maintain community-based services, let alone expand them.

In other work, the national evaluation of MFP has had difficulty detecting improvements in many outcomes that are measurable with Medicaid and Medicare enrollment and claims records. The most recent empirical analyses based on data from 17 grantee states suggest that approximately 25 percent of older adult MFP participants and 50 percent of MFP participants with intellectual disabilities would not have transitioned if MFP had not been implemented. Earlier evaluation results suggested that MFP was associated with an increase in transition rates among people with physical disabilities residing in nursing homes (Irvin et al. 2015). However, these particular results were not replicable when the sample of grantee states in the analysis and the estimation methodology changed.

Descriptive analyses suggest that MFP participants, beneficiaries electing to enroll in the demonstration, are a select group. MFP participants transitioning from nursing homes tend to have lower care needs when compared to the entire nursing home population eligible for MFP. However, nearly 70 percent of MFP participants who transitioned had moderate to severe care needs and between 30 and 50 percent, depending on the population, were identified as people with moderate to severe cognitive limitations. The ability to help participants with significant care needs move to community settings is an important achievement of the demonstration.

When working to identify a comparison group—a group of Medicaid beneficiaries who also transitioned from institutional care to community-based LTSS, but did not participate in the MFP demonstration—we noted important differences between MFP participants and these other transitioners. MFP participants appear to have longer institutional stays before the transition, are less likely to use hospice services near the time of transition, and are less likely to have previous experience with community-based LTSS compared to others who also transitioned. This descriptive evidence suggests that grantee states may be disproportionately helping beneficiaries who have fewer connections to community services than others; which suggests that exposure to living in the community with supports—such as what a diversion program might provide—may influence the likelihood of returning to the community when a stay in an institution is necessary. A program like the MFP demonstration can then specialize in helping beneficiaries who have

little or no prior experience with community-based LTSS and who may find it very difficult to transition without the support of a formal transition program.

The evaluation also continued to find that when MFP participants transition, their total Medicaid and Medicare costs decline by 23 percent to 30 percent for participants transitioning from nursing homes (older adults and younger adults with physical disabilities) and intermediate care facilities for individuals with intellectual disabilities respectively. This decline occurs primarily because Medicaid spending on LTSS declines as costs for community-based LTSS are typically less than for institutional care. We estimate that as of 2013, 35,960 MFP participants had generated about \$978 million in cost savings for the Medicaid and Medicare programs during the first year after the transition to community-based LTSS. However, the decline in expenditures that occurs when an MFP participant transitions from institutional care to community-based LTSS is not unique to this group of Medicaid beneficiaries. When other Medicaid beneficiaries experience the same transition, their Medicaid and Medicare expenditures also decline in the same way and not all these cost savings can be attributed to the MFP demonstration.

Analyses indicate that MFP participants have higher Medicaid costs after the transition compared to other transitioners, primarily because of the additional community-based LTSS they receive. Given the cost savings that occur when a Medicaid beneficiary transitions from institutional care to community-based LTSS are not unique to the MFP demonstration, the MFP demonstration will only generate additional cost savings above what would have occurred without the demonstration if MFP increases transition rates and helps people move who would not have otherwise done so. As noted previously, analyses suggest that 25 percent of older adults and 50 percent of individuals with intellectual disabilities would not have transitioned without the MFP demonstration and we estimate that the MFP demonstration accounted for \$249 million in savings that would not have occurred if this demonstration had not been implemented. As stated earlier, this estimate does not account for the administrative costs of operating a MFP demonstration nor the administrative costs of monitoring someone in institutional care. In addition, these costs only represent savings realized during the first year of community living and do not include annual savings that can compound when individuals who transition remain in the community for longer than a year.

Assessing the cost savings that occur when someone transitions to community-based LTSS is a complex analysis because savings can be realized in a number of different ways. Cost savings may be particularly large if MFP helps participants remain longer in the community and avoid readmissions to institutional care. When the evaluation assessed state-level aggregate rates of reinstitutionalization among everyone who transitions to community-based LTSS, we did not find a change in these rates after the implementation of MFP. However, when MFP participants are compared to other transitioners, we find that MFP participants are less likely to return to institutional care during the first 180 days after the transition to the community. Although MFP may not be affecting aggregate reinstitutionalization rates, individual participants seem to experience a positive benefit from participating in the demonstration.

Another avenue for cost savings may be through lower medical care costs that result if community-based LTSS is of higher quality than it would have been if MFP had not been implemented. Again, the evaluation finds little evidence in the data that this mechanism is a



factor. Another way in which MFP may generate cost savings is if this type of program shortens the length of stay in institutional care and beneficiaries are able to move back to the community more quickly than otherwise. Comparisons of MFP participants to other beneficiaries who also transition, but without the help of the MFP demonstration, indicate that other transitioners have prior exposure to community-based LTSS and their institutional stays are shorter. MFP participants tend to have less experience with community-based LTSS before the transition, which suggests that public outreach and the availability of community-based LTSS through diversion programs may reduce the need for formal transition programs such as MFP, but not eliminate it.

The large improvements in quality of life found by the evaluation confirm the premise of the MFP demonstration, that most people with disabilities prefer to live in the community. The data confirm MFP's operating assumption that beneficiaries residing long term in institutions prefer to live in the community. The vast majority of participants are pleased with their living arrangements in the community when compared to living in an institution. Participants have more connections with the community, report higher quality of care, and indicate less unmet need for personal assistance with routine activities once they have transitioned to the community. The changes in the quality of life that occur when participants move to the community are notable and important indicators that this demonstration has had positive impacts on participants' lives. Estimating the value of the quality-of-life improvements reported by MFP participants would be extremely difficult, and any dollar value placed on these improvements would not adequately reflect what it means for people with significant disabilities when they can live in and contribute to their local communities. Appendix I provides links to videos about people's individual stories in four states that have posted written/video testimonials from individuals who transitioned to the community. We would encourage readers of this report consider the opinions of the participants as important indicators of the demonstration's performance.

**Study limitations.** As with any program evaluation, the national evaluation of the MFP rebalancing demonstration has faced several limitations and all results need to be interpreted with caution. The limitations range from concerns about the data to difficulties developing creditable comparison groups. The MFP demonstration has also operated during a very dynamic period for state LTSS systems. The great recession had important effects on state budgets and Medicaid programs in general, then the Affordable Care Act of 2010 provided new opportunities for states to expand and enhance their LTSS systems.<sup>68</sup> The evaluation team has not found a satisfactory approach to controlling for these factors in this evaluation.

The general lack of findings from our trend and cost analyses results in part from the considerable constraints of the Medicaid data. All of the analyses are based on samples of states and samples of participants within states. The national Medicaid data system used in the analyses presented in chapters II, IV, and V are based on data submitted by states to CMS; therefore, despite using rigorous evaluation standards, the variation in the availability and quality of the data across states and years means that each analysis was limited in the number of states that could be included. Of the states that could be included, the initial grantees that received awards in 2007 and began their transition programs in 2008 and 2009 make up a disproportionate

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<sup>68</sup>Additional discussions of the limitations to the work are discussed in more detail in technical appendixes B, D, F, and G.



percentage of grantees in the samples used in each analysis. The later grantees that started transitions in 2010 or later are underrepresented and are not included in some analyses. This constraint means we have not been able to construct a fully representative sample of states and MFP participants when using the national Medicaid data.

The inability to construct a representative sample of MFP participants means that nine years into the demonstration, some of the evaluation results, particularly the transition, reinstitutionalization, and mortality rates results presented in Chapter II, are still not as robust as possible. We have noted that as key analyses are repeated—such as the trends in transition, reinstitutionalization, and mortality rates—the results are sensitive to which state grantees are included in the analysis and the estimation methods used. This means that the findings from these analyses may not be characterized as definitive. Because state MFP demonstrations are highly variable, the most fruitful analyses in the future may be of select states with specific characteristics, such as grantee states that have transitioned the largest percentage of the eligible population.

Constructing comparison groups has also been challenging, partly because of how MFP is designed and partly because the demonstration has been popular and adopted by the majority of states. The MFP rebalancing demonstration was not designed as a random assignment trial where states and Medicaid beneficiaries are randomly assigned to either MFP or usual care. However, the evaluation still needs to construct a comparison group that illustrates what would have happened in the absence of the demonstration. For the trends analyses of transition, reinstitutionalization, and mortality rates, as well as the analysis of state spending on community-based LTSS, the comparison is between the pre-period before MFP was implemented and the post-period. Using non-MFP states as a comparison is not feasible because there are so few such states and comparisons across states are extremely difficult to interpret given the idiosyncratic nature of state LTSS systems.

A pre-post research design is not ideal because the analysis cannot always control for other trends that may affect the outcomes of interest. In the case of the MFP evaluation, we do not think we have fully controlled for the effects of the great recession that was occurring as the initial state grantees were launching their MFP transition programs. This recession strained state budgets and state grantees repeatedly reported that their demonstrations faced state hiring freezes and service cuts. During this period it was common for state grantees to note in their semiannual progress reports that these conditions were barriers to the implementation and growth of their MFP demonstrations. They also frequently reported that the MFP demonstration funding was instrumental in helping the grantees maintain services and that they would have experienced a contraction of services if not for the MFP demonstration. This type of condition is extremely difficult to control for in the pre-post analyses conducted. Because the recession had different effects in different regions and states, future research on the MFP demonstration could attempt to exploit this variation to try to disentangle the effects of the recession from the demonstration itself.

The quality-of-life analysis has also been challenging because it too is based on a pre-post analysis. In this case, it is a comparison between the pre- and post-transition quality of life for each MFP participant in the sample. This analysis faces the additional challenge of using data collected by the grantees, who use a range of different personnel to conduct the survey and vary

in their ability to achieve high response rates and track MFP participants over time. Comparisons of the sample of MFP participants represented in the quality-of-life data to the overall population of participants, indicate some biases in the sample. As the sample has become larger, these biases have become smaller. Importantly, the overall results of the analyses have been consistent since the beginning of the evaluation, which gives us more confidence that the findings from the analyses of the quality-of-life data are relatively robust.

In contrast, the analyses of Medicaid and Medicare costs and use of services relies on a comparison group of others who experience the same type of transition, but are not MFP participants. In most states these other transitioners are more numerous than MFP participants and may have been part of formal transition programs that supported non-MFP eligible individuals. We do not know why MFP participants do not make up the majority of transitioners. It is possible that these other transitioners were approached by the MFP demonstration, but declined; however, it is also possible that discharge planners and transition coordinators did not conduct the necessary outreach or believed these beneficiaries were not candidates for MFP because they already had sufficient supports. When we compared other transitioners to MFP participants, we noted some important differences that suggest that other transitioners were more closely connected to community-based LTSS compared to MFP participants because they were more likely to use these services in the year before the transition and they had shorter institutional stays. When we were identifying suitable comparisons for the MFP participants, constructing a sufficiently robust matching algorithm was more difficult than anticipated and required more iterations, testing, and adjustments than is typical. This difficulty suggests that MFP participants are different from other transitioners, at least on observable characteristics, and that MFP may be transitioning beneficiaries who would not have transitioned otherwise.

## REFERENCES

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- Bohl, Alex, John Schurrer, Dean Miller, Wilfredo Lim, and Carol V. Irvin. “The Changing Medical and Long-Term Care Expenditures of People Who Transition from Institutional Care to Home- and Community-Based Services.” National Evaluation of the Money Follows the Person (MFP) Demonstration Grant Program, Report from the Field, No. 15. Cambridge, MA: Mathematica Policy Research, October 2014.
- Cacioppo, John T., et al. “Loneliness as a Specific Risk Factor for Depressive Symptoms: Cross-Sectional and Longitudinal Analyses.” *Psychology and Aging*, vol. 21, no. 1, 2006, pp. 140-151.
- Centers for Medicare & Medicaid Services. “Intermediate Care Facilities for Individuals with Intellectual Disabilities (ICFs/IDD).” July 2013. Available at <https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/ICFIID.html>. Accessed on May 24, 2016.
- Centers for Medicare & Medicaid Services. “Nursing Home Data Compendium 2015 Edition.” 2015. Available at [https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/Downloads/nursinghomedatacompendium\\_508-2015.pdf](https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/Downloads/nursinghomedatacompendium_508-2015.pdf). Accessed on August 9, 2016.
- Charney, Dennis S., et al. “Depression and Bipolar Support Alliance Consensus Statement on the Unmet Needs in Diagnosis and Treatment of Mood Disorders in Late Life.” *Archives of General Psychiatry*, vol. 60, 2003, pp. 664–672.
- Cole, Martin G., and Nandini Dendukuri. “Risk Factors for Depression Among Elderly Community Subjects: A Systematic Review and Meta-Analysis.” *American Journal of Psychiatry*, vol. 160, no. 6, 2003, pp. 1147–1156.
- Denny-Brown, Noelle, Christal Stone, Debra Lipson, and Jessica Ross. “Money Follows the Person Demonstration: Overview of State Grantee Progress, July-December 2010.” Cambridge, MA: Mathematica Policy Research, May 2011.
- Eiken, Steve, Kate Sredl, Brian Burwell, and Paul Saucier. “Medicaid Expenditures for Long-Term Services and Supports (LTSS) in FY 2014.” Report by Truven Health Analytics, Cambridge, MA: Truven Health Analytics, April 15, 2016.
- Eiken, Steve, Kate Sredl, Brian Burwell, and Paul Saucier. “Medicaid Expenditures for Long-Term Services and Supports.” Report by Truven Health Analytics, Cambridge, MA: Truven Health Analytics, June 30, 2015.
- Eiken, Steve, Kate Sredl, Lisa Gold, Jessica Kasten, Brian Burwell, and Paul Saucier. “Medicaid Expenditures for Long-Term Services and Supports in FY 2012.” Report by Truven Health Analytics, Cambridge, MA: Truven Health Analytics, April 28, 2014.

- Eiken, Steve, Kate Sredl, Lisa Gold, Jessica Kasten, Brian Burwell, Paul Saucier. "Medicaid Expenditures for Long Term Services and Supports in 2011." Report by Truven Health Analytics, Cambridge, MA: Truven Health Analytics, October 2013.
- Eiken, Steve (2012). HCBS Taxonomy Development. NASUAD HCBS Conference 2012. Retrieved from [http://www.nasuad.org/documentation/hcbs\\_2012/HCBS%202012%20Presentations1/HCBS%202012%20Presentations1/Thursday/1130/Potomac%202012/2012HCBS%20Taxonomy%20Conf%20Slides.pdf](http://www.nasuad.org/documentation/hcbs_2012/HCBS%202012%20Presentations1/HCBS%202012%20Presentations1/Thursday/1130/Potomac%202012/2012HCBS%20Taxonomy%20Conf%20Slides.pdf)
- Eiken, Steve, Kate Sredl, Brian Burwell, and Lisa Gold. "Medicaid Expenditures for Long-Term Services and Supports: 2011 Update." Cambridge, MA: Thomson Reuters, October 2011.
- Elliott, Marc, Megan Beckett, Kelly Chong, Katrin Hambarsoomians, and Ron Hays. "How Do Proxy Responses and Proxy-Assisted Responses Differ from What Medicare Beneficiaries Might Have Reported About Their Health Care?" *Health Services Research*, vol. 43, June 2008, pp. 833–848.
- Fiske, Amy, Julie Loebach Wetherell, and Margaret Gatz. "Depression in Older Adults." *Annual Review of Clinical Psychology*, vol. 5, 2009, pp. 363–389.
- Guthrie, Dawn M., Éric R. Thériault, and Jacob G.S. Davidson. "Self-Rated Health, Cognition, and Dual Sensory Impairment Are Important Predictors of Depression Among Home Care Clients in Ontario." *Home Health Care Management & Practice*, vol. 28, no. 1, 2015, pp. 35–43.
- Harrington, Charlene, and Helen Carrillo. "Nursing Facilities, Staffing, Residents and Facility Deficiencies, 2009 through 2014." Menlo Park, CA: The Kaiser Commission on Medicaid and the Uninsured, August 2015.
- Hoffman, Denise. "Findings from the Evaluation of the Non-Elderly Disabled (NED) Housing Choice Voucher Program." Presented at the AcademyHealth Long Term Services and Supports Interest Group, San Diego, June 7, 2014.
- Irvin, Carol, Audra Wenzlow, Samuel Simon, Alex Bohl, Matthew Hodges, and John Schurrer. "Money Follows the Person 2010 Annual Evaluation Report." Final report submitted to the Centers for Medicare & Medicaid Services. Cambridge, MA: Mathematica Policy Research, October 7, 2011.
- Irvin, Carol V., Debra Lipson, Samuel Simon, Matthew Hodges, Alex Bohl, Victoria Peebles, Jeremy Bary, Matthew Sweeney, Laura Ruttner, Sean Orzol, and John Schurrer. "Money Follows the Person 2011 Annual Evaluation Report." Final report submitted to the Centers for Medicare & Medicaid Services, Division of Community Services Transformation, Disabled and Elderly Health Programs Group. Cambridge, MA: Mathematica Policy Research, October 31, 2012.

- Irvin, Carol V., Noelle Denny-Brown, Matthew Kehn, Rebecca Sweetland Lester, Debra Lipson, Wilfredo Lim, Jessica Ross, Alex Bohl, Victoria Peebles, Samuel Simon, Bailey Orshan, Susan R. Williams, Eric Morris, and Christal Stone. "Money Follows the Person 2012 Annual Evaluation Report." Final report submitted to the Centers for Medicare & Medicaid Services, Division of Community Services Transformation, Disabled and Elderly Health Programs Group. Cambridge, MA: Mathematica Policy Research, October 2013.
- Irvin, Carol V., Noelle Denny-Brown, Alex Bohl, John Schurrer, Wilfredo Lim, Rebecca Sweetland Lester, and Victoria Peebles. "Money Follows the Person 2013 Annual Evaluation Report." Final report submitted to the Centers for Medicare & Medicaid Services, Division of Community Services Transformation, Disabled and Elderly Health Programs Group. Cambridge, MA: Mathematica Policy Research, February 25, 2015.
- Irvin, Carol, Noelle Denny-Brown, Alex Bohl, John Schurrer, Andrea Wysocki, Rebecca Coughlin, and Susan R. Williams. "Money Follows the Person 2014 Annual Evaluation Report." Final report submitted to the Centers for Medicare & Medicaid Services, Division of Community Services Transformation, Disabled and Elderly Health Programs Group. Cambridge, MA: Mathematica Policy Research, 2015.
- Kehn, Matthew, and Debra Lipson. "The Real Choice Systems Change Grant: Building Sustainable Partnerships for Housing." Final report submitted to the Centers for Medicare & Medicaid Services, Division of Community Services Transformation, Disabled and Elderly Health Programs Group. Princeton, NJ: Mathematica Policy Research, March 2014.
- Lepore, Michael, and Natalie E. Leland. "Nursing Homes That Increased The Proportion Of Medicare Days Saw Gains In Quality Outcomes For Long-Stay Residents." *Health Affairs*, vol. 34, no. 12, 2015, pp. 2121–2128.
- Lester, Rebecca Sweetland, Carol V. Irvin, Abigail Mosca, and Ciara Bradnan. "Tipping the Balance: The Balancing Incentive Program and State Progress on Rebalancing Their Long-Term Services and Supports." National Evaluation of the Money Follows the Person (MFP) Demonstration Grant Program, Report from the Field, No. 18. Cambridge, MA: Mathematica Policy Research, September 2015.
- Lester, Rebecca Sweetland, Carol V. Irvin, and Wilfredo Lim. "Recent Developments in State Efforts to Rebalance Long-Term Services and Supports." National Evaluation of the Money Follows the Person (MFP) Demonstration Grant Program, Report from the Field, No. 13. Cambridge, MA: Mathematica Policy Research, October 2013.
- Levine, Carol, Deborah Halper, Ariella Peist, and David A. Gould. "Bridging Troubled Waters: Family Caregivers, Transitions, And Long-Term Care." *Health Affairs*, vol. 29, no. 1, 2010, pp. 116–124.
- Libersky, Jenna, Debra Lipson, and Kristie Liao. "Hand in Hand: Enhancing the Synergy between Money Follows the Person and Managed Long-Term Services and Supports." National Evaluation of the Money Follows the Person (MFP) Demonstration Grant Program, Report from the Field, No. 17. Cambridge, MA: Mathematica Policy Research, July 2015.

- Lipson, Debra J., Denise Hoffman, and Matthew Kehn. "The Non-Elderly Disabled Category 2 Housing Choice Voucher Program: An Implementation and Impact Analysis." Washington, DC: Mathematica Policy Research, January 2014.
- Medicaid.gov. "Balancing Incentive Program." Available at <https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Long-Term-Services-and-Supports/Balancing/Balancing-Incentive-Program.html>.
- Morris, Eric, Rebecca Coughlin, Brynn Hagen, Ciara He, Allison Steiner, Noelle Denny-Brown, Lisa McCusker, Jason Smoot, Rebecca Sweetland Lester, and Susan R. Williams. "Money Follows the Person Demonstration: Overview of State Grantee Progress, January to December 2015." Cambridge, MA: Mathematica Policy Research, 2016.
- Morris, Eric, Melissa Medeiros, Noelle Denny-Brown, Rebecca Coughlin, Rebecca Sweetland Lester, Bailey Orshan, Victoria Peebles, Susan R. Williams, and Brynn Hagen. "Money Follows the Person Demonstration: Overview of State Grantee Progress, January to December 2014." Cambridge, MA: Mathematica Policy Research, 2015.
- Peebles, Victoria, and Alex Bohl. "The HCBS Taxonomy: A New Language for Classifying Home- and Community-Based Services." *Medicare & Medicaid Research Review*, vol. 4, no. 3, September 2014.
- Reinhard, Susan C., Enid Kassner, Ari Houser, Kathleen Ujvari, Robert Mollica, and Leslie Hendrickson. "Raising Expectations 2014: A State Scorecard on Long-Term Services and Supports for Older Adults, People with Physical disabilities, and Family Caregivers." Washington, DC: AARP, 2014.
- Rubin, Donald B. and Neal Thomas. "Combining Propensity Score Matching with Additional Adjustments for Prognostic Covariates." *Journal of the American Statistical Association*, vol. 95, no. 450, June 2000, pp. 573–585.
- Rubin, Donald B. "Using Propensity Scores to Help Design Observational Studies: Application to the Tobacco Litigation." *Health Services & Outcomes Research Methodology*, vol. 2, no. 3, December 2001, pp. 169–188.
- Schurrer, John, and Audra Wenzlow. "A First Look at How MFP Participants Fare After Returning to the Community." National Evaluation of the Money Follows the Person (MFP) Demonstration Grant Program, Report from the Field, No. 7. Ann Arbor, MI: Mathematica Policy Research, July 2011.
- Simon, Samuel E., and Matthew R. Hodges. "Money Follows the Person: Change in Participant Experience During the First Year of Community Living." The National Evaluation of the Money Follows the Person Demonstration Grant Program, Reports from the Field, No. 6. Cambridge, MA: Mathematica Policy Research, May 2011.
- Sloan, Matt, and Carol Irvin. "Money Follows the Person Quality of Life Survey." Prepared for the Centers for Medicare & Medicaid Services. Washington, DC: Mathematica Policy Research, 2007.

- Stuart, Elizabeth A. “Matching Methods for Causal Inference: A Review and a Look Forward.” *Statistical Science*, vol. 25, no. 1, 2010, pp. 1–21.
- United States Department of Housing and Urban Development. “HUD and HHS Partner to Provide Permanent Housing and Services to Low-Income People with Disabilities.” HUD press release number 13-024, February 12, 2013. Available at [http://portal.hud.gov/hudportal/HUD?src=/press/press\\_releases\\_media\\_advisories/2013/HUDNo.13-024](http://portal.hud.gov/hudportal/HUD?src=/press/press_releases_media_advisories/2013/HUDNo.13-024). Accessed October 31, 2016.
- United States Department of Housing and Urban Development. “President’s Executive Order Launches Independent Living and Home Ownership Program for Disabled.” Available at <http://archives.hud.gov/news/2001/pr01-061.cfm>. Accessed May 27, 2016.
- United States Department of Housing and Urban Development. “HUD Awards \$150 Million to Provide Permanent Homes and Services to Extremely Low-Income Person with Disabilities.” HUD press release number 15-026, March 2, 2015. Available at [http://portal.hud.gov/hudportal/HUD?src=/press/press\\_releases\\_media\\_advisories/2015/HUDNo\\_15-026](http://portal.hud.gov/hudportal/HUD?src=/press/press_releases_media_advisories/2015/HUDNo_15-026). Accessed October 31, 2016.
- United States Department of Housing and Urban Development. “Worst Case Housing Needs 2015: Report to Congress.” Washington, DC: HUD, April 2015.
- Wenzlow, Audra, Steve Eiken, and Kate Sredl. “Improving the Balance: The Evolution of Medicaid Expenditures for Long-Term Services and Supports (LTSS), FY 1981-2014.” Truven Health Analytics, June 3, 2016.
- Wenzlow, A., Peebles, V., and S. Kuncaitis. *The Application of the Taxonomy in Claims Data: A First Look at Expenditures for Medicaid HCBS*. Ann Arbor, MI: Mathematica Policy Research, May 2011.

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**APPENDIX A**

**CUMULATIVE NUMBER OF MFP TRANSITIONS**

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**Table A.1. Cumulative number of MFP transitions through December 2015 and the total number transitioned in 2015, over and by population subgroup**

State	Cumulative number through December 2015	Number transitioned in calendar year 2015 only					
		Total overall	Older adults	People with physical disabilities	People with intellectual or developmental disabilities	People with mental illness	Other
Alabama	49	24	11	13	0	0	0
Arkansas	773	132	37	38	57	0	0
California	2,656	344	140	183	13	8	0
Colorado	133	55	5	18	16	12	4
Connecticut	3,177	750	340	329	37	44	0
Delaware	213	35	14	16	4	1	0
District of Columbia	267	36	26	10	0	0	0
Georgia	2,261	228	57	125	3	43	0
Hawaii	361	83	46	37	0	0	0
Idaho	507	81	26	41	14	0	0
Illinois	321	641	179	194	72	196	0
Indiana	2,350	456	186	67	107	96	0
Iowa	1,822	154	0	0	135	0	19
Kansas	1,490	235	55	143	30	0	7
Kentucky	645	36	12	11	0	1	12
Louisiana	1,466	380	175	118	87	0	0
Maine	59	19	5	12	0	0	2
Maryland	2,428	275	111	125	28	0	11
Massachusetts	1,529	549	205	298	7	39	0
Michigan	2,640	426	245	181	0	0	0
Minnesota	109	75	2	20	2	22	29
Mississippi	350	99	14	35	50	0	0
Missouri	1,277	249	64	120	61	0	4
Montana	68	53	20	22	3	8	0
Nebraska	472	83	48	31	1	0	3
Nevada	210	66	26	37	3	0	0
New Hampshire	287	40	20	18	0	0	2
New Jersey	1,615	258	68	108	82	0	0
New York	1,912	325	61	41	150	0	73
North Carolina	624	128	26	31	71	0	0
North Dakota	300	64	14	28	17	0	5
Ohio	7,444	1,658	288	511	139	720	0
Oklahoma	714	35	6	17	12	0	0
Oregon <sup>a</sup>	306	0	0	0	0	0	0
Pennsylvania	2,243	353	183	114	45	0	11
Rhode Island	223	62	36	26	0	0	0
South Carolina	55	15	10	5	0	0	0
South Dakota	43	33	4	15	14	0	0
Tennessee	1,436	359	186	138	35	0	0
Texas	10,342	1,038	440	400	198	0	0
Vermont	219	75	51	24	0	0	0
Virginia	1,001	175	30	44	101	0	0
Washington	5,494	964	550	340	65	9	0
West Virginia	136	46	24	22	0	0	0
Wisconsin	1,227	248	79	144	25	0	0
<b>Total</b>	<b>63,337</b>	<b>11,440</b>	<b>4,125</b>	<b>4,250</b>	<b>1,684</b>	<b>1,199</b>	<b>182</b>

Table A.1 (*continued*)

Sources: State MFP grantees' semiannual progress reports, 2015.

Note: Annual counts of actual transitions might differ from earlier reports because grantee states can update their data as their reporting becomes more complete.

<sup>a</sup> Oregon suspended program operations in 2010 and later rescinded its grant award.

MFP = Money Follows the Person.

## **APPENDIX B**

### **METHODS USED TO ESTIMATE TRENDS IN TRANSITION RATES AND POST-TRANSITION OUTCOMES**

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## **A. Data sources**

### **1. Medicaid Analytic eXtract data and Medicare data**

The primary data sources for the analyses of transition rates and post-transition outcomes presented in Chapter II are the 2006–2014 Medicaid Analytic eXtract (MAX) and Alpha-MAX, a preliminary version of MAX, data files. Over this period, MAX data were available for 48 states and the District of Columbia.<sup>69</sup> However, the analysis included only states with (1) an MFP demonstration program starting in 2008–2013, (2) data available for at least one quarter after the MFP demonstration started, and (3) a full panel of data from 2006–2013. These criteria narrowed the pool for grantee states to 17 all from the cohort awarded grants in 2007.<sup>70</sup>

Medicare data supplemented the MAX files. Specifically, the Medicare files determined whether a beneficiary was dually eligible for Medicare and Medicaid and the date of death for any dual eligible beneficiary who died during the analysis period.

### **2. MFP Program Participation Data File**

We used the MFP Program Participation data files to determine who transitioned through MFP and the date of transition. Each grantee was required to submit the MFP Program Participation data file on a quarterly basis after MFP transitions began. The file and the file layout were designed for the MFP demonstration to capture the transition date, the date someone exited MFP, and the reason for the exit, as well as the type of qualified institution someone resided in before the transition and the type of qualified residence someone transitioned to in the community.

### **3. Nursing facility Minimum Data Set assessments**

We used data from the nursing facility Minimum Data Set (NF-MDS) to identify additional characteristics of members of the MFP-eligible population who resided in nursing homes (the older adults and younger adults with physical disabilities). The NF-MDS are standardized assessments completed at specified time points and include information on the clinical, functional, and cognitive status of nursing facility residents.

## **B. Sample**

### **1. Identifying the MFP-eligible population**

Based on the MAX data, a Medicaid beneficiary was defined as an MFP eligible if he or she resided in an institution for 90 (or more) continuous days. We used this definition for all years included in the analysis.<sup>71</sup>

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<sup>69</sup> Data from Kansas and Maine were not available for any year.

<sup>70</sup> States included Arkansas, California, Connecticut, Delaware, Georgia, Hawaii, Kentucky, Maryland, Michigan, Missouri, Nebraska, New Jersey, Pennsylvania, Texas, Virginia, Washington, and Wisconsin.

<sup>71</sup> When MFP began in 2008, the program required a six-month institutional stay to be MFP eligible. The Affordable Care Act decreased the required time in an institution to 90 days, not including Medicare-covered skilled nursing days. We applied the 90-day requirement throughout the entire time period for these analyses.

## 2. Groups of interest

Using information from MAX data, we classified the MFP-eligible population into four mutually exclusive target subgroups: (1) older adults, which includes those ages 65 and older residing in nursing homes; (2) younger adults with physical disabilities, which includes those younger than age 65 residing in nursing homes; (3) people with intellectual disabilities residing in intermediate care facilities for individuals with intellectual disabilities; and (4) people with severe mental illness residing in psychiatric facilities. We expect that the MFP demonstration affects people in these target groups in different ways, as each group has unique needs.

## 3. Identifying transitions

We defined a transition as any instance in which an MFP-eligible individual ended his or her institutional stay for more than two calendar months and received community-based long-term services and supports (LTSS) within 60 days of ending institutional care.

To identify MFP participants in the MAX data, we first used the 2008–2014 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 ways:

- For people 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 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 an MFP participant.
- If we could not verify an MFP participant using the MAX data with this algorithm, then the person was not retained in the analysis.

To be considered a transitioner, participants also had to meet several other criteria. They had to maintain Medicaid eligibility and not be enrolled in Medicaid managed care in the two calendar months following the transition. Additionally, if such an individual died or used hospice within two calendar months of transitioning, he or she was not considered a transitioner for purposes of our analyses.

## 4. Characteristics of the MFP-eligible population

We used MAX data to determine demographic characteristics of the MFP-eligible population, including age, race or ethnicity, gender, dual-eligible status, and residence in an urban or rural zip code. We used data from the NF-MDS to identify additional characteristics of members of the MFP-eligible population who resided in nursing homes (older adults and younger adults with physical disabilities). The Resource Utilization Group (RUG) grouper was applied to the NF-MDS data and used to determine a level-of-care score (high, medium, low, or unknown level of care needed). Other characteristics from the NF-MDS included the activities of daily living (ADLs) score, cognitive status, and presence of a severe mental illness diagnosis (not including depression). The regression models used both the MAX variables and NF-MDS characteristics as control variables, when available.



## **5. 12-month post-transition outcomes**

Among the group of transitioners in our analytic sample (which includes both MFP participants and other transitioners), we assigned each individual to one of three mutually exclusive outcome categories: (1) reinstitutionalized within 12 months of transition, (2) death within 12 months of transition, or (3) still in the community at 12 months post-transition. For any transitioner who became reinstitutionalized and then died within 12 months of the transition, we assigned the person to the reinstitutionalized category, because that is the first outcome we observed for the person.

Because we relied on MAX data to flag outcomes, our analysis of 12-month post-transition outcomes requires a full year of follow-up data for transitioners. For example, if an individual transitioned in 2012, we needed 2013 to flag post-transition outcomes for that person. We restricted the post-transition outcome analyses to those who maintained Medicaid eligibility and were not enrolled in Medicaid managed care for the full year following their transition.

### **a. Reinstitutionalizations**

A transitioner was coded as becoming reinstitutionalized if we observed an institutional claim in MAX with a stay of at least 30 days within 365 days of his or her transition date.

### **b. Mortality**

MAX data include three sources-of-death dates. For participants 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 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.

### **c. Still in community (successful transitions)**

If a person neither died nor returned to an institution within 12 months of the transition date, then we coded the person as having a successful transition. 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, unless the person also reestablished Medicaid eligibility at about the same time. Therefore, we required that a person maintain Medicaid eligibility during the entire 12-month post-transition period to avoid potentially misclassifying that person as a successful transition.

## **C. Regression methods**

### **1. Introduction**

We designed the regression analyses to estimate the effect of implementing the MFP demonstration on the number of people who transition from institutions to community-based LTSS, as well as the effect of the program on post-transition outcomes. The approach relied on controlling for existing trends in transition rates and post-transition outcomes that were present in the quarters before the rollout of the MFP demonstration. We tested whether transition rates and post-transition outcomes changed in the quarter-years when MFP was in place (2008–2013),

controlling for the pre-MFP trend. We assigned pre- and post-MFP quarters based on the state-specific MFP implementation date. We included 8 pre-MFP quarters for each state and 20 post-MFP quarters. We describe the regression methods and models next.

## 2. Probability of transitioning to community-based LTSS

The following methods were used for our analysis of the probability of transitioning to community-based LTSS.

- **Sample.** We considered the MFP-eligible population from 2006 through 2013 from four target groups: (1) older adults, (2) younger adults with physical disabilities, (3) people with intellectual disabilities, and (4) people with severe mental illness. We estimated regression models separately for each target population.
- **Outcome of interest/dependent variable.** We modeled the probability of transitioning to community-based LTSS in a quarter. The dependent variable is an indicator variable that equals 1 if a person transitions to community services in quarter  $q$  and 0 otherwise. All MFP participants are considered to have transitioned to community-based LTSS.
- **Unit of analysis.** The unit of analysis is a person-quarter for each quarter that a person is eligible for MFP. A person can be eligible for MFP across quarters. We treated 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 took control variables from the MAX data (age, race and ethnicity, gender, dual eligibility status, urban or rural residence) and from the NF-MDS. The NF-MDS control variables included level-of-care needs, ADL score, cognitive status, and an indicator for a diagnosis of a severe mental illness. NF-MDS information was available only for older adults and younger adults with physical disabilities, so the regressions for those with intellectual disabilities or severe mental illness included only MAX control variables. The analytic sample was limited to those with valid information from these sources. We also included a squared term for age, quarter of year indicators to control for seasonality in transition rates, an indicator for the first quarter in which the person became MFP-eligible (and its square), and state- and year-fixed effects.
- **Time trend.** We included a linear trend term in the regression models for each target population.
- **Variables of interest.** In addition to the time trend variable, we included indicator variables for whether the observation is from a post-MFP quarter, which is defined based on the date that each state implemented MFP. The coefficients on these indicator variables represent the average change in quarterly transition rates for the post-MFP quarters, holding constant the trend in transition rates during pre-MFP quarters.
- **Model specification.** The general specification of the model is given by:

$$(1) \quad y_{it} = \beta_0 + \beta_1 Trend + \gamma' X + \beta_{2iPostMFPQ0} + \beta_{3iPostMFPQ1} + \dots + \beta_{22iPostMFPQ20} + \varepsilon_{it}$$

- **Estimation.** We estimated the model using a logit specification and cluster standard errors on the person-by-year level.
- **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 post-MFP quarters. We took the following steps to calculate those counts:
  - Estimate the model within a target population.
  - Retain estimated coefficients.
  - Calculate the predicted probability of transitioning to community-based LTSS for each observation.
  - Set the post-MFP quarter indicator dummies to 0 for all observations.
  - Use the retained coefficients on the transformed data to calculate the predicted counterfactual probability of transitioning to community services.
  - Sum both sets of predicted values (observed and counterfactual) by the quarter of eligibility.
  - Calculate the difference between these two counts.
  - Compute standard errors and confidence intervals using the bootstrap method.
- **Sensitivity tests.** Many long-term institutional residents have high levels of care needs that might be difficult to support in home or community settings and our comparison of MFP participants to the eligible population suggested that disproportionate numbers of MFP participants transitioning from nursing homes have low care needs. We conducted an analysis on the subset of MFP-eligible nursing home residents with low-care needs (as defined by the NF-MDS assessment data), presumably a group that would be easier to transition relative to those with more needs. The results from these transition rate analyses were similar to the main results for the target populations in nursing homes (older adults and people with physical disabilities). This sensitivity test confirms what was found in the main analysis, that MFP may have tempered a downward decline in transition rates among older adults for both the full sample and the low-care sample, but MFP did not have an effect on transition rates for younger adult nursing home residents in either the full sample or the low-care sample.
  - We also conducted a number of other sensitivity tests to include a larger number of states in the analysis. For these sensitivity tests, we defined our samples based on the number of relative post-MFP quarters. Specifically, we required the sample to have (1) 8 pre-MFP quarters and 20 post-MFP quarters and (2) 8 pre-MFP quarters and 16 post-MFP quarters. The samples included 20 and 25 states, respectively. We found some differences from the main results, which varied by target group. For example, for older adults transitioning from nursing homes, the analysis with 20 post-quarters of data showed similar trends to the main analysis. That is, it showed that MFP moderated the downward trend in transitions among older adults, although the difference between the observed transition rate and the predicted transition rate if MFP had not been

implemented was less pronounced in the sensitivity analysis than it was in the main analysis. The analysis with 16 post- quarters for this target population showed no effect of MFP and no decline in transition rates. These analyses indicate that the results are very sensitive to the sample of states included in the regression models.

### 3. 12-month post-transition outcomes

We considered three mutually exclusive post-transition outcomes in our regression analyses: (1) reinstitutionalized within 12 months of transition, (2) death within 12 months of transition, and (3) still in community at 12 months post-transition. As with the transition analysis, we estimated regressions separately for each target population. Because death is a relatively rare event among transitioners with intellectual disabilities or severe mental illness, we did not model 12-month mortality as a post-transition outcome for these populations.

The general framework of these analyses is similar to the one used to model transitions: we control for existing trends in the rates of post-transition outcomes and then test whether these rates changed in post-MFP quarters, after the implementation of the MFP demonstration. We used a linear trend term for all models. Therefore, the general specification is given by:

$$(2) \quad y_{it} = \beta_0 + \beta_1 \text{Trend} + \gamma' X + \beta_{2i} \text{PostMFPQ0} + \beta_{3i} \text{PostMFPQ1} + \dots + \beta_{22i} \text{PostMFPQ20} + \varepsilon_{it}$$

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 next.

#### a. Older adults and younger adults with physical disabilities

- **Outcome variable and estimation.** We modeled the older adult and physically disabled target groups separately, but the methods used for these populations were the same. First, we assigned each transitioner into one of the three post-transition outcome categories. Therefore, the dependent variable in the estimating equation took the following values:

$$y_{it} = \begin{cases} 0 & \text{if still in community} \\ 1 & \text{if reinstitutionalized} \\ 2 & \text{if died} \end{cases}$$

We then used a multinomial logit model to estimate the change in the probability of each outcome that occurred in 2008–2013, holding constant existing trends in rates of post-transition outcomes.

- **Sample restrictions and control variables.** We limited the sample of older adults to transitioners dually eligible for Medicare and Medicaid to ensure that we had a reliable and stable source of death date information across all years of the study. We used demographic information from MAX data and level of care, ADL score, cognitive status, and an indicator for a diagnosis of a severe mental illness from the NF-MDS as control variables in the regression. Therefore, the analytic sample was also limited to those with valid (nonmissing) information from these sources. We also include a squared term for age, quarter of year indicators to control for seasonality, and state- and year-fixed effects.

information from these sources. We also include a squared term for age, quarter of year indicators to control for seasonality, and state- and year-fixed effects.

#### **b. People with intellectual disabilities or severe mental illness**

- **Outcome variable and estimation.** We modeled estimates for the groups with intellectual disabilities or severe mental illness separately, but the methods used for these populations were the same. We estimated two separate logit models for these target populations. In one model, the outcome of interest was whether the person was reinstitutionalized. In the other model, the outcome of interest was whether the person remained in the community. We then used the estimated coefficients to test whether the rate of either outcome changed in post-MFP quarters, given existing trends.
- **Sample restrictions and control variables.** We used demographic information from MAX data as control variables in the regression models. Therefore, the analytic sample was limited to those with valid (nonmissing) demographic information. We also included a squared term for age, quarter of year indicators to control for seasonality, and state- and year-fixed effects.

#### **D. Limitations**

Our work has several limitations. The most serious methodological limitation is the comparison group. This analysis developed inferences about MFP effects by comparing projected pre-MFP trends with actual experience during the MFP period. From the pre- to the post-MFP period, other changes could have occurred that affected transition rates and the outcomes of those who transitioned. Such changes could have occurred in (1) the quality of nursing home care, (2) the availability of alternatives to nursing homes (such as supported living or group homes), (3) the quality of community-based LTSS, (4) the treatment of some medical conditions, or (5) the characteristics of those eligible for MFP. The effects of these and other factors on transitions and post-transition outcomes, such as the availability of family members who can help care for the person in the community, will be confounded with the effect of MFP. In addition, the regression models implicitly assume that each state's program launched in the same manner. Although we controlled for state-level differences that remained constant, the heterogeneity in program design and early implementation experiences that we did not address because of data limitations might also have affected demonstration outcomes.

Our work has also been affected by important limitations in the data available for the evaluation of this program on transition rates and post-transition outcomes. Many grantee states did not have Medicaid claims data available for some period covered by this analysis (2006–2013), so we could not include them. We attempted to include grantee states with fewer years of data, but the outcomes being assessed have a high degree of variability across grantee states, and the results reflected this inter-state variability rather than program effects. As a result of the data limitations, the MFP transitions assessed here comprise a small proportion of all transitions that have occurred through MFP. Our limited sample for this analysis means that we are unable to detect any effects of MFP that occurred in other grantee states not included in the analysis or any effects that take longer to manifest as MFP became a more mature program. Therefore, the results presented in this chapter may differ from the results that are apparent when all states are included or when a different sample of states is used. It is unknown if the results for the selected

states included in the transition rates and post-transition outcomes analyses are reflective of the overall program effects across all states.

Last, the NF-MDS data were available only for older adults and people with physical disabilities who transitioned from nursing homes, so we lacked information on other aspects of health status for those with intellectual disabilities residing in intermediate care facilities and with severe mental illness residing in psychiatric facilities. This means the problem of unobservable characteristics that might interact with the effects of MFP will be exacerbated for these targeted populations.

**APPENDIX C**

**TOTAL MEDICAID EXPENDITURES ON COMMUNITY-BASED LONG-TERM  
SERVICES AND SUPPORTS BY STATE**

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**Table C.1. Total Medicaid expenditures on community-based long-term services and supports, by MFP grantee state, 2005 through 2014 (dollars)**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
AL	357,735,560	382,997,106	408,286,512	462,381,519	494,063,123	517,608,116	695,738,559	691,403,801	708,410,919	711,596,287
AR	278,501,830	288,181,309	300,857,457	324,041,454	369,388,362	637,003,483	751,716,459	802,470,807	895,713,599	994,323,674
CA	5,091,725,294	5,514,487,013	6,214,703,015	7,232,350,934	7,960,142,828	8,296,328,636	8,453,350,228	8,378,223,483	9,469,834,839	9,869,534,543
CO	509,622,750	566,090,852	644,261,277	723,807,152	816,019,306	866,193,885	890,887,088	921,459,747	980,843,814	1,200,330,623
CT	767,496,507	784,984,911	840,810,231	918,333,984	1,566,489,920	1,260,483,081	1,275,607,428	1,310,517,473	1,419,335,014	1,465,291,467
DE	49,188,501	76,266,472	124,935,237	210,943,546	120,388,047	132,384,787	140,334,429	137,000,893	194,899,473	217,503,533
DC	77,622,769	93,661,212	103,704,294	115,045,276	285,396,114	354,073,983	390,929,417	422,542,705	474,973,194	419,588,984
GA	630,529,544	595,116,036	663,871,675	833,364,357	830,121,257	911,113,754	941,850,695	1,057,075,117	1,200,721,940	1,162,892,844
HI	121,810,113	121,513,964	150,169,576	168,923,499	139,574,310	103,783,700	181,226,929	183,649,856	189,621,021	194,266,361
ID	147,717,154	160,519,437	173,839,195	192,995,226	209,038,988	217,173,168	253,489,904	246,945,680	288,032,265	310,606,176
IL	923,221,529	918,118,945	1,011,702,382	1,246,665,110	1,103,278,383	1,543,323,905	1,754,233,650	1,795,248,880	2,115,668,847	2,146,337,828
IN	509,424,112	514,894,382	559,724,556	637,851,600	746,078,860	828,390,109	813,639,533	853,696,072	947,930,140	1,084,441,722
IA	363,558,831	436,770,017	468,624,776	528,140,221	563,762,098	647,110,733	655,164,872	673,518,294	944,092,102	1,034,918,157
KS	414,790,529	487,553,558	520,539,437	534,447,810	609,744,327	615,281,189	639,721,718	623,010,790	623,449,524	575,710,431
KY	359,987,171	393,451,808	431,682,742	440,947,728	521,477,049	545,037,573	655,585,249	633,491,702	649,718,051	758,019,059
LA	365,065,700	412,663,502	528,179,532	685,907,368	786,910,264	771,972,886	796,224,774	839,549,993	950,105,158	866,079,099
ME	317,142,472	418,239,732	403,790,332	470,227,099	537,223,045	465,108,833	465,829,233	472,665,741	478,848,578	520,855,946
MD	547,896,034	680,237,986	709,126,800	720,486,707	796,052,470	1,313,560,458	1,344,860,515	1,444,187,871	1,478,082,550	1,652,691,623
MA	1,368,033,418	1,491,266,209	1,401,003,235	1,515,509,661	1,986,053,059	2,357,561,391	2,089,917,521	2,599,935,111	2,669,689,243	2,983,438,322
MI	732,058,952	729,210,646	783,789,317	815,932,149	874,794,568	942,093,765	988,341,159	1,018,282,714	1,059,979,142	1,044,226,217
MN	1,658,865,318	1,840,047,795	2,005,116,095	2,346,016,971	2,489,568,340	2,688,495,068	2,792,102,224	2,847,184,878	2,879,374,524	3,113,337,103
MS	147,928,142	91,145,491	184,832,029	209,971,807	229,492,187	362,104,671	382,814,599	413,365,802	385,747,231	410,194,111
MO	658,715,311	722,927,824	762,369,843	839,966,703	940,316,461	1,127,903,018	1,092,215,654	1,190,845,427	1,595,116,397	1,723,199,770
MT	134,860,860	142,189,915	146,961,132	163,270,343	186,552,656	231,612,854	230,605,984	233,723,163	239,623,025	250,403,774
NE	231,083,180	241,444,764	265,102,967	282,552,297	302,529,883	318,711,765	324,704,803	346,402,573	371,328,933	387,348,534
NV	132,191,230	155,821,846	173,258,023	184,044,139	191,868,875	265,936,524	278,182,680	245,145,345	245,173,146	255,067,452
NH	180,346,846	193,968,959	208,892,283	229,598,697	251,006,488	259,871,488	281,233,451	359,625,582	384,481,778	386,740,646
NJ	899,949,246	1,191,449,143	1,024,814,278	1,057,510,015	1,162,691,670	1,234,848,696	1,223,207,802	1,106,388,413	1,493,146,071	2,051,934,961
NY	7,900,848,557	8,496,194,893	9,396,769,626	10,053,912,679	10,902,011,104	12,331,756,684	12,146,604,098	12,161,532,019	12,451,024,644	12,851,412,378
NC	1,292,730,668	1,340,094,009	1,366,882,013	1,529,307,451	1,648,541,481	2,644,765,832	2,250,360,274	2,295,609,464	1,931,954,765	1,753,873,579
ND	69,865,071	75,452,398	81,362,407	102,782,225	114,508,257	148,109,354	166,170,039	184,875,648	198,808,474	232,467,121
OH	1,180,097,869	1,420,221,036	1,533,424,259	1,612,013,153	1,903,688,072	2,199,889,801	2,410,112,939	2,509,210,105	2,883,573,716	3,730,229,814
OK	397,117,775	451,756,769	507,503,966	554,554,805	592,245,796	596,197,834	558,344,161	550,669,949	577,241,926	595,185,524
OR	745,528,293	831,129,498	899,301,698	882,823,827	1,029,037,714	1,241,733,310	1,219,624,077	1,290,917,736	1,273,800,570	1,560,858,155
PA	1,679,685,322	1,895,434,628	1,971,653,985	2,121,783,805	2,337,762,884	2,722,955,510	2,827,728,238	3,175,007,312	3,481,888,057	3,793,376,441

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
RI	236,812,955	252,316,152	268,253,785	277,441,837	275,823,409	339,938,309	520,171,691	446,424,028	480,705,336	493,479,361
SC	384,975,808	392,881,075	373,920,835	492,287,907	535,420,653	567,326,830	571,486,255	556,713,953	551,770,440	605,856,758
SD	88,994,100	93,751,645	100,139,102	107,361,328	115,695,916	130,747,541	134,141,593	136,636,854	141,407,384	147,343,600
TN	586,002,534	592,409,816	792,705,307	1,085,592,573	1,129,737,908	1,022,638,050	1,043,101,775	1,127,779,304	1,206,897,650	1,297,806,620
TX	2,115,174,593	2,290,273,029	2,377,087,768	2,861,996,383	3,050,407,892	3,644,254,913	3,952,638,642	3,772,639,385	4,453,498,270	4,900,882,020
VT	171,726,322	35,720,040	44,082,023	209,233,691	217,933,129	225,073,635	234,025,839	246,889,117	254,304,334	263,703,801
VA	515,826,030	550,765,312	648,287,369	825,592,372	1,006,919,010	1,125,258,543	1,267,213,803	1,326,797,043	1,427,670,900	1,549,012,716
WA	1,001,784,188	1,086,811,104	1,186,821,742	1,319,954,384	1,449,391,509	1,458,383,529	1,535,137,969	1,569,106,307	1,604,289,405	1,769,794,543
WV	321,205,393	313,823,470	341,541,966	362,763,961	398,750,563	497,663,168	547,829,365	639,327,725	657,497,433	682,099,957
WI	644,620,131	953,633,313	1,001,977,865	1,370,059,982	1,695,822,880	1,707,149,356	1,733,704,451	1,823,604,826	1,992,931,277	2,097,044,741
<b>Total</b>	<b>37,310,064,512</b>	<b>40,717,889,021</b>	<b>44,106,663,944</b>	<b>49,860,695,735</b>	<b>55,473,721,115</b>	<b>62,418,913,718</b>	<b>63,902,111,766</b>	<b>65,661,298,688</b>	<b>70,903,205,099</b>	<b>76,115,306,376</b>

Source: Mathematica’s analysis of data presented by Eiken et al. 2016.

Note: These data were used to determine whether a state grantee complied with the statutory requirement to not allow total Medicaid expenditures on community-based long-term services and supports to fall below spending in 2005 or the year before receiving the MFP grant award, whichever is larger. For the following states, 2006 was the year before the grant award: Arkansas, California, Connecticut, Delaware, District of Columbia, Georgia, Hawaii, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Missouri, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, Texas, Virginia, Washington, and Wisconsin. For the following states, 2010 was the year before the grant award: Colorado, Idaho, Maine, Massachusetts, Minnesota, Mississippi, Nevada, Rhode Island, Tennessee, Vermont, and West Virginia. For the following states, 2011 was the year before the grant award: Alabama, Montana, and South Dakota.

MFP = Money Follows the Person.

## **APPENDIX D**

### **DATA AND METHODS FOR REBALANCING ANALYSES OF LONG-TERM SERVICES AND SUPPORTS EXPENDITURES**

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Mathematica used a regression framework to assess the association between MFP and changes in the trends of the share of expenditures for community-based LTSS among the original MFP grantees, those grantees that received MFP grant awards in 2007. We assessed changes in the percentage of LTSS expenditures for community-based services in the four years following the first MFP transition, while adjusting for existing trends in the three years before MFP and demographic characteristics (such as age, gender, and race); seasonal factors; and time-invariant state characteristics.

### **A. The data**

The analyses are based on data from the Medicaid Analytic eXtract (MAX) data system.<sup>72</sup> 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 and expenditures for fee-for-service Medicaid enrollees. These data files enabled us to compute Medicaid LTSS expenditures and use measures, broken out into community-based services (waiver and state plan community-based LTSS) and institutional care. The unit of analysis was the state-month. For each state, we included 36 months before the start of MFP, as defined by the month the state achieved its first MFP transition, and up to 48 months after MFP. The MFP start date, which was determined by the month of a grantee's first MFP transition, and its relative pre- and post-MFP periods vary across states, as shown in Table C.1.

For each state-month, we computed the main outcome of interest, community-based LTSS share of total LTSS expenditures as total community-based LTSS expenditures for all LTSS users in that state and month divided by the sum of community-based LTSS and institutional long-term care expenditures among all LTSS users in that state and month. We also classified community-based LTSS expenditures as waiver or state plan services. We included only fee-for-service (FFS) expenditures and did not include expenditures for services billed in bulk to the state. We identified LTSS users each month based on monthly enrollment for section 1915(c) waiver programs or having positive community-based LTSS expenditures in the month to account for beneficiaries who only use state plan community-based LTSS.<sup>73</sup> We identified institutional long-term care users each month based on whether they had positive institutional care expenditures. We also calculated an outcome variable for the community-based LTSS share of LTSS users as the total number of beneficiaries using community-based LTSS services in each state-month divided by the sum of all LTSS users, community and institutional, in each state-month. We constructed control variables for the average age of the LTSS population in each state-month, percentage female, and percentage in specific race categories (black, white, and other).

For subgroup analyses, we classified beneficiaries into the four MFP target populations—older adults, young adults with physical disabilities, people with intellectual or developmental disabilities, and people with mental illness—using type of facility and age if the beneficiary received institutional care, and waiver type and age to classify all other beneficiaries.

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<sup>72</sup> The analysis used Alpha-MAX files (early release versions of MAX data) when MAX data were not available.

<sup>73</sup> State plan community-based LTSS included services such as state plan personal assistance services, home health, rehabilitation, and adult day health.

**Table D.1. Rebalancing analysis pre- and post-periods, by state**

State	MFP start	Rebalancing analysis pre-period (36 months before MFP)	Rebalancing analysis post-period (up to 48 months after MFP start)
Arkansas	June 2008	June 2005 – May 2008	June 2008 – May 2012
California	December 2008	December 2005 – November 2008	December 2008 – November 2012
Connecticut	December 2008	December 2005 – November 2008	December 2008 – November 2012
Delaware	October 2008	October 2005 – September 2008	October 2008 – March 2012
District of Columbia	December 2008	December 2005 – November 2008	December 2008 – December 2011
Georgia	September 2008	September 2005 – August 2008	September 2008 – August 2012
Hawaii <sup>a</sup>	December 2008	n.a.	n.a.
Illinois	April 2009	April 2006 – March 2009	April 2009 – December 2012
Indiana	January 2009	January 2006 – December 2008	January 2009 – December 2012
Iowa	September 2008	September 2005 – August 2008	September 2008 – August 2012
Kansas <sup>b</sup>	July 2008	n.a.	n.a.
Kentucky	September 2008	September 2005 – August 2008	September 2008 – August 2012
Louisiana	July 2009	July 2006 – June 2009	July 2009 – December 2012
Maryland	March 2008	March 2005 – February 2008	March 2008 – February 2012
Michigan	July 2008	July 2005 – June 2008	July 2008 – June 2012
Missouri	January 2008	January 2005 – December 2008	January 2008 – December 2011
Nebraska	June 2008	June 2005 – May 2008	June 2008 – May 2012
New Hampshire	January 2008	January 2005 – December 2007	January 2008 – December 2011
New Jersey	July 2008	July 2005 – June 2008	July 2008 – June 2011
New York	May 2009	May 2006 – April 2009	May 2009 – April 2013
North Carolina	February 2009	February 2006 – January 2009	February 2009 – December 2012
North Dakota	September 2008	September 2005 – August 2008	September 2008 – August 2012
Ohio	October 2008	October 2005 – September 2008	October 2008 – September 2012
Oklahoma	April 2009	April 2006 – March 2009	April 2009 – March 2013
Oregon <sup>c</sup>	March 2008	n.a.	n.a.
Pennsylvania	July 2008	July 2005 – June 2008	July 2008 – June 2012
Texas	January 2008	January 2005 – December 2007	January 2008 – December 2011
Virginia	July 2008	July 2005 – June 2008	July 2008 – June 2012
Washington	March 2008	March 2005 – February 2008	March 2008 – February 2012
Wisconsin <sup>d</sup>	January 2008	n.a.	n.a.

Table D.1 (*continued*)

Source: Mathematica Policy Research analyses of MFP transition data

Note: We set the MFP start date to the month each state made its first MFP transition. The pre- and post-periods are set relative to the MFP start date. All states had 36 months pre-period data and up to 48 months post-period data included in the analyses. Although there were more than 48 months of post-period data available for some states, the data were less reliable in those months because there were fewer states and the analyses increasingly relied on less complete data.

<sup>a</sup> Hawaii was excluded from rebalancing analyses because of statewide managed long-term services and supports (MLTSS) and we had only fee-for-service data available for these analyses.

<sup>b</sup> Kansas was excluded from rebalancing analyses because MAX data were available only through 2009.

<sup>c</sup> Oregon was excluded from rebalancing analyses because it stopped participating in MFP in 2010.

<sup>d</sup> Wisconsin was excluded from rebalancing analyses because of expanding MLTSS programs during the study period.

n.a. = not applicable.

**B. The sample**

The analysis sample comprised 26 of the 30 original MFP grantees. The four states excluded from the rebalancing analyses include Hawaii (due to statewide managed long-term services and supports [MLTSS]), Kansas (due to missing MAX data), Oregon (due to suspension of MFP activities in 2010), and Wisconsin (due to expanding MLTSS programs statewide during the study period). In several states, we also restricted the analysis sample to select populations or select regions. The rationale for limiting these states' analysis populations was due to expansions of MLTSS in select regions or populations over the study time frame that might bias our results. For example, if a state expanded its MLTSS program during the study time frame, there would be a shift of beneficiaries from FFS into managed care. To the extent that MLTSS beneficiaries are more or less likely to use community-based LTSS compared with FFS beneficiaries, we would observe shifts in the percentage of LTSS expenditures accounted for by community services and percentage of LTSS users receiving community-based LTSS due to changes in the MLTSS population and not due to MFP because we had only FFS claims data available for these analyses. By restricting the sample to populations and regions mostly unaffected by changes in MLTSS over the study period, we have greater confidence that any shifts in the outcome variables are due to MFP and not changes in the composition of the LTSS population in FFS Medicaid. Table D.2 describes the sample restrictions that we applied to select states for these analyses.



**Table D.2. Sample restrictions in selected states**

State	Sample exclusions	Rationale
Hawaii	Entire state	MLTSS programs existed statewide for all populations during the study period.
Illinois	Observations from calendar year 2013 and later	Illinois newly implemented MLTSS in 2013.
Kansas	Entire state	MAX data were available only through 2009.
Michigan	Beneficiaries ages birth to 64	MLTSS programs existed or expanded statewide for children and adults during study period.
New York	Beneficiaries ages 19 and older	MLTSS programs existed or expanded statewide for adult and elderly populations during the study time frame.
North Carolina	Select counties <sup>a</sup>	MLTSS programs existed or expanded to certain counties during the study time frame.
Oregon	Entire state	The state stopped participating in MFP in 2010.
Pennsylvania	Beneficiaries with ID/DD	There were very large changes in the observed size of this population and percentage of community-based LTSS expenditures among this population in MAX data at different times during the study time frame that could unduly influence the regression analyses. Specifically, MAX data showed a jump in the size of this population from about 5,500 to 26,200 from June to July 2008, and a jump in the percentage of community-based LTSS expenditures one year later from about 23 to 75 percent from June to July 2009.
Texas	Select counties <sup>b</sup>	MLTSS programs existed or expanded to certain counties during the study time frame.
Washington	Select counties <sup>c</sup>	MLTSS programs existed or expanded to certain counties during the study time frame.
Wisconsin	Entire state	MLTSS programs existed or expanded statewide to all LTC populations.

Source: Mathematica Policy Research analyses of MAX data and published data on state MLTSS programs.

<sup>a</sup> North Carolina counties excluded were Cabarrus, Davidson, Rowan, Stanly, and Union.

<sup>b</sup> Texas regions (counties) excluded were Lubbock (Hutchinson, Potter, Carson, Deaf Smith, Randall, Swisher, Lamb, Hale, Floyd, Hockley, Lubbock, Crosby, Terry, Lynn, and Garza); El Paso (El Paso and Hudspeth); Tarrant (Wise, Denton, Parker, Tarrant, Hood, and Johnson); Dallas (Collin, Hunt, Dallas, Rockwall, Kaufman, Ellis, and Navarro); Travis (Burnet, Williamson, Travis, Hays, Caldwell, Bastrop, Lee, and Fayette); Harris (Montgomery, Waller, Austin, Wharton, Fort Bend, Harris, Matagorda, Brazoria, and Galveston); Jefferson (Walker, San Jacinto, Polk, Tyler, Jasper, Newton, Liberty, Hardin, Orange, Jefferson, and Chambers); Bexar (Bandera, Kendall, Comal, Guadalupe, Bexar, Atascosa, Wilson, and Medina); Hidalgo (Maverick, Webb, McMullen, Duval, Zapata, Jim Hogg, Starr, Hidalgo, Willacy, and Cameron); Nueces (Brooks, Kenedy, Kleberg, Jim Wells, Nueces, San Patricio, Live Oak, Bee, Regugio, Aransas, Calhoun, Victoria, Goliad, and Karnes).

<sup>c</sup> Washington county excluded was Snohomish.

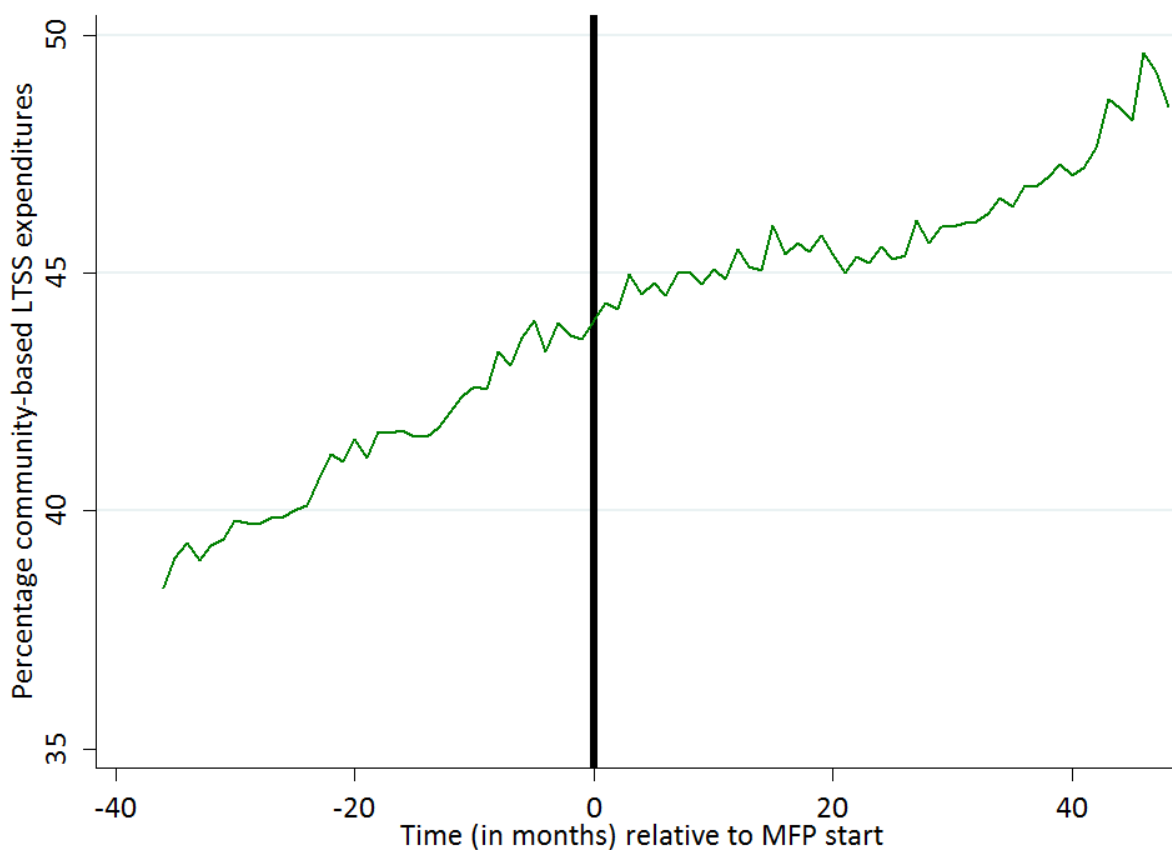
ID/DD = intellectual and developmental disabilities; MAX = Medicaid Analytical eXtract; MLTSS = managed long-term services and supports; LTC = long-term care.

### C. Methods used

Figure D.1 shows that the community share of total LTSS expenditures among the original 26 MFP grantees included in these analyses rose from about 38 percent to about 48 percent from three years before MFP to four years after MFP. Because the community share was increasing even before MFP, any changes in the balance of state systems after MFP cannot be fully

attributed to MFP. To address this issue, we estimated regression models that contain trend terms that account for pre-period trends in the balance of state LTSS systems that were occurring in the years leading up to the implementation of the MFP program. Effectively, this methodology attributes any deviations from the pre-period trend to MFP. The regression models are used to estimate this deviation, while accounting for demographic characteristics, seasonal effects, and state-fixed effects, in addition to existing trends.

**Figure D.1. Trends in the community-based LTSS share of total LTSS expenditures relative to the first MFP transition, all LTSS populations (unadjusted)**



Source: Mathematica Policy Research analyses of 2005–2014 MAX FFS claims data for 26 states.

Notes: We defined the MFP start for each state as the month when the first MFP transition occurred, which means the start date differs across grantees. We excluded Hawaii and Wisconsin due to the high penetration of MLTSS. We also excluded Kansas due to missing MAX data, and Oregon because it stopped transitioning beneficiaries in 2010. We also limited analyses in several states (Illinois, Michigan, New York, North Carolina, Texas, and Washington) to certain time periods, regions, or subpopulations due to existing or expanding MLTSS that could skew the analyses.

FFS = fee for service; MAX = Medicaid Analytical eXtract; MLTSS = managed long-term services and supports.

The regression models were estimated using observations at the state-month level. We included state-fixed effects to control for fixed state-specific characteristics. We included calendar-month-fixed effects to flexibly control for seasonality. We also included state-month averages of age, race, and gender computed among the Medicaid LTSS population. Our main

outcomes of interest are the community-based share of total LTSS expenditures and the community-based share of total LTSS users. Regressions were weighted by the number of LTSS users in each state-month to reflect population averages. Thus, states with more LTSS users had a greater influence on the average than states with fewer LTSS users. Our key explanatory variables were indicators of post-MFP for years one through four.

Formally, we estimated the following model:

$$(1) \quad Outcome_{j,t} = \beta_0 + \beta_1 * trend + \beta_2 * PostYear1 + \beta_3 * PostYear2 + \beta_4 * PostYear3 + \beta_5 * PostYear4 + \alpha * X_{j,t} + \varepsilon_{j,t}$$

where  $outcome_{j,t}$  is the outcome of interest for state  $j$  in month  $t$ ,  $PostYear1$  is an indicator for MFP post-period year one,  $PostYear2$  is an indicator for MFP post-period year two,  $PostYear3$  is an indicator for MFP post-period year three,  $PostYear4$  is an indicator for MFP post-period year four,  $trend$  is a linear time trend, and  $X_{j,t}$  represents the set of controls, including demographic characteristics and state-fixed effects. The parameters  $\beta_2$ ,  $\beta_3$ ,  $\beta_4$ , and  $\beta_5$  estimate the association between MFP and the outcome of interest in post-MFP years one, two, three and four, respectively.

Our primary analyses encompassed all LTSS expenditures and users for the entire set of states and months. However, we also conducted subgroup analyses using state-month observations developed from each of the distinct MFP target populations: older adults, younger adults with physical disabilities, people with intellectual or developmental disabilities, and people with mental illness.

#### **D. Study limitations**

A key limitation of the regression analyses is the lack of a comparison group. The data indicate that the few states that did not elect to implement an MFP demonstration are sufficiently different from the MFP grantee states and do not provide a suitable counterfactual for what would have happened had MFP not been implemented. In addition, data limitations restrict the analysis to a time when the nation was suffering the effects of a widespread recession. This means that although we control for state-fixed effects, we probably do not adequately control for—and might not be able even to detect—the extent to which MFP may have prevented contractions in state expenditures for community-based LTSS. Not finding an association between MFP and the balance of LTSS expenditures and users may suggest that MFP helped state LTSS systems weather an economically difficult time for state Medicaid budgets.

Another limitation of our analyses is our inability to assess the association of the Balancing Incentive Program alone or in combination with MFP on the balance of LTSS expenditures and users. Among the original MFP states included in the regression analyses, their Balancing Incentive Program grants generally started in post-MFP year five or later relative to the first MFP transition. This means we were not able to capture the period after states started their Balancing Incentive Programs, and we were not able to assess its association with a state's rebalancing efforts. A similar limitation applies to a number of other LTSS initiatives that states have been implementing since the passage of the Affordable Care Act. Appendix F provides information about these additional programs and which states are implementing them.

Our regression analyses included only FFS LTSS expenditures and users. For those states with MLTSS programs, to reduce the likelihood that changes in MLTSS use over time influenced our results, we limited the analysis sample to those populations and regions in the states that remained in FFS for the most of the study period. However, it is possible that MFP would be positively associated with rebalancing LTSS if we were able to analyze both FFS and managed care data, particularly if MFP incentivized managed care plans to encourage the use of community-based services.

**APPENDIX E**

**STATE IMPLEMENTATION OF OTHER LONG-TERM SERVICES AND SUPPORTS  
PROGRAMS**

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**Table E.1. State implementation of other long-term services and supports programs**

State	Balancing Incentive Program <sup>a</sup>	1915(i) <sup>b</sup>	1915(j) <sup>c</sup>	1915(k) <sup>d</sup>	Medicaid Health Home <sup>e</sup>	MLTSS <sup>f</sup>	Financial alignment demonstration <sup>g</sup>
Alabama		√	√		A		
Arkansas	√		√				
California		√	√		P	√	A
Colorado		√					A
Connecticut	√	√		√	P		
Delaware		√				√	
District of Columbia		√			P		
Georgia	√						
Hawaii						√	P
Idaho		√			A		
Illinois	√					√	A
Indiana		√					
Iowa	√	√			A		
Kansas					A	√	
Kentucky					P		
Louisiana		√			P		
Maine	√				A		
Maryland	√	√		√	A		
Massachusetts	√				P	√ <sup>h</sup>	A
Michigan		√			A	√	A
Minnesota						√	A
Mississippi	√	√					
Missouri	√				A		
Montana		√		√			
Nebraska							
Nevada		√					
New Hampshire	√					√	
New Jersey	√		√		A	√	
New York	√			√	A	√	A
North Carolina					A	√	
North Dakota							
Ohio	√				A	√	A
Oklahoma					A		P
Pennsylvania						√	
Rhode Island					A	√	A
South Carolina							A
South Dakota					A		
Tennessee					P	√	
Texas	√		√	√		√	A

State	Balancing Incentive Program <sup>a</sup>	1915(i) <sup>b</sup>	1915(j) <sup>c</sup>	1915(k) <sup>d</sup>	Medicaid Health Home <sup>e</sup>	MLTSS <sup>f</sup>	Financial alignment demonstration <sup>g</sup>
Vermont					A	√ <sup>i</sup>	
Virginia							A
Washington		√		√	A		A
West Virginia					A		
Wisconsin		√			A	√ <sup>h</sup>	
Wyoming							

## Sources:

<sup>a</sup> <https://www.medicaid.gov/medicaid-chip-program-information/by-topics/long-term-services-and-supports/balancing/balancing-incentive-program.html>

<sup>b</sup> <https://www.medicaid.gov/state-resource-center/medicaid-state-plan-amendments/medicaid-state-plan-amendments.html> and supplemented with information from the Kaiser State Health Facts and state websites.

<sup>c</sup> <https://www.medicaid.gov/state-resource-center/medicaid-state-plan-amendments/medicaid-state-plan-amendments.html> and supplemented with information from the National Health Policy Forum.

<sup>d</sup> <https://www.medicaid.gov/state-resource-center/medicaid-state-plan-amendments/medicaid-state-plan-amendments.html> and supplemented with information from the Kaiser State Health Facts, the NASUAD State Medicaid Integration Tracker, and state websites

<sup>e</sup> “A” indicates that the state has health homes in place in FY 2014 and/or adopted and/or expanded health homes in FY 2015. “P” indicates that the state plans to implement health homes during FY 2016. Sources include:

<http://www.medicaid.gov/state-resource-center/medicaid-state-technical-assistance/health-homes-technical-assistance/approved-health-home-state-plan-amendments.html> and <http://files.kff.org/attachment/report-medicaid-reforms-to-expand-coverage-control-costs-and-improve-care-results-from-a-50-state-medicaid-budget-survey-for-state-fiscal-years-2015-and-2016>.

<sup>f</sup> Includes 1915(b)/(c) waivers, 1932(a) state plan amendments, and other authorities. Information was derived from multiple sources, including the (1) NASUAD MLTSS Tracker: <http://www.nasuad.org/initiatives/tracking-state-activity/state-medicaid-integration-tracker>; (2) 2012 Truven Report: [http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Delivery-Systems/Downloads/MLTSSP\\_White\\_paper\\_combined.pdf](http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Delivery-Systems/Downloads/MLTSSP_White_paper_combined.pdf); (3) HMA Weekly Roundup: <http://www.healthmanagement.com/publications/hma-weekly-roundup/>; (4) Medicaid.gov Demonstrations & Waivers; and (5) state websites.

<sup>g</sup> “A” indicates that the state met the standards and conditions for the financial alignment initiative and developed a MOU to establish parameters. “P” indicates that the state has an active proposal. See: <http://www.cms.gov/Medicare-Medicaid-Coordination/Medicare-and-Medicaid-Coordination/Medicare-Medicaid-Coordination-Office/FinancialAlignmentInitiative/StateProposals.html>.

<sup>h</sup> Massachusetts and Wisconsin have approved 1115 waivers in place that modify subcomponents of LTSS but use other authorities to authorize their MLTSS programs.

<sup>i</sup> Vermont provides capitated funds to a state agency (Department of Vermont Health Access) which “manages” care on behalf of beneficiaries.

MLTSS = Managed Long-Term Services and Supports



## **APPENDIX F**

### **METHODS USED TO ESTIMATE DIFFERENCES IN POST-TRANSITION COSTS AND UTILIZATION**

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## **A. Data**

The analyses presented in chapter V used Medicare and Medicaid claims and enrollment files, Nursing Facility Minimum Data Set (NF-MDS) assessment data, and Money Follows the Person (MFP) services files. These files allowed us to identify Medicaid beneficiaries who transitioned from institutional care to community-based LTSS at any point from 2008 to 2013, beneficiaries who enrolled in the MFP demonstration, expenditures in the 6 months before and up to 24 months after the transition, and person-level characteristics. We included Medicare claims from the Medicare Provider Analysis and Review (MedPAR), Carrier, Home Health, Outpatient, Home Health Agency, and Durable Medical Equipment files, Medicaid claims from the Medicaid Analytic eXtract (MAX) Other (which includes claims for outpatient, laboratory, home health, and premium payments), Long-Term Care, and Inpatient files, and claims for MFP-paid community-based LTSS from the MFP services file. Enrollment and demographic information came from the Medicare Master Beneficiary Summary File, the MAX Person Summary file, and the MFP Program Participants file.

## **B. Identifying MFP participants and other transitioners**

We identified MFP participants by using the MFP national evaluation enrollment records from 32 state grantees who actively transitioned Medicaid beneficiaries at any point in 2008 through 2013.<sup>74</sup> Only those MFP participants with at least one MFP-paid claim for community-based LTSS were included in this study.

The comparison group included Medicaid beneficiaries who transitioned from institutional care to community-based LTSS outside of the MFP demonstration during the same period, 2008 through 2013. Within each state, we selected Medicaid beneficiaries with similar characteristics to MFP participants in that state. The other transitioners included Medicaid beneficiaries with at least three contiguous months of institutional long-term care claims followed by a claim for community-based LTSS (or record of enrollment in a 1915(c) waiver) in the month of transition or in either of the next two months. See Irvin et al. 2012 for a more detailed description for identifying transitions outside of the MFP demonstration.

## **C. Target populations**

We stratify our analysis based on the populations targeted by MFP demonstration. To do this, we relied on a Medicaid beneficiary's age and the institution from which they transitioned. Transitioners were divided into three target populations: (1) adults 65 and older who transitioned from nursing homes, (2) people with physical disabilities under the age of 65 who transitioned from nursing homes, and (3) people with intellectual disabilities who transition from intermediate care facilities for individuals with intellectual disabilities (ICFs/ID). As a subgroup analysis, we further identified beneficiaries with mental health conditions. People with mental health conditions include those who had a claim with relevant diagnostic, procedure, revenue center, or provider codes for mental health condition during the 12 months before the

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<sup>74</sup> The 32 grantee states include: Arkansas, California, Connecticut, Delaware, District of Columbia, Georgia, Iowa, Illinois, Indiana, Kentucky, Louisiana, Massachusetts, Maryland, Michigan, Missouri, Mississippi, Nebraska, New Hampshire, New Jersey, Nevada, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Texas, Vermont, Virginia, Washington, and Wisconsin.

transition.<sup>75</sup> In previous reports, we created a separate mental illness group; however, we did not do this again for this report because the target population indicator is a more relevant driver of the MFP experience than the mental health conditions.

#### **D. Exclusions**

For our main analysis, we excluded people who (1) were enrolled in Medicare or Medicaid managed care; (2) had no record of receiving community-based LTSS after the transition, including MFP participants who had no claim for an MFP-financed community-based long-term service or support; (3) received Medicare or Medicaid-paid hospice services prior to transition; (4) had Medicaid-paid hospice services in the month of transition or in either of the next two calendar months; (5) died within the first 12 months after transition; or (6) had more than a 1-month gap in Medicaid enrollment in the 12 months before or after transition. For the two-year cost analysis, we excluded those who died in the first 24 months after transition or who had more than a 1-month gap in Medicaid enrollment in the 24 months before or after the transition. For persons included in the 2-year analysis, in addition to the above criteria, we excluded anyone without available MAX data.

#### **E. Measures of expenditures**

The expenditures analysis takes the perspective of the Medicaid and Medicare programs. There are three expenditure categories of interest: (1) total overall expenditures, (2) long-term services and supports (LTSS), and (3) medical care expenditures. We further divide LTSS into community- or institutional-based LTSS. Medical expenditures are categorized as inpatient (acute hospital care), Medicare-paid skilled nursing facility (SNF), Medicare-paid home health, physician office visits, and emergency department visits.

Total expenditures include all Medicaid-paid services and Medicare-paid Part A and Part B services (for those dually-eligible for Medicare and Medicaid). Medicaid- or Medicare-paid prescription drugs were excluded. LTSS expenditures consist of all Medicaid payments for community- and institutional-based LTSS. Medical care expenditures are all Medicaid payments not otherwise classified as LTSS expenditures plus all Medicare expenditures. Inpatient, physician office, emergency, and hospice expenditures come from Medicare and Medicaid payments, but SNF and home health are only from Medicare claims. All medical services not categorized into these categories (such as ambulatory surgery) were included in total or medical expenditures but not in a specific category.

Expenditures were defined using the “amount paid” field on Medicare and Medicaid claims, with one exception: we summed the Medicare payment amount and the pass through amount for inpatient and skilled nursing facility claims. Based on the year of transition, we inflated all

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<sup>75</sup> For outpatient claims records, we only flagged people as having a mental health condition if they had at least two outpatient claims records for services on two different days that included a diagnosis for a mental health condition. For inpatient claims records, we required only one claim to have a diagnosis for a mental health condition. Mental health conditions included: schizophrenic disorders; episodic mood disorders; delusional disorders; other nonorganic psychoses; pervasive developmental disorders; obsessive-compulsive disorders; dysthymic disorders; personality disorders; acute reaction to stress; adjustment reaction; depressive disorder, not elsewhere classified, disturbance of conduct, not elsewhere classified; disturbance of emotions specific to childhood and adolescence; and hyperkinetic syndrome of childhood.

expenditures by the annual medical care consumer price index to represent 2013 dollars. We did not consider housing grants, out-of-pocket expenditures, or any administrative expenses. Because we identified transitions between 2008 and 2013, the pre- and post-transition expenditures may reach into 2007 or 2014, respectively.

## **F. Measures of utilization and quality**

The utilization variables capture emergency department (ED) visits, inpatient stays, physician visits, institutional long-term care, and home health or rehabilitation care after an inpatient stay. We used Medicare and Medicaid claims to define the utilization variables. Inpatient admissions were identified using the MedPAR and MAX inpatient files. ED visits resulting in an inpatient admission were identified in the MedPAR and MAX inpatient files where the source of the inpatient admission for a MedPAR record was the ED or the UB-92 Revenue Center Code in the MAX Inpatient file indicated ED services. Medicare home health and MedPAR files were used to identify home health and rehabilitation (defined as SNF or long-stay hospitalization) after a short-stay MedPAR discharge. ED visits not resulting in an inpatient admission were identified in the Medicare Outpatient files using revenue center and procedure codes that indicated services furnished in an ED. In the Medicaid Other file, revenue center codes, place of service, and procedure codes were used to identify ED visits not resulting in a hospitalization. Table F.1 presents the revenue center and procedure codes used to identify ED use. Facility-based subacute care used Medicare and Medicaid claims where the location of service was a nursing or rehabilitation facility.

**Table F.1. UB 92 revenue center codes and CPT codes used to identify ED use**

Code type	Codes
UB-92 revenue center	0450-0459, 0981
CPT	99281-99285

We also identified utilization for ambulatory care sensitive conditions (ACSCs) and mental health conditions. We identified inpatient, outpatient, and emergency utilization with ICD-9 diagnosis codes for falls, pressure ulcers, dehydration, and delirium. We analyzed utilization of these services as a composite to indicate whether a transitioner had utilization of any type (inpatient, outpatient, or emergency based care) for any of these ACSC conditions. We also identified transitioners using inpatient or outpatient services for mental health conditions.

## **G. Average change in Medicaid and Medicare expenditures for MFP participants**

For each state, we calculated the change in monthly Medicaid and Medicare expenditures between pre- and post-transition. These changes represent the differences in average monthly expenditures averaged over the 6-months before transition and the 12 months after transition. The majority of states saw per-beneficiary monthly expenditures decline for Medicaid but there are slight increases in Medicare spending.

**Table F.2 Average change in per-beneficiary, per-month Medicaid and Medicare expenditures for MFP participants post transition, by state**

State	Older adults			Persons with physical disabilities			Persons with ID/DD		
	N	Medicaid	Medicare	N	Medicaid	Medicare	N	Medicaid	Medicare
AR	21	-1,397	-111	64	-2,684	452	113	1,131	-50
CA	60	-3,882	-305	139	-5,555	-1,039	151	-10,613	554
CT	514	-2,578	-571	747	-4,694	481	14	-18,989	-274
DC	N/A	N/A	N/A	N/A	N/A	N/A	69	4,207	-172
DE	14	-4,360	-418	22	-3,663	2,725	N/A	N/A	N/A
GA	175	-1,942	66	459	-1,506	712	536	-1,864	467
IA	N/A	N/A	N/A	N/A	N/A	N/A	2,226	-5,829	481
IL	104	-628	-226	410	-1,899	454	73	-9,455	722
IN	124	-162	709	121	-639	236	213	-230	-52
KY	71	-659	417	137	-215	96	90	-7,524	617
LA	34	-331	-566	73	-1,636	1,213	84	-7,764	219
MA	25	1,231	-959	14	9,160	-3,028	N/A	N/A	N/A
MD	388	-1,723	-427	405	-1,867	763	95	-12,671	428
MI	384	-2,047	-199	435	-2,097	270	N/A	N/A	N/A
MO	97	-1,610	104	263	-1,960	726	256	1,801	138
MS	N/A	N/A	N/A	15	-2,755	741	35	-4,141	323
NC	18	-1,815	-1,289	27	-1,304	2,817	53	-3,309	334
ND	N/A	N/A	N/A	15	-4,355	117	35	-3,128	64
NE	35	-2,084	-942	62	-4,281	-501	52	-2,792	576
NH	22	-2,585	-970	39	-4,723	-679	15	-9,219	1,321
NJ	56	-2,729	1,567	60	-3,408	857	118	-15,784	650
NY	188	2,931	752	576	1,255	918	83	-40,004	362
OH	164	-1,955	471	594	-1,700	957	192	798	-60
OK	76	-1,160	1,116	145	-1,154	1,542	90	-6,888	1,050
OR	25	-620	146	31	-567	-2,84	23	-14,716	493
PA	271	-2,514	-723	236	-2,549	1,757	44	-3,307	458
TX	815	-1,305	-129	842	-1,699	222	1,442	-3,125	275

Table F.4 (continued)

State	Older adults			Persons with physical disabilities			Persons with ID/DD		
	N	Medicaid	Medicare	N	Medicaid	Medicare	N	Medicaid	Medicare
VA	28	-1,090	32	54	-1,776	814	255	-3,152	143
VT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WA	587	-2,076	-1,373	837	-2,515	-792	N/A	N/A	N/A
WI	59	-2,812	-1,501	103	-5,939	-2,386	54	-10,770	322

Source: Mathematica’s analysis of Medicaid and Medicare claims and enrollment data for Medicaid beneficiaries who transitioned from institutional to community-based LTSS from 2008 through 2013 from 32 states.

Notes: Negative values indicate a decrease in expenditures on average after the transition to community-based LTSS and positive values indicate an increase in expenditures. All expenditures are in per beneficiary per month, comparing 180 days pre to 365 days. Only persons with sufficient data are included. N/A indicates fewer than 10 MFP participants in the sample for the targeted population in the state.

ID/DD = individuals with intellectual or developmental disabilities.

## H. Comparison group selection

The key methodological challenge in estimating the effects of MFP participation on expenditures is approximating the counterfactual—the outcomes that would have happened in the absence of MFP. Those who transition outside of the MFP demonstration are a non-random, select group of transitioners that are most likely different from other Medicaid beneficiaries who transition from institutional care to community-based LTSS.

To find a group of transitioners that resemble the sample of MFP participants, we used 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. The propensity score is estimated from a hierarchical logistic regression model fitted to our analytic sample that includes both MFP participants and other transitioners. The dependent variable is MFP participation, and the independent variables (Table F.3) include factors that are hypothesized to be related to participation in the MFP demonstration. Because MFP is a state-run program and program characteristics differ across states, we conducted the matching separately within each state (exact matching by state).

After our initial attempt at matching, we observed large differences in baseline (pre-MFP) expenditures, both medical expenditures and long-term care expenditures. This observation was due to unobserved differences between MFP and comparison groups that our propensity score model could not take into account. To ensure that these key participant characteristics were well-balanced between groups, we modified our matching procedure and implemented Mahalanobis matching with propensity score calipers (Rubin and Thomas, 2000; Stuart, 2010). This procedure was developed to provide good balance on all variables included in the propensity score model, with the strongest focus on achieving balance on certain key prognostic covariates, namely medical and long-term care expenditures in the pre-period. Under this procedure, the pool of potential controls for each participant is limited to those whose propensity score is within a certain fixed range (caliper) from the target participant. Among the potential controls in this pool, the Mahalanobis distance (a measure of similarity based on particular balancing variables) is calculated between the MFP participant and each potential control based on the pre-period expenditure variables, and the control with the lowest Mahalanobis distance is selected as the match.

We summarize our procedure for selecting individuals into the counterfactual, or control group, in three steps:<sup>76</sup>

1. **Estimate the propensity score and define the caliper.** For the main analysis, we used hierarchical logistic regression to model the probability of transitioning from an institution to the community by enrolling in the MFP demonstration. We fit separate models for each target population, but combined all states in a single model to “borrow strength” across states in estimating the relationship between each covariate and MFP participation. A random intercept was included for each state, to control for unobserved state-specific factors affecting MFP participation rates. For the analysis of those people

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<sup>76</sup> The propensity score estimation, matching, and testing algorithms were implemented using the lme4, optmatch, and RItools packages of R version 3.2.5.



with mental health conditions, we repeated the estimation but restricted it to those identified as having a mental health condition prior to their transition to the community. We set the propensity score caliper is set to be 0.2 units wide for the log odds of MFP participation. This means that, for each MFP participant, the pool of potential controls will be limited to those who have a propensity score (on the log odds scale) within 0.2 of the participant.

2. **Calculate Mahalanobis distances.** The Mahalanobis distance is based on pre-period medical expenditures and pre-period long-term care expenditures. For each MFP participant, the Mahalanobis distance is calculated for each potential control. Potential controls are other transitioners from the same state and target population, whose propensity score falls within the caliper defined above.
3. **Select the single nearest neighbor (with replacement) for each participant.** For each participant, we select the potential comparison group member with the lowest Mahalanobis distance to serve as his or her counterfactual. To minimize potential bias in our estimates, the matching process is conducted with replacement, so potential comparison group members can be the counterfactual for more than one participant. If potential comparison group members are selected more than once, that person received an additional weight in the final matched analysis. We also imposed the common support restriction, which excluded MFP participants with a propensity score either lower than the minimum score of other transitioners or higher than the maximum score. In our main analysis this led to the exclusion of 5 older adults, 23 younger adults with physical disabilities, and 3 participants with intellectual disabilities.

After performing the above matching procedure, we observed that some comparison group members were matched to many MFP participants, in some instances over ten times. This observation provides evidence that MFP participants are sufficiently different from the comparison group population and the model at times could not find a good comparison. Therefore, we excluded any potential comparison group member who was matched more than ten times, as well as all MFP participants matched to these potential controls. This process resulted in the exclusion of 11 older adult MFP participants, 944 younger adults with physical disabilities, and 825 participants with intellectual disabilities.

We conducted the matching procedure twice: once for the entire target population, and again for the subgroup of individuals with mental health conditions.

**Table F.3. Independent variables included in the propensity score estimation**

Variable name
All targeted populations
Age at time of transition
Non-white
Gender
Months of institutional LTSS pre-transition
Community LTSS use pre-transition
ED visit not resulting in an inpatient admission in the year prior to transition
ED visit resulting in an inpatient admission in the year prior to transition
Targeted populations transitioning from nursing homes
Number of conditions identified in the year prior to transition (CDPS) <sup>b</sup> , broken out by quartile
Mental health condition identified prior to transition <sup>a</sup>
Low NF-MDS level of care <sup>a,c</sup>
NF-MDS ADL summary score (0-28) <sup>a</sup>
0-5
6-13
14-19
20-28
Age greater than 65 <sup>a</sup>
Rural zip code
Medicare-Medicaid eligible at the time of transition
Interaction between age greater than 65 and Medicare-Medicaid eligibility <sup>a</sup>

Note: NF-MDS Variables only included for people transitioning from nursing facilities. 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.

<sup>a</sup> Only included in the analysis of persons transitioning from nursing homes.

<sup>b</sup> 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).

<sup>c</sup> See Ross et al. 2012 for details on the construction of the level of care indicators.

ADL = activities of daily living; CDPS = Chronic Disability and Payment System; ED = emergency department; LTSS = long-term services and supports; NF-MDS = nursing facility minimum data set.

## I. Assessment of the quality of the match

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 within each stratum—that is, for each participant, there must be a matched comparison group member(s) similar to the participant on observed characteristics (Rosenbaum and Rubin 1985). To determine whether the latter condition was met, we performed several statistical tests to assess the quality of our matches.

Following Stuart (2010), we examined differences in means and standardized bias<sup>77</sup> of the variables used in the matching process. Results are summarized as Love plots (Appendix Table

<sup>77</sup> 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]).

F.4), which indicate the standardized bias of each covariate before and after matching. Rubin (2001) recommends ensuring that the standardized bias for all covariates is less than 0.25. We found the covariate balance in the matched dataset met this criteria for all variables in each of the three target populations. In most cases the standardized bias was less than a stricter cut off of 0.10. These results indicate that our procedure produces matched comparison groups with transitioners that look similar to MFP participants for each of the covariates included in the model.

Although matching improved the covariate balance, some small differences remained between the MFP participants and other transitioners. These differences motivated the further adjustment of the propensity scores and covariates in the final regression models.

**Table F.4. Means and P-values for variables included in the propensity score estimation: Primary analysis**

Characteristic		Older adults		Persons with physical disabilities		Persons with ID/DD	
		MFP	Other transitioners	MFP	Other transitioners	MFP	Other transitioners
Age	Unmatched	76	77	52	52	45	43
	Matched	76	76	52	51	45	44
Non-white	Unmatched	64%	70%	47%	52%	38%	41%
	Matched	64%	66%	48%	47%	39%	38%
Female	Unmatched	31%	42%	39%	44%	31%	28%
	Matched	31%	32%	38%	37%	30%	31%
Community LTSS use pre-transition	Unmatched	23%	33%	13%	29%	9%	25%
	Matched	23%	23%	15%	17%	11%	11%
6+ months of Institutional LTSS pre-transition	Unmatched	83%	66%	89%	72%	97%	88%
	Matched	83%	83%	88%	88%	96%	97%
ED visit not resulting in an inpatient admission in the year prior to transition	Unmatched	56%	57%	61%	68%	35%	45%
	Matched	56%	56%	62%	62%	37%	32%
ED visit following an inpatient admission in the year prior to transition	Unmatched	22%	32%	27%	37%	7%	13%
	Matched	22%	23%	28%	29%	8%	6%
Mental health condition prior to transition	Unmatched	70%	46%	70%	61%	46%	44%
	Matched	69%	65%	70%	69%	48%	41%
Categories of medical conditions in the year prior to transition (CDPS)							
Category 1	Unmatched	17%	17%	19%	18%	17%	18%
	Matched	17%	19%	18%	20%	18%	17%
Category 2	Unmatched	27%	26%	23%	23%	13%	16%
	Matched	26%	27%	23%	24%	15%	12%
Category 3	Unmatched	27%	26%	19%	21%	8%	11%
	Matched	27%	26%	20%	18%	9%	6%
Category 4	Unmatched	17%	16%	14%	12%	4%	8%
	Matched	17%	16%	14%	12%	4%	3%
Rural zipcode	Unmatched	27%	22%	21%	21%	28%	23%
	Matched	27%	27%	22%	23%	26%	28%
Medicare-Medicaid enrollment at time of transition	Unmatched	96%	95%	47%	45%	59%	61%
	Matched	96%	96%	52%	43%	63%	55%
NF-MDS ADL summary score: 6-13	Unmatched	28%	27%	25%	24%	NA	NA
	Matched	28%	28%	25%	25%	NA	NA

Table F.4 (continued)

Characteristic		Older adults		Persons with physical disabilities		Persons with ID/DD	
		MFP	Other transitioners	MFP	Other transitioners	MFP	Other transitioners
NF-MDS ADL summary score: 14-19	Unmatched	25%	26%	19%	21%	NA	NA
	Matched	26%	25%	20%	20%	NA	NA
NF-MDS ADL summary score: 20-28	Unmatched	18%	19%	17%	19%	NA	NA
	Matched	18%	16%	18%	17%	NA	NA
NF-MDS Low Level of Care	Unmatched	2%	11%	3%	10%	NA	NA
	Matched	2%	1%	3%	2%	NA	NA

Source: Mathematica analysis of MFP participants and other transitioners from 32 state grantees from 2008 through 2013.

Note: Reference categories for the categorical variables included in the model are: NF-MDS Level of Care: Low and NF-MDS ADL Summary Score: 0-5.

## **J. Post-matching regression adjustments**

After identifying our matched comparison group of transitioners, we estimated a series of regression models to the matched data. Each model adjusted for the propensity score, as well as all covariates that were included in the propensity score model, to control for any differences in these variables that persisted after matching. For example, we also controlled for transition year in the regression model to adjust for temporal changes over time, which was not included in the propensity score model because data availability and MFP participation changes over time. Including the variables from the propensity score model in the post-matching regression models accounts for their relationships with these two additional variables, as well as to improving the precision of our final estimates.

Regression models for cost outcomes were specified as hierarchical linear models in a difference-in-differences framework. Each model included data from both the pre-MFP period and the post-period. Random intercepts were included at the state level to control for clustering within each state, as Medicaid and MFP programs have state-specific differences that likely affect outcomes. In the difference-in-difference framework, we include an indicator for MFP participation, an indicator for the post period, and their interaction. The coefficient for the interaction term is the treatment effect of interest, interpreted as the expected difference in the pre/post change in outcome comparing the MFP group to the comparison group of other transitioners, holding all control variables constant.

For binary utilization and quality of care outcomes, we use a simple logistic regression. For these outcomes, we are not interested in the change in the outcome, but rather the use of these services. These models included an indicator for MFP participation but no indicators for the post-period or their interaction. The coefficient for MFP participation is the treatment effect of interest, interpreted as the log odds ratio of the outcome comparing MFP to other transitioners in the post-period, holding all control variables constant.

## **K. Study limitations**

This study has several important limitations, many of which have been previously discussed in great detail (Bohl et al. 2014). The most important limitation has been the availability of data. This study excluded between 25 and 48 percent of MFP participants because of issues with missing data or incomplete claims history. A few beneficiaries residing in nursing homes were excluded because of missing or incomplete NF-MDS data, nursing home assessment data. Another small number, mainly in New York, were excluded because of puzzling utilization patterns that we thought could be a data anomaly. We also continued to exclude beneficiaries in managed care because their claims information does not have the same level of detail as fee-for-service claims. Use of hospice services and mortality limited the analysis to those who survived at least a full year after the initial transition. These exclusions are likely to influence our results, but the direction of that influence is not clear.

There are also important limitations to our cost savings estimates. A more robust experimental design would identify a comparison for each MFP participant who would represent costs if the participant (1) remained in the institution or (2) transitioned outside of the program. We could not estimate this counterfactual because the MFP demonstration design (state-level

implementation, changes in eligibility criteria, and phased rollout) coincided with major confounding contextual factors including the great recession, the growth of managed care, changes to waiver programs, and the closing of facilities.

The main limitation of the pre-post approach is the possibility that we over-state savings per person, but there are many other factors. MFP can save costs by (1) increasing the transition rate, (2) changing the types of people who transition, or (3) lowering costs through reduced reinstitutionalization, shorter institutional stays when they occur, or lower medical expenditures. MFP may have also increased access to community-LTSS, allowing persons outside the program to transition. In addition, MFP might have a longer-term effect on costs beyond the first year post-transition.

Our analyses shed light on whether MFP may have achieved savings through these mechanisms. In chapter II, we find that the transition rate increased for two target populations. Given the differences in the MFP population relative to other transitioners, and difficulties of matching MFP participants to others who transition without the support of the program, it is possible that MFP transitioned different types of persons than who transitioned on their own. Data presented in chapter V lead us to hypothesize that MFP was more likely to transition people from state-run institutions, long-term residents of institutions, and persons without established community-based support systems. It is unlikely that MFP generated savings through reduced reinstitutionalization or medical care, because the analysis in chapter V indicates that the total cost of MFP transitioners is higher than for a matched group of other transitioners. Our analyses did not generate any hypotheses on spillover effects, but we do see lower costs two-years after transition for some MFP target populations; however, these results are uncertain because of limited Medicaid data availability in this sample.

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## **APPENDIX G**

### **DATA, ANALYTIC SAMPLES, AND LIMITATIONS FOR ANALYSES OF PARTICIPANTS' QUALITY OF LIFE**

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## A. Quality-of-life survey

Since the beginning of the MFP demonstration, grantee states have been administering the MFP QoL survey to their participants at three points: (1) immediately before transitioning to the community; (2) one year after transitioning; and (3) two years after transitioning, when participation in MFP has ended and they are regular Medicaid beneficiaries. The instrument is based largely on the Participant Experience Survey, though a few items are drawn from other instruments (Sloan and Irvin 2007). The QoL instrument captures three areas of participant quality of life: (1) overall life satisfaction, (2) quality of care, and (3) community life. Past research has used these survey data to examine different aspects of participants' quality-of-life outcomes after they relocate to the community.<sup>78</sup>

## B. Data

The primary data source for the analyses presented in this chapter includes QoL survey data submitted by grantees through May 2016. When constructing the sample used in the analyses, we restricted it to include only completed surveys that matched to MFP administrative and program participation data submitted by grantees through May 2016. Overall, data for 42 states, of the 45 that have operated an MFP demonstration at some point in the past, are included in the analyses of participants' quality-of-life outcomes presented in this report.<sup>79</sup> Data for six states (California, Connecticut, Ohio, New York, Texas, and Washington) comprise more than half of all participants included in the main analytic sample. When constructing the samples, we imposed the following restrictions: (1) participants must have completed a survey prior to transitioning (baseline) and one year after transitioning, (2) the completed one-year follow-up survey must have been conducted within 6–18 months of transitioning, and (3) the completed two-year follow-up survey must have been conducted within 18–30 months after transitioning from a qualified institution.

To examine the clinical diagnoses and the cognitive and functional status of participants prior to transition, we used nursing facility Minimum Data Set (NF-MDS) assessment data for the subset of participants who transitioned from nursing homes after stays of 90 or more days. About 38 percent of the full sample, that is, those participants with a completed QoL survey at any time point that could be matched to administrative records, transitioned from a nursing home, and had an NF-MDS assessment that was used to assess their health status. We captured data for the variables of interest on the last NF-MDS assessment completed with the participant 12 months prior to transition. When identifying the last NF-MDS assessment completed prior to transition, in cases where the participant has both a version 2.0 and a version 3.0 completed NF-MDS assessment, we selected the variables from the version 3.0 assessment, with one exception:

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<sup>78</sup> Simon and Hodges (2011) addressed details concerning grantee responsibility for the survey and the timing of its administration relative to participant transition. Irvin et al. (2012) examined the relationship between the level of care needs and the change in quality of life, as well as work status and its association with the quality of life one year after returning to community living. Irvin et al. (2013) further explored these findings two years after participants returned to the community, one year after leaving MFP. In the most recent research, Irvin et al. (2015) examined associations between unmet care needs and adverse care outcomes and use of health care services one-year post-transition. This work also examined associations between community integration and depressive symptoms, and community integration and reinstitutionalizations in the first year post-transition.

<sup>79</sup> The three state grantees not included in the analyses are Minnesota, South Dakota, and West Virginia.

if the version 3.0 NF-MDS assessment was missing the active diagnoses variables but the version 2.0 active diagnoses variable was non-missing, we selected the version 2.0 NF-MDS assessment active diagnoses variables but selected all other NF-MDS variables from the version 3.0 completed NF-MDS assessment.

### **C. Analytic samples**

The analyses presented in this chapter rely on four analytic samples (Table G.1). The first consists of 13,795 MFP participants who had both a completed baseline and one-year post-transition QoL survey, and both surveys could be matched to the administrative data grantees submitted to CMS through May 2016. This sample represents 26 percent of the 52,852 participants who transitioned through March 2015 and was used to assess the change in quality of life one year after someone transitions to community living. The second sample was used to examine changes in QoL survey outcomes one and two years after MFP participants left the demonstration and became regular Medicaid beneficiaries. This sample consisted of 6,688 MFP participants with a completed QoL survey at all three time points that could be matched to the same administrative data. The sample represents 17 percent of the 40,502 participants who transitioned through March 2014, the last full quarter someone in this sample transitioned. We constructed a third sample to examine the association between the care needs and functional and cognitive status of those participants who transitioned from a nursing home and completed a QoL survey one year after transition to the community. This analytic sample is restricted to 11,177 participants with a completed QoL survey at baseline (pre-transition) and one year post-transition matched to NF-MDS data through 2015. This sample represents 22 percent of the 49,838 participants who transitioned through December 2015, the last month someone in this sample transitioned.

Table G.1 reports the size of each analytic sample and the number of cases excluded at each stage of construction. A total of 31,756 participants had a completed pre-transition QoL survey (which represents 60 percent of the 52,852 people who transitioned by the end of March 2015) that matched to administrative records. Of these, 13,795 participants had completed a survey at pre-transition and one year post-transition within the designated time frame<sup>80</sup>; 11,177 of these surveys could be matched NF-MDS assessment data. A total of 6,688 MFP participants completed all three surveys within the designated time frames.<sup>81</sup>

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<sup>80</sup> This sample includes participants with a year one QoL survey completed within 6–18 months of transition; 18,978 participants had a pre-transition survey and year one survey but were excluded because the year one survey was completed outside the designated range.

<sup>81</sup> This analytic sample includes participants with a year two QoL survey completed within 18–30 months of transition; 26,554 participants had a pre-transition, year one, and year two survey but were excluded because the year one or the year two survey was completed outside the designated range.

**Table G.1. Analytic sample construction**

Number of records	Description
31,756	Participants with pre-transition survey only
13,795 <sup>a</sup>	Participants with pre-transition survey + year one survey conducted in designated time frame <sup>a</sup>
6,688 <sup>b</sup>	Participants with pre-transition survey + year one survey + year two survey, all surveys conducted in designated time frames <sup>a</sup>
11,177 <sup>a</sup>	Participants with pre-transition survey + year one survey conducted in designated time frame <sup>c</sup> and matched to NF-MDS assessment data through calendar year 2014

Source: Mathematica's analysis of MFP QoL surveys and program participation data submitted to CMS through May 2016.

Notes: Includes MFP QoL surveys that could be matched with administrative data to confirm MFP participation. Surveys with incomplete or missing identifiers could not be matched with administrative data and were not included in this analysis.

<sup>a</sup>Excludes data from Minnesota, South Dakota, and West Virginia.

<sup>b</sup>Excludes data from Alabama, Colorado, Delaware, Indiana, Minnesota, Montana, South Dakota, and West Virginia.

<sup>c</sup>Year one surveys conducted within 6–18 months of transition to the community; year two surveys conducted within 18–30 months of transition to the community.

A considerable proportion of MFP participants are excluded from the analyses because (1) the QoL surveys were not conducted; or (2) the QoL surveys were conducted, but they could not be matched to the administrative data. Therefore, it is not clear that these data can be used to generalize the results to the entire MFP population. Table G.2 presents information that identifies key characteristics of our samples and how they compare to the overall population of MFP participants. We compare the first sample of participants with completed baseline and year one follow-up surveys to the population of MFP participants who transitioned through March 2015, which represents the last possible transition date in the sample. We compare the sample of participants who completed all three QoL surveys to all MFP participants who transitioned through calendar year March 2014, the last possible transition date in the sample. Based on how these samples are distributed across the targeted populations and age groups, the study samples are reasonably close to the overall populations. The study samples over-represent black and white participants, those with physical disabilities, and those between 45 and 64 years old. The samples also appear to under-represent participants with psychiatric conditions, participants with an intellectual or developmental disability, and the youngest age group, participants younger than 21 years, which is by design. The QoL survey was not designed specifically for children, and grantees are not required to administer the QoL survey when the participant is a child.

**Table G.2. Demographic characteristics of analytic samples, by survey status**

Characteristics	Participants with pre-transition and one-year post-transition surveys <sup>a</sup>	All MFP participants who transitioned through March 2015	Participants with pre-transition, one-year, and two-year post-transition surveys <sup>b</sup>	All MFP participants who transitioned through March 2014
Total (N)	13,794	52,852	6,688	40,502
<b>Target population (%)</b>				
Older adults	30.0	30.7	27.3	30.0
Physical disabilities	42.1	39.6	42.9	40.2
Intellectual disabilities	12.8	14.2	16.2	15.3
Psychiatric conditions	0.6	1.1	0.4	0.8
Other/unknown	14.5	14.4	13.2	13.8
<b>Race/ethnicity (%)</b>				
White	51.9	36.7	62.9	44.7
Black or African American	14.2	11.0	17.3	13.3
Asian	1.0	0.6	1.2	0.8
Hispanic or Latino	2.2	1.2	2.6	1.6
American Indian or Alaska Native	0.6	0.3	0.9	0.4
Other/unknown	1.0	0.7	1.1	0.8
Missing	29.0	49.5	14.0	38.5
<b>Age group<sup>c</sup> (%)</b>				
< 21	1.7	4.8	2.0	4.4
21–44	15.9	14.4	16.8	15.1
45–64	46.6	44.0	48.2	44.3
65–84	29.1	29.8	27.0	29.1
≥ 85	6.7	7.1	6.0	7.1
<b>Gender (%)</b>				
Female	50.5	50.4	50.9	50.4
Male	49.5	49.6	49.1	49.6

Source: Mathematica's analysis of MFP QoL surveys and program participation data submitted to CMS through May 2016.

<sup>a</sup>This sample includes participants who transitioned to the community sometime between 2008 and 2015. Data from Minnesota, South Dakota, and West Virginia were excluded because they could not be matched to administrative data or did not submit completed QoL survey data.

<sup>b</sup>This sample includes participants who transitioned to the community between 2008 and 2014. Data from Alabama, Colorado, Delaware, Indiana, Minnesota, Montana, South Dakota, and West Virginia were excluded from the sample of participants with pre-transition, one-year, and two-year post-transition surveys because (1) they could not be matched to administrative data, (2) they did not submit completed QoL survey data, or (3) their year two surveys were not completed within 18 to 30 months of transitioning to the community.

<sup>c</sup>The first two age group categories are slightly different between the QoL survey data and the program participation data; QoL survey data are categorized as < 21 and 21–44 years, and program participation data are categorized as ≤ 21 and 22–24 years. This table presents data using the QoL survey categories.

## D. Limitations

Several limitations of our analyses warrant consideration when interpreting the findings presented in Chapter VI. First, the findings should be viewed with caution, because our analytic sample represents between 16 and 51 percent (depending on the sample used in the analysis) of all 19,728 people who had transitioned by the end of 2011, when the last cohort of participants in our sample completed their pre-transition (baseline) QoL survey. Compared to all people who had transitioned through the MFP demonstration by the end of 2011, the current analytic sample is disproportionately young, and the experiences of older adults appear to be under-represented.

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 may emphasize reports of satisfaction or conflate feelings of satisfaction with their living arrangement with feelings about the demonstration or services in general. Although there is no evidence that this occurred, it cannot be ruled out as a potential bias in the data.

Third, we have not controlled for unmeasured program- and individual-level factors likely to affect a participant's reported quality of life and changes to it. Unmeasured factors include participants' health status, pre-transition conditions, community-level factors (such as access to public transportation and proximity to medical care settings, providers, and unpaid caregivers), program maturation, and state policy and economic climates. These unmeasured factors might affect our analyses of participants' quality of life and bias the results.

Fourth, the results of the analyses of unmet need for personal assistance services (Chapter VI, Section E) should be interpreted with additional caution. People with unmet needs for personal assistance may be more vulnerable to declining health and less likely to complete a QoL survey. Therefore, our results may underestimate the level of unmet need for personal assistance among MFP participants living in the community and the relationship between this type of unmet need and poor health outcomes.

Finally, because the 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. At pre-transition, proxy respondents and survey assisters provided information on QoL for 8 and 21 percent, respectively, of all participants.<sup>82</sup> The proportion of respondents using a proxy or survey assister decreased to 7 and 15 percent, respectively, at one year post-transition and 5 and 9 percent at two years post-transition. At all three time points, the use of proxies or survey assisters varied widely by target population and the sample used in the analysis. Among people participating in all three survey rounds, rates of proxy use were substantially higher among those with intellectual disabilities, where proxies completed 21 and 16 percent of all interviews for this targeted population at one and two years post-transition, respectively. Proxy use was considerably lower among nursing home residents (7 percent of those under 65 and 4 percent of those 65 or older) at pre-transition and one year follow-up. Rates of survey assistance followed the same pattern as proxy use: highest among those with intellectual disabilities (55 percent) and lower among nursing home residents (8 percent of those under 65 and 13 percent of those 65 or older) at one year post-transition and then decreasing to 5 and 7 percent, respectively, at two years post-transition. 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 of proxy responses on our findings.

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<sup>82</sup> 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 and may serve as a proxy respondent for some questions.

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**APPENDIX H**

**QUALITY-OF-LIFE SURVEY OUTCOMES BY TIME PERIOD,  
TARGET POPULATION, AND STATE**

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**Table H.1. Quality-of-life outcomes by time period, target population, and state: Domains of overall life satisfaction, mood status, satisfaction with care, and any unmet need for personal assistance services**

State	Overall life satisfaction <sup>a</sup>			Mood status <sup>b</sup>			Satisfaction with care <sup>c</sup>			Any unmet need for personal assistance services <sup>d</sup>		
	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post
ALL STATES (N)	8,265	10,234	5,096	5,887	4,855	2,243	9,998	11,366	5,641	2,136	833	347
Older adults (%)	65.2	81.3	79.6	45.1	39.2	38.6	80.5	91.2	89.3	19.0	8.4	7.3
People with PD (%)	61.4	81.1	81.3	50.5	41.9	40.1	76.4	89.9	90.2	21.7	10.1	8.2
People with ID (%)	88.6	94.0	94.9	27.6	24.8	22.8	91.9	95.7	96.9	2.6	1.6	0.6
People with MI (%)	68.4	74.4	64.5	46.3	51.2	43.3	77.8	81.5	86.2	20.0	18.5	0.0
Other (%)	65.2	89.4	83.8	45.8	35.6	34.2	77.1	94.4	90.2	15.5	2.7	2.9
Unknown (%)	64.1	81.8	84.6	50.5	41.1	38.8	76.5	91.2	90.7	22.3	5.9	7.7
Excluded participants <sup>e</sup>												
No match (N)	955	1,082	256	631	455	94	1,125	1,200	277	246	94	17
Out of range (N)	1,028	519	265	883	305	142	1,287	571	291	313	63	22
ALABAMA (N)	-	-	-	-	-	-	-	-	-	-	-	-
All participants (%)	100.0	100.0	-	0.0	0.0	-	100.0	100.0	-	0.0	0.0	-
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
ARKANSAS (N)	-	-	-	-	-	-	-	-	-	-	-	-
All participants (%)	40.0	100.0	100.0	75.0	80.0	0.0	75.0	100.0	100.0	25.0	25.0	0.0
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
CALIFORNIA (N)	391	564	198	363	275	84	493	618	213	111	39	-
All participants (%)	60.7	83.9	86.1	54.6	40.1	37.0	75.8	91.4	91.4	17.0	6.4	4.8
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	35	14	-	36	-	-	41	13	-	14	-	-
COLORADO (N)	-	-	-	-	-	-	-	-	-	-	-	-
All participants (%)	37.5	77.8	-	77.8	44.4	-	55.6	88.9	-	62.5	16.7	-
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
CONNECTICUT (N)	1,101	1,398	911	799	718	485	1,343	1,582	1,046	305	137	90
All participants (%)	62.6	79.3	78.1	44.8	39.9	40.8	77.0	90.0	90.1	19.9	9.1	9.1
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	14	25	23	23	16	18	27	28	25	-	-	-

Table H.1 (continued)

State	Overall life satisfaction <sup>a</sup>			Mood status <sup>b</sup>			Satisfaction with care <sup>c</sup>			Any unmet need for personal assistance services <sup>d</sup>		
	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post
DIST. OF COLUMBIA (N)	70	86	64	19	19	-	72	85	63	-	-	-
All participants (%)	85.4	97.7	95.5	24.4	21.1	13.8	88.9	95.5	98.4	8.8	3.4	0.0
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
DELAWARE (N)	-	-	-	-	-	-	-	-	-	-	-	-
All participants (%)	100.0	50.0	-	-	50.0	-	0.0	14.3	20.0	-	0.0	-
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	19	-	-	14	-	-	17	16	-	-	-	-
GEORGIA (N)	367	400	238	156	161	47	414	427	254	49	40	-
All participants (%)	76.9	88.5	93.0	32.4	33.2	18.9	87.2	90.3	96.2	10.3	8.4	2.7
Excluded participants												
No match (N)	-	-	-	11	-	-	-	14	-	-	-	-
Out of range (N)	50	-	-	33	-	-	58	13	-	-	-	-
HAWAII (N)	73	91	48	45	43	16	92	106	51	19	-	-
All participants (%)	68.9	80.5	90.6	39.5	39.1	30.8	82.1	92.2	94.4	15.6	5.9	5.8
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	18	-	-	14	-	-	22	-	-	-	-	-
IOWA (N)	160	160	123	65	62	43	171	169	127	-	-	-
All participants (%)	84.2	88.4	89.8	35.7	35.2	31.6	89.1	93.9	94.1	6.8	5.4	2.9
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	21	17	13	-	-	-	23	20	15	-	-	-
IDAHO (N)	40	62	19	37	38	-	55	69	19	20	-	-
All participants (%)	54.8	82.7	95.0	50.0	52.8	27.8	71.4	92.0	95.0	27.4	13.0	0.0
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	15	-	-	-	-	-
ILLINOIS (N)	410	619	409	250	193	74	471	625	408	63	-	-
All participants (%)	66.7	92.5	96.5	39.6	29.0	18.4	77.2	93.1	96.0	16.2	2.4	0.
Excluded participants												
No match (N)	68	94	20	39	31	12	72	96	19	11	3	0
Out of range (N)	-	11	-	-	-	-	11	-	-	-	-	-
INDIANA (N)	-	-	-	-	-	-	-	-	-	-	-	-
All participants (%)	0.0	100.0	-	100.0	66.7	-	50.0	100.0	-	0.0	0.0	-
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-

H4

Table H.1 (continued)

State	Overall life satisfaction <sup>a</sup>			Mood status <sup>b</sup>			Satisfaction with care <sup>c</sup>			Any unmet need for personal assistance services <sup>d</sup>		
	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
KANSAS (N)	81	99	-	58	48	-	85	111	11	40	-	-
All participants (%)	68.6	84.6	90.9	50.4	40.3	20.0	75.9	94.1	100.0	34.5	5.2	0.0
Excluded participants												
No match (N)	62	68	32	29	25	-	64	75	32	12	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
KENTUCKY (N)	140	220	91	79	50	29	160	231	98	41	-	-
All participants (%)	69.3	90.2	88.3	39.9	20.4	29.9	77.3	94.3	94.2	17.3	3.0	4.7
Excluded participants												
No match (N)	18	15	-	-	-	-	26	17	-	13	-	-
Out of range (N)	123	31	46	107	-	11	167	31	49	62	-	-
LOUISIANA (N)	32	36	25	-	-	-	35	36	24	-	-	-
All participants (%)	84.2	92.3	100.0	21.1	22.0	24.0	85.4	90.0	96.0	5.3	0.0	0.0
Excluded participants												
No match (N)	63	62	18	27	19	-	63	68	19	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
MASSACHUSETTS (N)	49	62	-	34	22	-	63	79	-	17	-	-
All participants (%)	63.6	84.9	40.0	40.5	26.2	60.0	80.8	95.2	50.0	23.6	2.8	0.0
Excluded participants												
No match (N)	-	-	-	-	-	-	-	12	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
MARYLAND (N)	33	45	-	23	26	-	37	45	-	-	-	-
All participants (%)	68.8	91.8	100.0	47.9	53.1	33.3	75.5	90.0	100.0	19.4	4.4	0.0
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
MAINE (N)	-	-	-	-	-	-	-	-	-	-	-	-
All participants (%)	27.3	69.2	100.0	61.5	53.8	50.0	38.5	83.3	100.0	38.5	23.1	50.0
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
MICHIGAN (N)	199	172	16	175	90	12	245	199	17	61	27	-
All participants (%)	63.4	85.6	84.2	51.5	42.5	63.2	75.6	94.8	94.4	18.0	13.8	29.4
Excluded participants												
No match (N)	167	187	14	116	92	-	199	217	15	40	24	-
Out of range (N)	110	54	-	116	33	-	150	57	-	36	-	-
MINNESOTA (N)	-	-	-	-	-	-	-	-	-	-	-	-
All participants (%)	-	-	-	-	-	-	-	-	-	-	-	-
Excluded participants	-	-	-	-	-	-	-	-	-	-	-	-

Table H.1 (continued)

State	Overall life satisfaction <sup>a</sup>			Mood status <sup>b</sup>			Satisfaction with care <sup>c</sup>			Any unmet need for personal assistance services <sup>d</sup>		
	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
MISSOURI (N)	268	340	189	166	157	93	316	348	205	63	18	-
All participants (%)	68.4	87.0	85.1	41.3	39.5	41.7	80.0	90.4	91.5	20.1	5.9	2.7
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	35	10	-	23	8	-	46	-	-	-	-	-
MISSISSIPPI (N)	137	178	83	87	63	26	157	181	84	16	-	-
All participants (%)	69.5	92.2	89.2	44.6	33.0	28.3	80.1	93.8	90.3	9.1	1.1	0.0
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
MONTANA (N)	-	-	-	-	-	-	-	-	-	-	-	-
All participants (%)	1.0	1.0	-	1.0	1.0	-	1.0	1.0	-	0.0	0.0	-
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
NORTH CAROLINA (N)	53	66	17	37	36	-	60	75	20	-	-	-
All participants (%)	75.7	89.2	85.0	48.7	48.0	19.0	84.5	94.9	90.9	8.8	4.0	0.0
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
NORTH DAKOTA (N)	43	52	27	30	18	13	52	56	25	-	-	-
All participants (%)	72.9	83.9	93.1	49.2	28.6	44.8	83.9	91.8	89.3	14.6	2.6	5.3
Excluded participants												
No match (N)	18	16	12	-	-	-	20	18	12	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
NEBRASKA (N)	189	199	139	128	64	41	216	208	140	42	-	-
All participants (%)	68.0	92.6	91.4	46.7	30.0	29.1	77.1	95.4	92.7	15.4	5.1	6.4
Excluded participants												
No match (N)	18	21	12	16	-	-	19	24	12	-	-	-
Out of range (N)	-	-	-	-	-	-	12	-	-	-	-	-
NEW HAMPSHIRE (N)	31	47	11	19	29	-	46	49	12	-	-	-
All participants (%)	60.8	90.4	91.7	37.3	56.9	63.6	90.2	94.2	100.0	16.3	4.4	0.0
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
NEW JERSEY (N)	321	368	284	147	135	101	367	395	309	51	12	-
All participants (%)	76.8	86.8	84.8	34.4	31.3	29.4	86.8	91.6	89.6	12.3	2.8	2.4

Table H.1 (continued)

State	Overall life satisfaction <sup>a</sup>			Mood status <sup>b</sup>			Satisfaction with care <sup>c</sup>			Any unmet need for personal assistance services <sup>d</sup>		
	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post
Excluded participants												
No match (N)	172	196	53	95	57	21	218	212	59	53	14	-
Out of range (N)	31	20	15	23	-	-	41	20	16	-	-	-
NEVADA (N)	26	47	-	35	23	-	43	54	-	15	-	-
All participants (%)	42.6	83.9	100.0	59.3	40.4	0.0	72.9	93.1	100.0	24.2	11.3	0.0
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
NEW YORK (N)	413	691	303	371	302	137	518	744	338	92	27	-
All participants (%)	60.9	87.4	84.6	50.9	37.6	37.8	75.6	93.9	91.4	17.0	4.2	3.2
Excluded participants												
No match (N)	18	18	-	14	11	-	20	20	-	-	-	-
Out of range (N)	150	-	30	158	-	15	205	-	33	51	-	-
OHIO (N)	631	740	258	439	415	133	740	796	284	118	69	22
All participants (%)	68.7	81.2	79.4	47.4	44.8	40.4	80.9	88.2	88.8	14.8	11.8	9.1
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	15	-	-	-	-	-	14	-	-	-	-	-
OKLAHOMA (N)	165	189	73	56	51	22	177	194	73	-	-	-
All participants (%)	87.3	92.2	94.8	28.7	25.1	28.6	91.2	95.6	96.1	3.3	0.5	1.4
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	41	48	-	32	19	-	50	49	14	12	-	-
OREGON (N)	129	135	58	136	51	21	156	158	61	72	11	-
All participants (%)	57.6	89.4	86.6	57.9	33.6	31.8	69.0	99.4	91.0	29.0	6.7	4.3
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
PENNSYLVANIA (N)	67	89	36	48	35	22	72	97	36	14	-	-
All participants (%)	65.0	85.6	58.1	47.1	33.7	55.0	72.0	91.5	54.5	16.9	7.3	3.1
Excluded participants												
No match (N)	13	17	-	12	-	-	19	19	-	-	-	-
Out of range (N)	99	66	30	90	72	27	107	64	27	16	-	-
RHODE ISLAND (N)	40	45	13	22	23	-	45	49	15	-	-	-
All participants (%)	78.4	84.9	86.7	42.3	41.8	60.0	86.5	96.1	100.0	12.5	9.8	0.0
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-

Table H.1 (continued)

State	Overall life satisfaction <sup>a</sup>			Mood status <sup>b</sup>			Satisfaction with care <sup>c</sup>			Any unmet need for personal assistance services <sup>d</sup>		
	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post
SOUTH CAROLINA (N)	11	15	-	-	-	-	14	18	-	-	-	-
All participants (%)	61.1	83.3	66.7	42.1	36.8	33.3	73.7	100.0	100.0	16.7	0.0	33.3
Excluded participants												
No match (N)	-	-	-	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
SOUTH DAKOTA (N)	.	.	.	.	.	.	.	.	.	.	.	.
All participants (%)	.	.	.	.	.	.	.	.	.	.	.	.
Excluded participants												
No match (N)	.	.	.	.	.	.	.	.	.	.	.	.
Out of range (N)	.	.	.	.	.	.	.	.	.	.	.	.
TENNESSEE (N)	459	539	316	341	305	162	535	627	354	160	42	29
All participants (%)	67.9	80.2	82.3	49.9	44.6	42.2	78.9	91.5	91.0	23.0	6.5	8.5
Excluded participants												
No match (N)	22	24	-	15	12	-	23	25	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
TEXAS (N)	644	790	303	377	338	111	736	854	315	121	68	14
All participants (%)	70.0	83.8	89.9	40.6	35.8	32.4	79.6	90.3	91.6	15.0	8.6	4.7
Excluded participants												
No match (N)	135	176	20	99	73	-	164	191	22	22	-	-
Out of range (N)	45	30	10	21	21	-	45	33	11	-	-	-
VIRGINIA (N)	65	109	49	34	19	12	77	113	51	-	-	-
All participants (%)	67.7	96.5	92.5	43.0	16.8	22.6	76.2	99.1	96.2	8.8	4.1	10.3
Excluded participants												
No match (N)	18	23	-	-	-	-	21	23	-	-	-	-
Out of range (N)	27	38	-	11	11	-	28	38	-	-	-	-
VERMONT (N)	21	35	-	39	21	-	27	41	13	19	-	-
All participants (%)	40.4	81.4	83.3	75.0	44.7	33.3	58.7	91.1	100.0	34.5	11.6	0.0
Excluded participants												
No match (N)	.	.	.	.	.	.	.	.	.	.	.	.
Out of range (N)	-	-	-	-	-	-	-	-	-	-	-	-
WASHINGTON (N)	1,248	1,334	710	1,139	898	479	1,716	1,681	900	510	231	106
All participants (%)	61.3	73.2	73.9	52.8	46.5	47.0	82.5	89.0	89.9	23.7	11.7	10.1
Excluded participants												
No match (N)	67	65	27	74	47	17	95	82	36	34	19	-
Out of range (N)	93	70	42	80	44	20	114	86	48	41	15	-
WISCONSIN (N)	146	184	53	95	91	28	175	216	62	35	-	-
All participants (%)	67.9	79.7	82.8	42.6	39.2	41.8	81.0	90.4	92.5	16.3	4.5	13.1
Excluded participants												
No match (N)	-	-	.	-	-	.	-	-	.	-	-	.



Table H.1 (continued)

State	Overall life satisfaction <sup>a</sup>			Mood status <sup>b</sup>			Satisfaction with care <sup>c</sup>			Any unmet need for personal assistance services <sup>d</sup>		
	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post	Pre	1 Yr post	2 Yr post
Out of range (N)	26	-	-	16	-	-	28	12	-	-	-	-
WEST VIRGINIA (N)	.	.	.	.	.	.	.	.	.	.	.	.
All participants (%)	.	.	.	.	.	.	.	.	.	.	.	.
Excluded participants												
No match (N)	17	17	.	16	12	.	22	23	.	-	-	.
Out of range (N)	.	.	.	.	.	.	.	.	.	.	.	.

**Table H.2. Quality-of-life outcomes by time period, target population, and state: Domains of respect and dignity, satisfaction with living arrangements, and barriers to community integration**

State	Respect and dignity <sup>f</sup>			Satisfaction with living arrangements <sup>g</sup>			Barriers to community integration <sup>h</sup>		
	Pre	1 Yr Post	2 Yr Post	Pre	1 Yr Post	2 Yr Post	Pre	1 Yr Post	2 Yr Post
ALL STATES (N)	8,882	9,915	4,895	6,619	11,325	5,562	6,326	4,158	1,790
Older Adults (%)	79.2	91.7	91.2	64.6	92.8	91.3	46.1	33.6	30.6
People with PD (%)	71.2	90.8	91.9	54.9	90.7	89.9	56.4	36.9	32.5
People with ID (%)	90.6	93.4	95.8	80.5	95.5	94.5	45.9	22.7	19.6
People with MI (%)	72.6	84.7	90.9	58.5	84.2	81.5	63.3	43.9	35.7
Other (%)	79.8	93.9	89.5	59.0	94.1	86.5	68.7	37.5	35.2
Unknown (%)	76.1	93.8	92.4	59.2	93.8	94.4	47.6	34.3	30.0
Excluded participants <sup>e</sup>									
No match (N)	1,030	1,059	263	793	1,152	265	716	448	73
Out of range (N)	1,130	442	251	922	673	321	1,007	214	89
ALABAMA (N)	-	-	-	-	-	-	-	-	-
All participants (%)	-	100.0	-	-	100.0	-	100.0	0.0	-
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-
ARKANSAS (N)	-	-	-	-	-	-	-	-	-
All participants (%)	100.0	80.0	100.0	50.0	100.0	100.0	0.0	25.0	0.0
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-
CALIFORNIA (N)	455	566	190	327	618	215	336	192	64
All participants (%)	73.3	91.1	90.9	56.1	93.1	96.4	52.7	28.6	28.6
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	38	-	-	26	14	-	44	-	-
COLORADO (N)	-	-	-	-	-	-	-	-	-
All participants (%)	25.0	100.0	-	0.0	87.5	-	88.9	28.6	-
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-
CONNECTICUT (N)	1,213	1,323	862	622	1,558	979	1,022	759	462
All participants (%)	74.1	91.8	90.9	45.0	89.8	86.9	58.5	43.1	39.6
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	21	24	21	12	29	25	17	16	-
DIST. OF COLUMBIA (N)	68	78	61	55	87	62	37	23	-
All participants (%)	91.9	95.1	92.4	69.6	94.6	89.9	50.7	29.9	19.6
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-

Table H.2 (continued)

State	Respect and dignity <sup>f</sup>			Satisfaction with living arrangements <sup>g</sup>			Barriers to community integration <sup>h</sup>		
	Pre	1 Yr Post	2 Yr Post	Pre	1 Yr Post	2 Yr Post	Pre	1 Yr Post	2 Yr Post
Out of range (N)	-	-	-	-	-	-	-	-	-
DELAWARE (N)	-	-	-	-	-	-	-	-	-
All participants (%)	.	50.0	.	87.5	42.9	40.0	80.0	14.3	20.0
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	107	-	-	39	17	-
GEORGIA (N)	399	414	236	298	445	247	247	176	73
All participants (%)	81.6	88.1	95.9	71.6	97.4	96.1	61.1	37.1	29.0
Excluded participants									
No match (N)	13	14	-	-	-	-	14	-	-
Out of range (N)	61	14	-	28	12	-	44	-	-
HAWAII (N)	95	115	53	80	115	54	55	42	20
All participants (%)	81.9	92.7	96.4	71.4	93.5	96.4	51.4	39.6	35.7
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	25	-	-	15	-	-	16	-	-
IOWA (N)	137	130	97	134	173	118	86	53	47
All participants (%)	85.1	88.4	92.4	77.5	95.1	90.8	48.9	31.0	36.4
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	17	16	13	20	21	15	16	-	-
IDAHO (N)	47	68	18	34	69	19	45	36	-
All participants (%)	62.7	91.9	100.0	55.7	93.2	95.0	62.5	51.4	52.6
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	14	-	-
ILLINOIS (N)	272	348	243	216	590	378	375	123	19
All participants (%)	70.3	94.3	98.4	48.2	95.2	97.7	61.7	18.6	4.7
Excluded participants									
No match (N)	33	54	16	27	90	18	59	36	-
Out of range (N)	-	-	-	-	12	-	-	-	-
INDIANA (N)	-	-	-	-	-	-	-	-	-
All participants (%)	100.0	100.0	.	50.0	100.0	.	0.0	66.7	.
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-
KANSAS (N)	87	109	11	51	103	-	59	44	-
All participants (%)	77.0	94.0	100.0	54.3	93.6	100.0	50.9	37.6	0.0
Excluded participants									
No match (N)	62	67	32	51	76	32	33	19	-
Out of range (N)	-	-	-	-	-	-	-	-	-

Table H.2 (continued)

State	Respect and dignity <sup>f</sup>			Satisfaction with living arrangements <sup>g</sup>			Barriers to community integration <sup>h</sup>		
	Pre	1 Yr Post	2 Yr Post	Pre	1 Yr Post	2 Yr Post	Pre	1 Yr Post	2 Yr Post
KENTUCKY (N)	133	222	95	97	241	105	140	37	24
All participants (%)	68.2	96.9	97.9	55.4	97.6	95.5	66.4	16.4	24.2
Excluded participants									
No match (N)	22	17	-	14	17	-	22	-	-
Out of range (N)	156	31	50	88	31	48	156	-	-
LOUISIANA (N)	35	33	23	26	35	24	14	15	-
All participants (%)	87.5	84.6	95.8	70.3	85.4	96.0	35.0	38.5	16.0
Excluded participants									
No match (N)	60	64	19	45	60	17	16	18	-
Out of range (N)	-	-	-	-	-	-	-	-	-
MASSACHUSETTS (N)	58	77	-	38	73	-	48	27	-
All participants (%)	77.3	98.7	80.0	62.3	97.3	75.0	60.8	32.9	42.9
Excluded participants									
No match (N)	-	11	-	-	11	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-
MARYLAND (N)	25	41	-	37	47	-	23	13	-
All participants (%)	80.6	93.2	66.7	75.5	97.9	100.0	46.9	27.1	0.0
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-
MAINE (N)	-	-	-	-	-	-	-	-	-
All participants (%)	63.6	69.2	50.0	10.0	75.0	50.0	61.5	38.5	50.0
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-
MICHIGAN (N)	262	175	16	155	187	16	170	97	-
All participants (%)	80.9	91.1	84.2	56.8	94.9	88.9	53.8	46.2	36.8
Excluded participants									
No match (N)	191	185	14	154	196	14	126	114	-
Out of range (N)	152	57	-	94	65	-	110	37	-
MINNESOTA (N)	-	-	-	-	-	-	-	-	-
All participants (%)	-	-	-	-	-	-	-	-	-
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-
MISSOURI (N)	268	288	167	220	353	197	218	152	69
All participants (%)	76.4	93.5	94.9	65.9	92.4	90.4	58.6	40.4	31.7
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	36	-	-	28	11	-	30	-	-
MISSISSIPPI (N)	142	155	79	111	175	73	157	80	34

Table H.2 (continued)

State	Respect and dignity <sup>f</sup>			Satisfaction with living arrangements <sup>g</sup>			Barriers to community integration <sup>h</sup>		
	Pre	1 Yr Post	2 Yr Post	Pre	1 Yr Post	2 Yr Post	Pre	1 Yr Post	2 Yr Post
All participants (%)	84.0	93.9	91.9	65.3	93.1	88.0	84.4	43.0	38.6
Excluded participants									
No match (N)	-	-	.	-	-	-	-	-	-
Out of range (N)	-	.	.	-	.	.	-	.	.
MONTANA (N)	-	-	.	-	-	.	-	-	.
All participants (%)	1.0	1.0	.	1.0	1.0	.	0.0	0.5	.
Excluded participants									
No match (N)	-	-	.	-	-	.	-	-	.
Out of range (N)	.	.	.	.	.	.	.	.	.
NORTH CAROLINA (N)	56	72	18	44	76	19	32	39	11
All participants (%)	82.4	94.7	90.0	64.7	96.2	86.4	48.5	52.0	52.4
Excluded participants									
No match (N)	-	-	.	-	-	.	-	-	.
Out of range (N)	-	-	.	-	-	.	-	-	.
NORTH DAKOTA (N)	38	41	18	33	54	27	30	20	-
All participants (%)	86.4	95.3	100.0	67.3	88.5	96.4	50.0	33.3	19.2
Excluded participants									
No match (N)	17	15	12	16	19	12	-	-	-
Out of range (N)	-	.	.	-	.	.	-	-	.
NEBRASKA (N)	170	183	134	109	196	130	110	27	16
All participants (%)	70.8	93.4	92.4	52.7	95.1	91.5	50.5	14.7	12.9
Excluded participants									
No match (N)	21	20	11	12	23	11	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-
NEW HAMPSHIRE (N)	43	51	12	28	49	11	20	15	-
All participants (%)	89.6	98.1	100.0	75.7	100.0	100.0	38.5	28.3	25.0
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	.	-	-	.	-	-	.
NEW JERSEY (N)	339	412	321	254	400	303	218	129	98
All participants (%)	83.7	96.3	95.3	67.0	94.8	91.8	56.8	31.7	31.9
Excluded participants									
No match (N)	213	211	62	140	208	55	158	68	21
Out of range (N)	39	21	14	33	20	15	29	-	-
NEVADA (N)	41	50	-	23	47	-	34	23	-
All participants (%)	73.2	90.9	100.0	45.1	85.5	100.0	56.7	42.6	100.0
Excluded participants									
No match (N)	-	-	.	-	-	.	-	-	.
Out of range (N)	-	-	.	-	-	.	-	-	.
NEW YORK (N)	467	616	296	229	700	326	465	274	117
All participants (%)	78.0	91.0	91.1	41.6	92.6	91.8	64.8	34.5	31.6

Table H.2 (continued)

State	Respect and dignity <sup>f</sup>			Satisfaction with living arrangements <sup>g</sup>			Barriers to community integration <sup>h</sup>		
	Pre	1 Yr Post	2 Yr Post	Pre	1 Yr Post	2 Yr Post	Pre	1 Yr Post	2 Yr Post
Excluded participants									
No match (N)	17	20	-	12	20	-	15	-	-
Out of range (N)	186	-	31	92	-	27	205	-	15
OHIO (N)	642	551	233	495	774	277	409	299	108
All participants (%)	74.2	88.9	92.8	66.3	87.9	90.5	47.4	33.0	34.0
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	15	-	-	-	-	-	12	-	-
OKLAHOMA (N)	164	187	67	129	192	69	93	45	26
All participants (%)	91.1	96.9	91.8	75.9	96.0	93.2	55.0	25.1	33.8
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	43	46	13	40	52	13	50	20	-
OREGON (N)	154	142	63	98	150	66	127	59	18
All participants (%)	71.3	92.8	92.6	51.6	98.0	97.1	57.7	37.8	26.9
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-
PENNSYLVANIA (N)	72	97	24	36	93	52	55	35	-
All participants (%)	76.6	95.1	96.0	40.4	93.0	70.3	56.7	33.7	29.6
Excluded participants									
No match (N)	19	19	-	15	18	-	-	-	-
Out of range (N)	59	-	-	93	157	58	26	-	-
RHODE ISLAND (N)	40	50	15	33	45	15	25	24	-
All participants (%)	81.6	92.6	100.0	76.7	93.8	100.0	47.2	44.4	18.2
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-
SOUTH CAROLINA (N)	16	18	-	-	15	-	14	-	-
All participants (%)	84.2	94.7	100.0	58.8	88.2	66.7	77.8	55.6	33.3
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-
SOUTH DAKOTA (N)	.	.	.	.	.	.	.	.	.
All participants (%)	.	.	.	.	.	.	.	.	.
Excluded participants									
No match (N)	.	.	.	.	.	.	.	.	.
Out of range (N)	.	.	.	.	.	.	.	.	.

Table H.2 (continued)

State	Respect and dignity <sup>f</sup>			Satisfaction with living arrangements <sup>g</sup>			Barriers to community integration <sup>h</sup>		
	Pre	1 Yr Post	2 Yr Post	Pre	1 Yr Post	2 Yr Post	Pre	1 Yr Post	2 Yr Post
TENNESSEE (N)	509	601	309	369	627	355	269	243	123
All participants (%)	77.0	95.2	92.5	63.1	94.9	94.7	40.4	36.5	32.0
Excluded participants									
No match (N)	23	27	-	15	26	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-
TEXAS (N)	643	747	282	610	845	313	419	309	82
All participants (%)	81.3	94.4	92.8	74.9	92.5	92.1	48.2	33.7	25.2
Excluded participants									
No match (N)	150	165	18	142	190	22	110	68	-
Out of range (N)	41	30	-	39	33	-	31	11	-
VERMONT (N)	36	37	-	22	45	11	35	24	-
All participants (%)	78.3	90.2	90.9	48.9	97.8	91.7	70.0	53.3	28.6
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	-	-	-	-	-	-	-	-	-
VIRGINIA (N)	79	60	22	53	108	49	55	24	11
All participants (%)	80.6	93.8	88.0	63.9	95.6	92.5	59.8	24.2	22.4
Excluded participants									
No match (N)	18	-	-	16	21	-	12	-	-
Out of range (N)	29	24	-	20	37	-	23	13	-
WASHINGTON (N)	1,486	1,633	853	1,412	1,817	971	766	602	294
All participants (%)	75.1	88.5	89.8	74.2	90.5	91.0	36.3	31.5	28.7
Excluded participants									
No match (N)	87	80	32	67	86	41	53	33	-
Out of range (N)	96	83	51	99	86	59	62	28	19
WEST VIRGINIA (N)	.	.	.	.	.	.	.	.	.
All participants (%)	.	.	.	.	.	.	.	.	.
Excluded participants									
No match (N)	20	24	.	-	22	.	16	13	.
Out of range (N)	.	.	.	.	.	.	.	.	.
WISCONSIN (N)	176	197	54	118	198	57	97	76	15
All participants (%)	81.5	89.1	84.4	63.8	90.0	91.9	44.3	33.5	22.4
Excluded participants									
No match (N)	-	-	-	-	-	-	-	-	-
Out of range (N)	28	-	-	25	12	-	18	-	-

Source: MFP QoL surveys submitted to CMS through May 2016.

Notes: '.' indicates that a cell is suppressed because the count is less than 11. The tables present only the overall rates, by state, because the small population sizes in many states create a privacy concern.

'.' Indicates that the value is missing.

Table H.2 (continued)

The N's shown reflect the number of participants who answered each survey question, by state. The percentages show the percentage of participants who answered "Yes" to each question, by state, described in more detail in the footnotes for each question.

In the "Excluded participants" rows, the "No match" counts represent the number of records in each state that were excluded because the QoL survey could not be matched to administrative data because of an issue with the Medicaid ID. The "Out of range" counts represent the number of records in each state that were excluded because the QoL survey was completed outside the designated time frame (year one surveys must be conducted within 6–18 months of transition to the community; year two surveys must be conducted within 18–30 months of transition).

<sup>a</sup>The percentage of participants who responded "very happy" or "a little happy" to the question, "Taking everything into consideration, during the past week, have you been happy or unhappy with the way you live your life?"

<sup>b</sup>The percentage of participants who reported feeling sad or blue in the past week.

<sup>c</sup>The percentage of participants who responded "very happy" or "a little happy" to the question, "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?"

<sup>d</sup>The percentage of participants who have any unmet service need in the areas of bathing, eating, medication, or toileting.

<sup>e</sup>The number of excluded surveys represents those that were not included in the sample because they could not be matched to administrative records (No match) or were administered outside the designated ranges (6–18 months from baseline for the one-year follow-up surveys and 18–30 months from baseline for the two-year follow-up surveys).

<sup>f</sup>The percentage of participants who reported being treated with respect and dignity by providers, measured by two questions: "You said that you have people who help you. Do the people who help you treat you the way you want them to?" and "Do the people who help you listen carefully to what you ask them to do?"

<sup>g</sup>The percentage of respondents who responded "Yes" to "Do you like where you live?"

<sup>h</sup>The percentage of respondents who responded "Yes" to "Is there anything you want to do outside [the facility/your home] that you cannot do now?"

Pre = surveys conducted pre-transition, 1 Yr Post = surveys conducted one year post-transition, 2 Yr Post = surveys conducted two years post-transition, PD = physical disabilities, ID = intellectual disabilities, MI = serious mental illness.



## **APPENDIX I**

### **MFP VIDEOS OF PERSONAL STORIES**

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**General video**

Money Follows the Person: Finding Home

<https://www.youtube.com/watch?v=PEoxR3UkuNs>

**State-specific videos**

Finding Home in Virginia

<https://www.youtube.com/watch?v=98teiTaMjkM>

Finding Home in Kansas

<https://www.youtube.com/watch?v=uBZ1kOeLIE8>

Finding Home in Missouri

<https://www.youtube.com/watch?v=giFQQrh2-Ac>

Finding Home in Michigan

[https://www.youtube.com/watch?v=TUU2L\\_RpsdA](https://www.youtube.com/watch?v=TUU2L_RpsdA)

Finding Home in Virginia and Missouri

<https://www.youtube.com/watch?v=vfCSd9eK9F0>

[www.mathematica-mpr.com](http://www.mathematica-mpr.com)

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