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# Examining the Effect of the NJ Comprehensive Waiver on Access to Care, Quality, and Cost of Care: Draft Interim Evaluation Report


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# Acknowledgments

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# Examining the Effect of the NJ Comprehensive Waiver on Access to Care, Quality, and Cost of Care: Draft Interim Evaluation Report

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## Executive Summary

The New Jersey Medicaid Comprehensive Waiver Demonstration was approved for the period October 1, 2012 through June 30, 2017. This §1115 waiver not only consolidated authority for several existing Medicaid waivers, but initiated a variety of health reforms in New Jersey's Medicaid program. The key changes authorized by the Waiver are an expansion in managed care to Long-term Services and Supports (LTSS) and behavioral health (BH) services, targeted home and community-based services (HCBS) for populations of children and in-home community supports for individuals with intellectual and developmental disabilities, administrative simplifications in the Medicaid eligibility process for low-income applicants seeking LTSS, and the establishment of a hospital-based Delivery System Reform Incentive Payment (DSRIP) Program.

The Rutgers Center for State Health Policy (CSHP) was engaged to evaluate New Jersey's Medicaid Comprehensive Waiver Demonstration. In this draft interim evaluation report, we primarily examine the expansions in managed care and targeted home and community-based services occurring under the Waiver.[1] These policy changes motivated the first two of the four evaluation hypotheses and their supporting research questions as outlined in the waiver Special Terms and Conditions document (CMS 2014) and enumerated below.

Hypothesis 1: **"Expanding Medicaid managed care to include long-term care services and supports will result in improved access to care and quality of care and reduced costs, and allow more individuals to live in their communities instead of institutions."**

[1] The administrative simplifications will be evaluated in forthcoming reports, though some basic statistics on Qualified Income Trusts and self-attestations are presented in Chapter 2. The Supports program, which is part of the targeted home and community-based services expansion for individuals with intellectual and developmental disabilities, will be evaluated qualitatively in our final report due in 2017. The DSRIP program is evaluated as a separate component and the midpoint evaluation was submitted to the New Jersey Division of Medical Assistance and Health Services (DMAHS) on September 2015 with the final evaluation due in March 2018.

Research Question 1a: **"What is the impact of the managed care expansion on access to care, the quality, efficiency, and coordination of care, and the cost of care for adults and children?"**
Research Question 1b: **"What is the impact of including long-term care services in the capitated managed care benefit on access to care, quality of care, and mix of care settings employed?"**

Hypothesis 2: **"Providing home and community-based services to Medicaid and CHIP beneficiaries and others with serious emotional disturbance, autism spectrum disorder, or intellectual disabilities/developmental disabilities will lead to better care outcomes."**

Research Question 2a: **"What is the impact of providing additional home and community-based services to Medicaid and CHIP beneficiaries with serious emotional disturbance, autism spectrum disorder, or intellectual disabilities/developmental disabilities?"**
Research Question 2b: **"What is the impact of the program to provide a safe, stable, and therapeutically supportive environment for children from age 5 up to age 21 with serious emotional disturbance who have, or who otherwise would be at risk for, institutionalization?"**

Hypothesis 3: **"Utilizing a projected spend-down provision and eliminating the look back period at time of application for transfer of assets for applicants or beneficiaries seeking long term services and supports whose income is at or below 100% of the FPL will simplify Medicaid eligibility and enrollment processes without compromising program integrity."**

Research Question 3a: **"What is the impact of the projected spend-down provision on the Medicaid eligibility and enrollment process? What economies or efficiencies were achieved, and if so, what were they? Was there a change in the number of individuals or on the mix of individuals qualifying for Medicaid due to this provision?"**
Research Question 3b: **"What is the impact of eliminating the transfer of assets look-back period for long term care and home and community based services for individuals who are at or below 100% of the FPL? Was there a change in the number of individuals or on the mix of individuals qualifying for Medicaid due to this provision?"**

Hypothesis 4: **"The Delivery System Reform Incentive Payment (DSRIP) Program will result in better care for individuals (including access to care, quality of care, health outcomes), better health for the population, and lower costs through improvement."**

This report is comprised of four distinct chapters each covering one analytic component of our evaluation. Organized by chapter, the following table presents a brief description of the contents of this report, the data sources used and time periods covered, the focus of the analyses (i.e.

populations and/or plans), and the corresponding hypothesis(es) and research question(s) addressed to the extent possible given the available data and timing of policy implementation.

| Data Sources | Focus of Analysis | Hyp. | RQ |
|---|---|---|---|
| Chapter 1: Managed Care Quality Indicators | | | |
| HEDIS® and CAHPS®, 2011-2014 | Managed care beneficiaries and MCOs | 1 | 1a |
| Chapter 2. MLTSS-related Measures | | | |
| Reports from MCOs, EQROs, and State Government, 2014-2016 | Medicaid beneficiaries in MLTSS and their MCOs | 1, 3 | 1b, 3a, 3b |
| Chapter 3. Analysis of Medicaid Claims Data to Examine Access, Quality, and Cost of Care | | | |
| Medicaid claims and encounter data, 2011-2014 | Medicaid beneficiaries and managed care beneficiaries, overall and by eligibility group, and those in long-term care (facility and community-based) | 1 | 1a, 1b |
| Chapter 4. Analysis of Medicaid Claims Data to Examine Care Outcomes for Populations of Children and Youth | | | |
| Medicaid claims and encounter data, 2011-2014 | Individuals with ASD, ID-DD/MI, and SED eligible for home and community-based waiver services, and all Medicaid youth | 2 | 2a, 2b |

Hyp.=Hypothesis; RQ=Research Question; MCO=Managed Care Organization; EQRO=External Quality Review Organization; ASD=Autism Spectrum Disorder; ID-DD/MI=Co-occurring intellectual/developmental disability and mental illness; SED=Serious Emotional Disturbance.

## Chapter 1: Managed Care Quality Indicators Based on HEDIS® and CAHPS®

This section examines the performance of NJ Medicaid managed care organizations (MCOs) comparing changes between the baseline period of the waiver evaluation (2011-2012) and the first two demonstration years (2013-2014). Monitoring these changes sheds light on how preparation for and full implementation of the Managed Long-Term Services and Supports (MLTSS) expansion may have affected quality of care for the overall Medicaid managed care population. The measures in the tables are related to preventive care, behavioral health care, treatment of chronic conditions, and consumer satisfaction with care. These measures are based on the Healthcare Effectiveness Data and Information Set (HEDIS®), a system of standardized performance measures developed by the National Committee for Quality Assurance (NCQA); and the CAHPS® (Consumer Assessment of Healthcare Providers and Systems), an annual independent survey of members' perceptions of the quality of care and services they receive in their Medicaid health plan. For the HEDIS® metrics, in addition to select measures which are publicly reported, we also used data from the annual Performance Measure Validation reports created by the State's EQRO and provided to us by DMAHS.

*Preventive Care Quality Measures:* These HEDIS® measures are related to immunizations, screenings, and visits to primary care practitioners.

- The rates for childhood vaccine combinations 2 (DTaP, IPV, MMR, HiB, HepB, and VZV) and 3 (DTaP, IPV, MMR, HiB, HepB, VZV, and PCV) did not significantly change from the baseline (2011-2012) to the waiver (2013-2014) period. The rates for adolescent meningococcal vaccination and Tdap or Td improved (1.7 percentage points (pp) and 3.0 pp, respectively).
- Rates significantly improved for wellness visits for both young children (2.5 pp in first 15 months of life and 0.99 pp in ages 3-6), and adolescents (3.7 pp), as did the rate for frequency of ongoing prenatal care (0.9 pp). However, rates declined for timeliness of prenatal (-1.3 pp) and postpartum care (-2.0 pp).
- Rates improved for all the access to primary care measures for children of all ages except for those between 12-24 months (1.6 pp for 25 months-6 years, 0.9 pp for 7-11 years, and 0.3 pp for 12-19 years).
- BMI assessment rates improved for both younger children (3.2 pp) and adolescents (5.5 pp). For adults, the BMI assessment rate also improved (10.2 pp), as did the breast cancer screening rate (1.3 pp). There was no change in the cervical cancer screening rate.
- For the CAHPS® measure for dental care utilization, the pattern of rates suggests a general improvement in dental care utilization among adults and children overall in Medicaid managed care from 2011 to 2014.

*Behavioral Health Care Services Quality Measures:* These HEDIS® measures are related to follow-up care for individuals with certain behavioral health diagnoses.

- There was no change in follow-up care for children prescribed ADHD medication from 2011-2012 to 2013-2014.
- There was also no change for 7-day follow-up for DDD beneficiaries ages 6 and older who were hospitalized for treatment of certain mental illness conditions, but there was a significant decline in 30-day follow-up for this population (-5.4 pp).

*Treatment of Chronic Conditions Quality Measures:* These HEDIS® measures are related to high prevalence chronic conditions like diabetes and asthma.

- Results were mixed for the measures for monitoring of patients on persistent medications (rates declined 17.5 pp for digoxin, but showed no significant change for ACE inhibitors, diuretics, or anti-convulsants).
- Results were mixed for measures for diabetes care (rates improved 3.3 pp and 3.9 pp respectively for the percentage of managed care beneficiaries 18-75 years of age with diabetes who received an annual HbA1c test or eye exam, but declined 3.1 pp for HbA1c control).
- The rates for blood pressure control improved (2.8 pp).

- The rates for the percentage of patients who had persistent asthma and were appropriately prescribed medication were mixed for different age groups (no change in those ages 5-11 or 19-50; rates improved 1.6 pp for those ages 12-18 but declined 2.6 pp for those ages 51-64).

*Measures of Consumer Satisfaction:* These CAHPS® measures relate to perceptions of care quality among adults and children in Medicaid managed care.

- The results were mixed across the different plans for children, but the overall trends for both adults and children showed improvements in all or most of the measures, as did the individual plan rates for adults.

With a few exceptions, the findings presented in this chapter support the conclusion that overall quality of care for Medicaid managed care beneficiaries was at the least maintained, and in many cases improved, during the first two years of the demonstration period.

**Chapter 2: MLTSS-related Measures**

Overview. This chapter discusses a variety of measures from a number of sources that relate to the MLTSS post-implementation period from July 2014 until the present. Data sources include MCO reports to the Department of Human Services, data reported by divisions within the Department of Human Services--including the Division of Medical Assistance and Health Services (DMAHS), the Division of Aging Services (DoAS) and the Division of Disability Services (DDS)--and reports from the Department of Banking and Insurance. Data were selected to address our evaluation hypotheses and research questions regarding the effect of MLTSS on consumers' access to care, quality of care, and care setting.

Measure Areas. We examined measures in the following topic areas: long-term care population by setting; the setting of former §1915(c) waiver enrollees; age groups of MLTSS and LTC recipients; timeliness of level-of-care assessments; reports on care plan characteristics (timeliness, alignment with member needs, person-centered, presence of back-up plan); critical incident numbers, categories and timeliness of reporting; appeals, grievances, complaints and service reductions; nursing facility admissions, transitions between nursing facilities and community settings; hospital and emergency department use; use of self-directed MLTSS services; network adequacy; and policy/administrative changes (qualified income trusts and self-attestation regarding asset transfer).

Discussion of Findings. This chapter discussed a number of trends or indications regarding New Jersey's Managed Long Term Services and Supports program.

*Serving Enrollees in Community Settings*

- The percentage of enrollees served in home and community settings has grown since implementation, from 27% in July 2014 to 35% in January of 2016. This may indicate progress in serving consumers in their preferred setting.
- An examination of the current setting of former enrollees shows that the majority who transitioned from the former §1915(c) home and community based services (HCBS) waivers remain in community settings, with only about 8% having transitioned to nursing facilities as of March 2016.

*Level-of-Care Assessments and Care Planning*

- Timeliness of nursing-facility level of care assessments, which are required for people to enroll into MLTSS, continues to trend upward.
- External quality review organization results from two audits of MCO care plans for individual MLTSS enrollees in the first year of MLTSS showed improvement on two of four items measured. One item showed that a small decline was high initially; the other was contested as to audit file selection.

*Critical Incidents, Appeals, Grievances, Complaints, and Service Reductions*

- MCO-reported critical incidents (unaudited) appear to affect a small number of members and to be reported in a timely fashion.
- MCO-reported appeals, grievances and complaints (unaudited) appear to affect a small number of members and appear realistic when compared with other indicators of member disputes (i.e., to the limited extent that it is possible to examine, we do not see any evidence that MCOs are underreporting appeals, grievances and complaints).
- MCO-reported appeals, grievances and complaints (unaudited) appear to be investigated within a timely manner. Most appeals appear to be upheld by the MCO, rather than overturned.
- The limited information presented on service reductions (MCO reports, one quarter, unaudited) indicates that such reductions affect a small number of enrollees. Most are not appealed in any way.

*Hospital/Emergency Department (ED) Utilization*

- MCO-reported hospital and ED use for MLTSS enrollees has been stable or declined over the first three quarters of MLTSS implementation.

*Use of Self-Direction*

- Close to 5% of MLTSS enrollees are using self-directed services, and enrollment continues to grow.

*Network Adequacy*

- Network adequacy for 17 acute care services, defined as the percentage of members with access to the service or provider, averages 99% overall and is generally 75% or higher (exceptions are for hospital services in some areas where an MCO does not include a nearby hospital).
- Network adequacy information for MLTSS services has not been provided publically, but MCO-reported grievance information appears to show, at most, 12 cases during 2015 of problems accessing MLTSS providers. We are uncertain of the comprehensiveness of this information.

*Other Policy/Administrative Changes with MLTSS*

- Policy/administrative changes put into place with MLTSS have allowed members to access services they would not have otherwise (qualified income trusts allow those slightly above Medicaid income limits to spend down for either HCBS or nursing facility services) and reduced the administrative burden for government staff and members (self-attestation).

We will continue to monitor MLTSS-related data for our final evaluation. There are limitations to many of the findings, and some findings raise questions or potential concerns.

*Limitations to Current Findings*

- The measures we examine in this chapter are not adjusted for member health conditions or levels of social support, making it difficult to know if MCO efforts are driving differences in performance versus underlying effects intrinsic to members that MCOs cannot change.
- We do not know the actual effects on consumers of many of the findings in this chapter. The forthcoming NCI-AD results may shed light on many of these issues.

*Ongoing Questions/Concerns*

- Timeliness of enrollment—the various timeliness measures do not tell us how long people are waiting from the time an LTSS need is identified until they are actually enrolled in MLTSS. This time is difficult to measure, but it is important to provide HCBS care quickly to stabilize people's health and prevent progression to a higher level of care where possible.
- There is limited information regarding service reductions to MLTSS members. This is a topic about which there is a good deal of stakeholder concern. The limited information presented so far suggests that reductions are not extensive—more regular reports could confirm this.
- External appeal data reported by DOBI may indicate an increase in appeals related to denials of private duty nursing with the implementation of MLTSS. The information so far is not certain, but we will watch for further developments regarding appeals of MLTSS services.
- Regarding network adequacy:

- Network adequacy for MLTSS services has not been reported publically, though MCOs are required to report this information to the state, which reviews it for any coverage gaps. MCOs are required to address gaps by doing single case agreements with nonparticipating providers or providing transportation to a participating provider. We do not know the extent to which this occurs. MCO-reported grievance information appears to show, at most, 12 instances of problems reported with accessing MLTSS providers. We will check on the comprehensiveness of this information.
- There are some acute care provider shortages that may affect the ability of some MLTSS members to access care (hospitals, general dentists, and adult and pediatric primary care physicians). Some of these shortages are due to a lack of providers in certain geographic areas arising from larger industry and economic issues related to provider supply.
- The accuracy of MCO provider directory information has been questioned nationally and in New Jersey. Though New Jersey is among the states with the strictest standards, we will continue to monitor developments in this area.

**Chapter 3: Analysis of Medicaid Claims Data to Examine Access, Quality, and Cost of Care**

This chapter assesses the impact of the expansion of managed care to Long Term Services and Supports (LTSS) and behavioral health (for selected LTSS-eligible populations) by examining measures related to access to care, quality of care, and health care spending for NJ Medicaid beneficiaries calculated from Medicaid fee-for-service (FFS) claims and managed care encounter data over 2011-2014. These measures include rates of avoidable inpatient hospitalizations and ED visits that arise due to inadequate ambulatory or primary care in the community; hospital readmission rates overall, and for specific diseases that reflect potentially inadequate inpatient care and lack of care coordination; follow-up rate after mental illness hospitalization that examines similar issues specifically for individuals with behavioral health conditions; ambulatory visit rates that reflect the quality of care transitions; and spending-related measures to examine potential changes in distribution of spending over time and across places-of-care.

We present tables with annual estimates of such metrics for Medicaid overall and specific subpopulations based on Medicaid eligibility and the focus of the managed care expansion. This is followed with results of multivariate regression analyses that use statistical techniques such as segmented regression analysis and difference-in-differences modeling to account for individual, geographic and provider characteristics while identifying the impacts of the managed care expansion under the Waiver. Through these models we examine changes over time of specific metrics across all managed care beneficiaries to monitor overall adherence to the Quality Strategy by Medicaid managed care organizations (MCOs) undertaking the MLTSS reforms and provide evidence for answering Research Question 1a. These findings supplement those

presented in Chapter 1. We also examine selected metrics for specific groups of Medicaid beneficiaries that come under the managed care expansion immediately on July 1, 2014. This is primarily the long-term care (LTC) beneficiaries group meeting an institutional level of care and residing in their homes and communities under the former 1915(c) waiver programs or, after July 1, 2014, under MLTSS. We restrict our regression analysis to this population to ensure a six-month post-implementation period. These subpopulation analyses supplement the findings presented in Chapter 2 and provide the evidence needed for answering Research Question 1b. Our final evaluation report extending until December 2015 will include the managed nursing facility population in the regression-based analysis.

Annual Descriptive Estimates: Our focus is on changes in these estimates during 2014, the year when the MLTSS implementation took place compared to the previous years. While these trends may broadly indicate effects of the Waiver on the overall managed care population or the HCBS population, it is important to remember that descriptive estimates are not adjusted for changing beneficiary characteristics (subsequent to the Medicaid expansion) or underlying trends in outcomes unrelated to the policy. Our regression-based analysis adjusts for these effects.
Below we highlight the key findings related to the expansion of managed care and also those that highlight the differences across groups of Medicaid beneficiaries. To review comprehensive findings, Chapter 3 should be reviewed.

*Avoidable and Overall Inpatient and Emergency Department Use and Spending:*

- In 2014, avoidable inpatient hospitalization rates were the highest among the HCBS population with a BH condition (744 per 10,000 beneficiaries).
- For all managed care beneficiaries and those receiving HCBS, rates of avoidable inpatient hospitalizations in 2014 were the lowest among the four years. However, this may be driven by the decreasing trend in the rates of such utilization that started in 2012.
- In 2014, the ABD group had the highest rates of inpatient utilization among the different eligibility groups (2,025 per 10,000 beneficiaries), slightly lower than that in the long-term care population (2,770 per 10,000 beneficiaries).
- We see a decrease in ED visit rates from 4,942 visits per 10,000 population in 2013 to 4,170 per 10,000 population in 2014 for the HCBS population.
- Among all Medicaid beneficiaries, we find that total spending per beneficiary decreased sharply from $5,744 in 2013 to $5,164 in 2014. This was brought about by an equivalent decrease in non-hospital spending. Hospital-based spending per beneficiary remained at the same level from 2011-2014.
- Around three quarters of avoidable costs among the LTC population was incurred by NF residents. NF residents on average had higher avoidable costs in 2011 than the HCBS

population ($193 vs. $145), but the difference was almost non-existent in 2014 ($130 vs. $129) largely due to a steeper decline in avoidable costs per person for the NF population.

*Hospital Readmissions:*

- In every category of readmission, and every year, beneficiaries with a BH condition had a higher readmission rate compared to those who were LTC-eligible and also Medicaid beneficiaries overall.
- For the overall managed care population, we find an improvement in quality reflected through a decrease in acute myocardial infarction (AMI) readmission rates. For the HCBS population hospital-wide and HF readmission rates exhibited an improvement, but pneumonia (PN) and AMI readmissions indicated worsening care.

*Follow-up after Hospitalization for Mental Illness and Ambulatory Visit after Hospital Discharge:*

- For Medicaid beneficiaries, overall, after declines over 2011-2013, rates of follow-up seven days and 30 days after discharge from a mental illness hospitalization start to pick up again in 2014.
- We notice a decrease in rates of ambulatory visits 14 days after discharge, for HCBS population over the period 2011-2014. Specifically, the visit rate for patients discharged to home, decreased from 20% in 2013 to 13% in 2014. A decline over this period is also seen for the managed care population overall.

*LTSS, Non-LTSS, and Total Costs:*

- Total spending is higher for the NF population compared to the HCBS population and this is largely driven by their high LTSS spending. The share of LTSS spending has shifted slightly more towards the HCBS population over 2011-2014, but the shift predominantly occurs prior to the MLTSS policy implementation.
- A progressive shift in the share of spending towards the HCBS population is not seen for non-LTSS spending over 2011-2014.
- Spending related to avoidable hospitalizations accounted for less than 1% of overall spending. Thus, while a decrease in avoidable inpatient hospitalizations and ED visits may signify better community-level care, it may not necessarily impact total spending in these populations.

**MLTSS Impact on the Overall Medicaid Managed Care Population:** Using segmented regression analysis, we examine changes in outcomes for the entire managed care population immediately after implementation of MLTSS and identify the impact of the policy on these outcomes during the first six months of the program. We assess immediate changes (changes in the level) as well as changes in time trend. These models adjust for individual and provider characteristics, geography/residence, and time trends unrelated to MLTSS.

*Avoidable Inpatient and Emergency Department Use:*

- There was a statistically significant drop in avoidable inpatient hospitalizations and avoidable ED visits immediately following the implementation (reflected in a drop in levels), but there was an increase in the trend. Thus, there was no definitive positive or negative impact on avoidable utilization as a result of MLTSS.

*Hospital Readmissions:*

- We find an immediate decrease in the probability of 30-day readmissions for all types of index admissions (hospital-wide, HF, PN, and AMI), though only the 1.1 percentage point decline in hospital-wide readmissions is significant.
- Among Medicaid managed care beneficiaries with a BH condition, there was also a decline in the probability of hospital-wide readmission. This level effect was significant but there was no significant effect of MLTSS on the trend.

*Follow-up after Hospitalization for Mental Illness* and *Ambulatory Visit 14 Days after Discharge Home:*

- There are decreases in the level and also the trend in follow-up rates within 30 days of hospitalization. Each of these decreases amount to approximately a 1 percentage point decrease in the rate of follow-up among managed care beneficiaries. This negative association between MLTSS and follow-up rates is statistically significant.
- We observe increases in the level and also the trend of ambulatory visits after discharge home. The changes are less than one percentage point and neither is statistically significant.

Overall there were no negative effects on access to care for the managed care population during the first six months of MLTSS implementation, but nor were there any definitive positive effects. The decrease in avoidable inpatient hospitalizations and avoidable ED visits were of very small magnitude, although significant statistically, and were followed by an increasing and thus offsetting trend. In terms of quality, efficiency, and coordination of care, decreases in readmission rates suggest improvements, further supported by small increases in ambulatory visits after discharge, though only the drop in hospital-wide readmission rates is significant. In terms of behavioral health quality, we see mixed results. Hospital-wide readmissions improved for individuals with behavioral health conditions, as they did for all managed care beneficiaries, as a result of MLTSS, but mental health-specific follow-up care after a hospitalization for mental illness showed a significant decline. This is the only significant negative impact observed for the entire managed care population coincident with MLTSS implementation.

**MLTSS Impact on the HCBS Population:** Using a difference-in-differences estimation strategy, we are able to examine average changes in outcomes for HCBS beneficiaries whose long-term

services and supports were integrated with their physical and behavioral health care after implementation of MLTSS. These models use the non-LTC ABD population as a comparison group to account for outcome trends unrelated to the MLTSS policy and further adjust for individual and provider characteristics, geography/residence to isolate the impact of MLTSS on these outcomes.

*Avoidable Inpatient and Emergency Department Use and Associated Costs:*

- MLTSS implementation decreased the probability of an avoidable inpatient hospitalization over a quarter by 8%, but increased the rate of avoidable ED visits per person by 10%. Both effects are statistically significant.
- We find that the MLTSS policy increases avoidable inpatient costs but decreases avoidable ED costs in the HCBS population. This implies that the avoidable inpatient stays became less likely, but more expensive, and the avoidable ED visits became more likely, but less expensive.

*Hospital Readmissions*:

- There was an 11.3 percentage point increase in pneumonia readmission rates among the HCBS population due to the MLTSS implementation. This effect is statistically significant at the 10% significance level.
- Heart failure and AMI readmissions increased by 5.6 and 5.1 percentage points, respectively, but these effects were not statistically significant.
- Hospital-wide readmission rates among the HCBS population decreased by less than 1 percentage point as a result of the policy, but this was not statistically significant.
- MLTSS implementation decreased the hospital-wide readmission rate among the HCBS population with a BH condition by 0.2 percentage points. The effect was not statistically significant.

*Ambulatory Visit 14 Days after Discharge Home:*

- MLTSS implementation decreased the probability of an ambulatory visit 14 days following discharge from a medical hospitalization by 5.5 percentage points and this effect is statistically significant.

Access to care and quality of care for the HCBS population showed no definitive positive impacts during the first six months of MLTSS implementation. The probability of avoidable inpatient hospitalizations declined in magnitude by less than two-tenths of a percentage point but these hospitalizations also became more expensive. In terms of the managed care carve-in of behavioral health for the HCBS population under MLTSS, hospital-wide readmissions among those with a behavioral health condition also declined by two-tenths of a percentage point and follow-up after mental illness hospitalizations did show improvements, but neither of these were

statistically significant (We do not report the follow-up metric since it was based on a sample size lower than our minimum threshold, but we will have sufficient sample in the final evaluation with a larger follow-up period). On the other hand, some negative trends were apparent. Avoidable ED visits increased. Consistently, metrics relating to post-discharge care following hospitalizations for medical conditions worsened, though most of these results also did not reach conventional levels of statistical significance. It is important to remember that all of these findings are based on the six month period of July-December 2014 when some transitional issues relating to MLTSS were still being resolved. Additional data extending beyond the first six months of the post-MLTSS period will help us determine in our final report whether any of these findings persist or change.

**Chapter 4: Analysis of Medicaid Claims Data to Examine Care Outcomes for Populations of Children and Youth**

This chapter presents Medicaid claims-based metrics related to specific types of hospital utilization for several populations of children targeted for additional home and community-based services (HCBS) under the Waiver. Specifically, the Waiver authorizes the NJ Division of Children and Families' Children's System of Care (DCF's CSOC)[2] to coordinate new supportive services for children with Autism Spectrum Disorder (ASD), co-occurring intellectual/developmental disabilities and mental illness (ID-DD/MI), and Serious Emotional Disturbance (SED). The Waiver also expands Medicaid eligibility for children with SED.

All of the services authorized under the Waiver for the DCF populations started being offered during calendar year 2014 or later, limiting the data on the post-implementation period available for this interim report. Because of this, and due to small sample sizes in the ASD cohort, we present only descriptive results with no adjustment for patient or provider characteristics. Estimates based on small samples should be interpreted with the caveat that observed variation for the metrics between years might be the result of outliers in the data or random events unrelated to the policy change.

*Avoidable Hospital Utilization, Overall Hospital Utilization, and Per Capita Hospital Costs*

- Rates of avoidable hospital use were very low in the baseline and early demonstration period. Compared to 0.2 avoidable hospitalizations per 100 Medicaid youth in each year of the study period, the rate was higher in the ID-DD/MI cohort, reaching 1.8 per 100 ID-DD/MI youth in 2013. There were nearly no avoidable hospitalizations among the SED cohort in any year.
- We observe a slight downward trend in inpatient utilization for Medicaid youth overall over 2011-2014 which is mirrored in the ID-DD/MI cohort.

[2] By January of 2013, DCF assumed responsibility for all children previously managed by the Division of Developmental Disabilities (DDD).

- There is a decrease in inpatient utilization in the ASD population from 2013 to 2014, along with a decline in ED visits between these two years. This potentially reflects the impact of the new waiver services starting in spring 2014.
- A decline in inpatient utilization and ED visits between 2011 and 2014 is also seen in the SED cohort, but this may be in part due to hospitalizations not captured in the claims data for the SED at-risk portion of this cohort who, though Medicaid enrolled, are not eligible for State Plan services.
- Per-capita costs associated with hospital use are generally greater for the ID-DD/MI cohort in all years compared to the other cohorts, reflecting their higher rates of inpatient stays and ED visits.

*Inpatient Hospital Use for Mental Health Conditions*

- We observed net declines in mental illness hospitalizations for children with ID-DD/MI and SED from 2011-2014 and slight increases within the SED cohort (which is potentially underestimated due to the limitations in measurement mentioned above) in hospitalizations at psychiatric hospitals. The different trends between inpatient facility types (general acute care vs. psychiatric) is relevant to consider given the goal of expanded home and community-based services in reducing institutionalization.
- Hospitalizations for severe mental illness were infrequent in general, with rates of 1 or less per 100 for all cohorts in all years.

*Post-acute Care Following Hospitalization*

- We could not reach the minimum sample size for assessing utilization (hospital readmission or ED visits) subsequent to mental or severe mental illness hospitalizations in the ASD, ID-DD/MI, and SED cohorts.
- For all-cause hospitalizations, we found that the combined populations of youth eligible for the HCBS waiver programs started in 2012 with lower rates of readmissions and ED visits within 30 days of discharge than Medicaid youth overall, but had higher rates by 2014.

The rates of specific types of utilization calculated in this chapter inform the applicability of the proposed metrics to the various subpopulations of interest. As a key example, hospital use metrics do not reflect quality for the SED at-risk population since this utilization is not on the menu of services available to them under the Waiver. In order to address this limitation, we will investigate rates of residential treatment facility use and out-of-home placement in this cohort in our final evaluation report due in 2017. Statistical testing, where feasible, will also be conducted. Additionally, we will consider the practicability of combining years of data in order to achieve minimum sample sizes for examining the impacts of waiver services on the pilot-enrolled

ASD cohort and separately, ED and readmission outcomes following hospitalization for mental and severe mental illness for all populations of youth receiving targeted HCBS.

**Discussion**

This interim report examines various sources of information to address the first three demonstration hypotheses and corresponding research questions set forth in the Special Terms and Conditions (CMS 2014) of the New Jersey Medicaid Comprehensive Waiver. Using a diverse range of data sources, this interim report primarily addresses the very early impacts of the policy changes occurring under the Waiver. Quality metrics included in this report extend through the end of calendar year 2014, capturing only the first six months of MLTSS implementation and preceding initiation of two out of the three targeted home and community-based waiver services programs for Medicaid children/youth with autism spectrum disorder, co-occurring intellectual and developmental disabilities and mental illness, and severe emotional disturbance. However, some of the MCO performance and process measures from secondary data sources presented in Chapter 2 cover more of the post-MLTSS period and extend as far as the first quarter of calendar year 2016. We discuss below findings related to the separate hypotheses, limitation and caveats, and some common crosscutting themes.

**Hypothesis 1**

Measures of quality of care and consumer satisfaction for the entire Medicaid managed care population indicate there were no substantial negative impacts evident during the first six months of the MLTSS program. The evidence for this conclusion is strongest in the preventive care domain captured by the HEDIS® metrics. These findings are concordant with rates of avoidable inpatient and avoidable ED visits which declined over 2011-2014 for the managed care population in our descriptive analyses and showed no net positive or negative effect as a result of MLTSS in the regression analyses. This is one of the more robust findings, although there may be several other areas such as hospital readmissions where there was potential improvement in terms of quality, efficiency, and coordination of care.

The one area with negative findings for the managed care population relates to ambulatory care for beneficiaries with behavioral health conditions. There were declines in the rate of 30-day follow-up with a mental health practitioner after discharge from a hospitalization for mental illness.

A broad goal of the managed care expansion under the Waiver was to serve more long-term care beneficiaries in their homes and communities, rebalancing spending away from nursing facilities. Based on DMAHS presentations to stakeholders and our own calculations, there is initial evidence

that the intended rebalancing is underway, and our final evaluation report spanning a longer follow up period will indicate whether these trends persist.

When we examine the impact of MLTSS specifically on beneficiaries meeting an institutional level of care and residing in their homes and communities under the former 1915(c) waiver programs or, after July 1, 2014, under MLTSS, both health outcomes and process measures paint a more complicated picture of quality, especially in the very early months of MLTSS implementation. Both claims-based annual estimates calculated by us and data in MLTSS performance measure reports from MCOs show declines for the HCBS population in overall inpatient and emergency department use rates. Further, overall rates of avoidable inpatient and avoidable ED visits declined from 2013 to 2014 for the HCBS population in annual claims-based estimates. However, when we undertake regression analysis that accounts for other factors and isolates trends in hospital use directly attributable to MLTSS, we find mixed effects. The likelihood of avoidable inpatient hospitalizations for a HCBS beneficiary declined significantly in the first six months of MLTSS, but the number of avoidable ED visits significantly increased. Additional metrics related to readmissions or ambulatory visits after hospitalizations worsened for HCBS individuals as a result of MLTSS, but were not statistically significant. It is important to note that quality measures calculated using claims data cover only the first six months of MLTSS in this interim report, which was a period of transition and coordination of all services under managed care was still underway. While this may have driven some of the negative findings, it also underscores the importance of uninterrupted HCBS care for maintaining or stabilizing people's health and preventing progression to a higher level of care where possible. Additional claims data analysis extending beyond the first six months of the post-MLTSS period will help us determine whether any of these findings persist or strengthen to a level of statistical significance thereby giving a comprehensive picture of the MLTSS policy impact.

Our assessment of Information provided by the Division of Aging Services and by MCOs yields several positive findings related to the implementation process Timeliness of clinical assessments continues to improve, MCO-reports of potentially negative events, show that such events affect a small number of members and are generally reported in a timely fashion. The Division of Banking and Insurance did not show an increase in appeals of managed care decisions in 2014.

*Limitations/Caveats:* Our analysis of Medicaid claims and encounter data presents specific challenges related to capturing acute care utilization by the dual eligible population, identification of residents in nursing facilities, and measuring rates of follow up care for institutionalized beneficiaries. We have discussed in detail these data limitations and strategies to mitigate their impact in the main report. We believe that none of these issues create a bias in our findings.

**Hypothesis 2**

As observed in analyses related to Hypothesis 1, we also see declines in rates of inpatient utilization and ED visits between 2013 and 2014 for children enrolled in the ASD pilot program under the Waiver which started in the spring of 2014. The other two waiver policies under Hypothesis 2 were not in effect during the study period of this interim report precluding any assessment of policy impacts on health outcomes for the targeted populations. Our final evaluation report spanning a longer time period and additional measures will shed greater light on these effects.

*Limitations:* Small sample sizes limit our ability to evaluate the impact of waiver policies on populations of children and youth eligible for home and community-based services and the hospital use metrics proposed in our evaluation plan will not reflect quality for the SED at-risk population since this utilization is not on the menu of services available to them under the Waiver. In order to address these limitations, we will investigate rates of residential treatment facility use and out-of-home placement in this cohort in our final evaluation report due in 2017. Additionally, we will consider the feasibility of combining years of data in order to achieve minimum sample sizes.

**Hypothesis 3**

Information provided by the state indicates that as of the end of 2015, nearly 900 individuals had set up Qualified Income Trusts (QITs), which allow people whose income is above the level normally eligible for Medicaid but is not sufficient to pay the cost of long-term care services, to spend down their excess income and become eligible for Medicaid. Information provided by the state indicates that as of the end of 2015, about 627 individuals who were under the federal poverty level were able to self-attest that they had not transferred assets during the past five years, meaning that the county welfare agencies and the beneficiary were able to skip a comprehensive financial examination. Audits of the effectiveness of this process are not yet available.

The existence of these new avenues into the Medicaid long-term care system, particularly the establishment of QITs, has the potential to impact the number and mix of individuals in the MLTSS program. We will examine the direct effects of these administrative simplifications in a future report, but these changes also have implications for our evaluation of Hypothesis 1. They underscore the importance of adjusting for differing patient characteristics in determining the impact of the MLTSS policy on health outcomes.

**Future Work**

Our final evaluation report due in 2017 will build off the analyses presented here. We will have a longer post-MLTSS implementation for claims-based metrics which will increase our ability to

detect policy effects and will reflect the impacts of the program after the early transitionary period. As more nursing facility residents come under MLTSS, we will explore the impact of MLTSS on this population as well, subject to a sufficient sample size. If data for the post-MLTSS period are sufficient to achieve minimum sample sizes, we will also explore stratification of metrics by demographic characteristics, such as race/ethnicity, and examine whether there are any differential impacts of MLTSS on outcomes by race/ethnicity in statistical models. Uniform billing hospital discharge data, if publically available, will be prepared for selected metrics to compare trends between Medicaid and other payers over the period of the demonstration. We will have data from the 2015 CAHPS® survey available which will reflect consumer perceptions of care for a time period when MLTSS was in effect and lend itself to potentially meaningful comparisons of trends within eligibility groups, in particular for the ABD population. HEDIS®, CAHPS®, and MCO performance reports will also include data for Aetna, a Medicaid MCO that entered the market in December of 2014. We will have conducted a second round of stakeholder interviews to gauge ongoing experiences with and perceptions of the MLTSS program, and will have qualitative interview data from stakeholders, state officials, and provider organizations regarding the Supports program, which began in the summer of 2015. Finally, data on the implementation and quality of the administrative simplifications process being collected by the State will be shared with us for the final report.

# Examining the Effect of the NJ Comprehensive Waiver on Access to Care, Quality, and Cost of Care: Draft Interim Evaluation Report

**Sujoy Chakravarty, Ph.D., Kristen Lloyd, M.P.H., Jennifer Farnham, M.S., Susan Brownlee, Ph.D., Katie Zhang, M.S., and Derek DeLia, Ph.D.**

## Introduction

The New Jersey Medicaid Comprehensive Waiver Demonstration was approved for the period October 1, 2012 through June 30, 2017. This §1115 waiver not only consolidated authority for several existing Medicaid waivers, but initiated a variety of health reforms in New Jersey's Medicaid program. The key changes authorized by the Waiver are an expansion in managed care to Long-term Services and Supports (LTSS) and behavioral health (BH) services, targeted home and community-based services (HCBS) for populations of children and in-home community supports for individuals with intellectual and developmental disabilities, administrative simplifications in the Medicaid eligibility process for low-income applicants seeking LTSS, and the establishment of a hospital-based Delivery System Reform Incentive Payment (DSRIP) Program.

The Rutgers Center for State Health Policy (CSHP) was engaged to evaluate New Jersey's Medicaid Comprehensive Waiver Demonstration. In this draft interim evaluation report, we primarily examine the expansions in managed care and targeted home and community-based services occurring under the Waiver.[3] In brief, the Waiver authorized shifting the delivery of LTSS and behavioral health (BH) services for certain aged or physically disabled beneficiaries from a fee-for-service to managed care reimbursement system (referred to as MLTSS – Managed Long-term Services and Supports), a phase out of fee-for-service delivery of behavioral health services for Medicaid beneficiaries through the establishment of an Administrative Services Organization (ASO) that will manage behavioral health services,[4] and the provision of new supportive services

[3] The administrative simplifications will be evaluated in forthcoming reports, though some basic statistics on Qualified Income Trusts and self-attestations are presented in Chapter 2. The Supports program, which is part of the targeted home and community-based services expansion for individuals with intellectual and developmental disabilities, will be evaluated qualitatively in our final report due in 2017. The DSRIP program is evaluated as a separate component and the midpoint evaluation was submitted to the New Jersey Division of Medical Assistance and Health Services (DMAHS) on September 2015 with the final evaluation due in March 2018.

[4] This reform was not implemented during the study period covered in this interim evaluation. As of July 2015, Rutgers University Behavioral Health Care will be the Interim Managing Entity for addiction services.

for children with Autism Spectrum Disorder (ASD), co-occurring intellectual/developmental disabilities and mental illness (ID-DD/MI), and Serious Emotional Disturbance (SED). The Waiver also expanded Medicaid eligibility for children with SED.[5] These abovementioned policy changes motivate the first two of the four evaluation hypotheses and their supporting research questions as outlined in the waiver Special Terms and Conditions document (CMS 2014) and enumerated below.

Hypothesis 1: **"Expanding Medicaid managed care to include long-term care services and supports will result in improved access to care and quality of care and reduced costs, and allow more individuals to live in their communities instead of institutions."**

Research Question 1a: **"What is the impact of the managed care expansion on access to care, the quality, efficiency, and coordination of care, and the cost of care for adults and children?"**
Research Question 1b: **"What is the impact of including long-term care services in the capitated managed care benefit on access to care, quality of care, and mix of care settings employed?"**

Hypothesis 2: **"Providing home and community-based services to Medicaid and CHIP beneficiaries and others with serious emotional disturbance, autism spectrum disorder, or intellectual disabilities/developmental disabilities will lead to better care outcomes."**

Research Question 2a: **"What is the impact of providing additional home and community-based services to Medicaid and CHIP beneficiaries with serious emotional disturbance, autism spectrum disorder, or intellectual disabilities/developmental disabilities?"**
Research Question 2b: **"What is the impact of the program to provide a safe, stable, and therapeutically supportive environment for children from age 5 up to age 21 with serious emotional disturbance who have, or who otherwise would be at risk for, institutionalization?"**

Hypothesis 3: **"Utilizing a projected spend-down provision and eliminating the look back period at time of application for transfer of assets for applicants or beneficiaries seeking long term services and supports whose income is at or below 100% of the FPL will simplify Medicaid eligibility and enrollment processes without compromising program integrity."**

Research Question 3a: **"What is the impact of the projected spend-down provision on the Medicaid eligibility and enrollment process? What economies or efficiencies were achieved,**

[5] The eligibility expansion for children with SED at-risk for hospitalization became effective on the Waiver approval date, October 1, 2012. The first roll-out of new services occurred in the spring of 2014 for the ASD population. All of the other services for the targeted populations of children did not begin until after the study period covered in this interim evaluation.

**and if so, what were they? Was there a change in the number of individuals or on the mix of individuals qualifying for Medicaid due to this provision?"**
Research Question 3b: **"What is the impact of eliminating the transfer of assets look-back period for long term care and home and community based services for individuals who are at or below 100% of the FPL? Was there a change in the number of individuals or on the mix of individuals qualifying for Medicaid due to this provision?"**

Hypothesis 4: **"The Delivery System Reform Incentive Payment (DSRIP) Program will result in better care for individuals (including access to care, quality of care, health outcomes), better health for the population, and lower costs through improvement."**

These hypotheses were tested utilizing a mix of quantitative and qualitative methods. Hypothesis 3 will be examined primarily in the final evaluation report, and Hypothesis 4 relating to the DSRIP program is covered in a separate set of reports. This report is comprised of four distinct chapters each covering one analytic component of our interim evaluation and supplements an earlier report with qualitative findings from key informant interviews of providers, consumer advocates, managed care organizations (MCOs) and state officials on MLTSS implementation.[6]

Organized by chapter, the following table presents a brief description of the contents of this report, the data sources used and time periods covered, the focus of the analyses (i.e. populations and/or plans), and the corresponding hypothesis(es) and research question(s) addressed to the extent possible given the available data and timing of policy implementation.

[6] Farnham J, S Chakravarty, and K Lloyd. 2015. *Initial Stakeholder Feedback on Implementation of the Managed Care Expansion in Long-Term Services and Supports*. New Brunswick, NJ: Rutgers Center for State Health Policy. http://www.cshp.rutgers.edu/Downloads/10740.pdf.

| Data Sources | Focus of Analysis | Hyp. | RQ |
|---|---|---|---|
| Chapter 1: Managed Care Quality Indicators | | | |
| HEDIS® and CAHPS®, 2011-2014 | Managed care beneficiaries and MCOs | 1 | 1a |
| Chapter 2. MLTSS-related Measures | | | |
| Reports from MCOs, EQROs, and State Government, 2014-2016 | Medicaid beneficiaries in MLTSS and their MCOs | 1, 3 | 1b, 3a, 3b |
| Chapter 3. Analysis of Medicaid Claims Data to Examine Access, Quality, and Cost of Care | | | |
| Medicaid claims and encounter data, 2011-2014 | Medicaid beneficiaries and managed care beneficiaries, overall and by eligibility group, and those in long-term care (facility and community-based) | 1 | 1a, 1b |
| Chapter 4. Analysis of Medicaid Claims Data to Examine Care Outcomes for Populations of Children and Youth | | | |
| Medicaid claims and encounter data, 2011-2014 | Individuals with ASD, ID-DD/MI, and SED eligible for home and community-based waiver services, and all Medicaid youth | 2 | 2a, 2b |

Hyp.=Hypothesis; RQ=Research Question; MCO=Managed Care Organization; EQRO=External Quality Review Organization; ASD=Autism Spectrum Disorder; ID-DD/MI=Co-occurring intellectual/developmental disability and mental illness; SED=Serious Emotional Disturbance.

# References

CMS (Centers for Medicare & Medicaid Services). 2014. *Technical Corrections to the New Jersey Comprehensive Waiver Section 1115 of the Social Security Act (the Act) Demonstration (Project No. 11-W-00279/2)*. Baltimore: CMS. https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/nj/nj-1115-request-ca.pdf.

# Chapter 1: Medicaid Managed Care HEDIS® and CAHPS® Quality Indicators

## Introduction

This section compares the performance of NJ Medicaid[7] managed care organizations (MCOs) during calendar years 2011-2012, the baseline period of the waiver evaluation, and calendar years 2013-2014, the first two years of the waiver implementation period. It presents quality and utilization-based metrics from two sources: first, the Healthcare Effectiveness Data and Information Set (HEDIS®), a system of standardized performance measures developed by the National Committee for Quality Assurance (NCQA) in conjunction with a variety of public and private partners; second, the CAHPS® (Consumer Assessment of Healthcare Providers and Systems) survey that on an annual basis assesses members' perceptions of the quality of care and services they receive in their Medicaid health plan. The specific Research Question and the overarching evaluation hypothesis outlined in the waiver Special Terms and Conditions document (CMS 2014) which guide our selection and assessment of metrics from the data sources in this chapter are:

Hypothesis 1: **"Expanding Medicaid managed care to include long-term care services and supports will result in improved access to care and quality of care and reduced costs, and allow more individuals to live in their communities instead of institutions."**;

Research Question 1a: **"What is the impact of the managed care expansion on access to care, the quality, efficiency, and coordination of care, and the cost of care for adults and children?"**

The measures presented are related to preventive care, behavioral health care, treatment of chronic conditions, and consumer satisfaction.[8] These outcome domains broadly reflect the goals of the Division of Medical Assistance and Health Services (DMAHS) Quality Strategy (DMAHS 2014). This strategy guides the State's healthcare monitoring, assessment, and improvement efforts for all Medicaid managed care services. Monitoring changes in these metrics sheds light

[7] The term Medicaid will be used in this report to refer to NJ FamilyCare beneficiaries who are insured under the State's Medicaid or CHIP programs, including those covered by MCOs.

[8] Evaluation of the impact of the managed care expansion on cost of care, which is part of Research Question 1a, will be assessed in Chapter 3 using claims-based analyses. HEDIS® and CAHPS® metrics do not address this domain.

on how preparation for and full implementation of the Managed Long-Term Services and Supports (MLTSS) expansion may have affected quality of care for the overall Medicaid managed care population.

# Methods

**Data Sources**

The health plans covering Medicaid enrollees in New Jersey regularly collect and report quality indicators assessing care and service delivered to members that are consistent with the DMAHS Quality Strategy. These measures are based on the Healthcare Effectiveness Data and Information Set (HEDIS®), a system of standardized performance measures developed by the National Committee for Quality Assurance (NCQA) in conjunction with a variety of public and private partners. These measures have specific definitions governing data preparation and reporting to accurately measure members' care and service across several health domains. NJ Medicaid plans also have their HEDIS® results verified by an external quality review organization (EQRO).

On an annual basis, an independent survey organization also assesses members' perceptions of the quality of care and services they receive in their Medicaid health plan. The CAHPS® (Consumer Assessment of Healthcare Providers and Systems) survey, a part of the HEDIS® measurement set developed by the NCQA, is the instrument used for this survey. A sample of health plan members in three main Medicaid eligibility categories (FamilyCare recipients; Temporary Assistance for Needy Families recipients; and aged, blind, or disabled recipients) are interviewed using child and adult versions of the CAHPS® instrument.

Both types of quality measures, those from plan records (referred to in this report as HEDIS® measures) and those from member surveys (referred to in this report as CAHPS® measures) are presented in this chapter for the years 2011, 2012, 2013, and 2014[9]. For the HEDIS® metrics, in addition to select measures which are publicly reported, we also used data from the annual Performance Measure Validation reports created by the State's EQRO and provided to us by DMAHS. The 2011 and 2012 CAHPS® Health Plan Survey 4.0 reports prepared by ACS Government Healthcare Solutions and the 2013 and 2014 CAHPS® Health Plan Survey 5.0 reports prepared by

[9] Further information about HEDIS® and CAHPS® measures, such as measure development processes and details on measure specifications, can be found at www.ncqa.org. Additionally, information on methods specific to collection of these measures for NJ Medicaid MCOs can be found in the DMAHS's Annual Reports at http://www.state.nj.us/humanservices/dmahs/news/.

Xerox State Healthcare LLC and also provided to us by DMAHS were the source of the CAHPS® metrics reported for the years 2011-2014.[10]

**Statistical Testing**

In this chapter we present methods to examine whether there were any differences in quality between the two baseline years and the first two implementation years of the evaluation period.

*Comparison of HEDIS® Measures:* For HEDIS® measures, a weighted average of individual plan results based on the entire Medicaid managed care population is available for each year. To compare estimates between the baseline (2011-2012) and waiver periods (2013-2014), 95% confidence intervals (CI) of the difference between the 2011-2012 and 2013-2014 pooled estimates were calculated using the following formula:

$$(plan\ rate_{2011\text{-}2012} - plan\ rate_{2013\text{-}2014}) \pm 1.96 \times SEDiff$$

The formula for the standard error of the difference (*SEDiff*) is as follows:

$$SEDiff = \sqrt{\frac{p_1 q_1}{n_1} + \frac{p_2 q_2}{n_2}}$$

where

$n_1$ is the population denominator for years 2011-2012
$n_2$ is the population denominator for years 2013-2014
$p_1$ is the weighted pooled rate for years 2011-2012
$p_2$ is the weighted pooled rate for years 2013-2014
$q_1$ is (1-$p_1$)
$q_2$ is (1-$p_2$)

If the 95% CI was a range of only negative numbers, then the 2013-2014 pooled rate was considered below the 2011-2012 pooled rate indicating that performance based on that HEDIS® measure declined for the Medicaid managed care population. If the CI contained zero, the performance between the two years were not considered to be statistically different, and if the CI was a range of only positive numbers then performance based on that HEDIS® metric improved from 2011-2012 to 2013-2014. Due to very large sample sizes, small changes in rates may be significant.

[10] The baseline period for the evaluation of the Medicaid Comprehensive Waiver (exclusive of the DSRIP) is 1/1/2011-9/30/2012. HEDIS® and CAHPS® measures are collected annually using a calendar year performance period that, while not exactly matching our proposed baseline, tracks with and is representative of care and services delivered during that period.

Certain HEDIS® measures were not required to be reported by plans in 2011. For these, estimates are available for year 2012 only, and this single year served as the baseline.

*Comparison of CAHPS® Measures:* CAHPS® data-based metrics are available from samples that are representative of individual plans.[11] However, the reported overall average across plans does not reflect the differences in enrollment across plans and this precludes statistical tests of differences across the years for the entire managed care population. Accordingly, we adopted a descriptive approach where we examined estimates separately for each plan and also the overall average across plans, examining changes from 2011-2012 to 2013-2014.[12] Differences of 1% or less were ignored since these could be due to rounding. Changes were color coded to indicate whether the point estimates improved, stayed the same/showed a mixed trend, or declined.

# Results

Results are organized by the following domains – preventive health, behavioral health services, treatment of chronic conditions, and consumer satisfaction. Below, a brief discussion of findings is presented.

*Preventive Care Quality Measures:* Tables 1.1 and 1.2 show quality measures related to preventive care for adults and children in Medicaid managed care during the baseline and waiver periods spanning years 2011-2014. The HEDIS® measures in Table 1.1 are predominantly National Quality Forum (NQF) endorsed measures related to immunizations, screenings, and visits to primary care practitioners. For 2011-2012, 82.23% of adolescents in managed care received both their meningococcal vaccination and their Tdap or Td (tetanus, diphtheria toxoids and acellular pertussis vaccine or tetanus, diphtheria toxoids) vaccine by their 13th birthday. For 2013-2014, the pooled rate was 85.30% and this represented a statistically significant improvement in the vaccination rate for this population. The rates for vaccine combinations 2 and 3 did not significantly change. Rates significantly improved from 2011-2012 to 2013-2014 for wellness visits for both young children and adolescents, as did the rate for frequency of ongoing prenatal care. However, rates declined for the prenatal and postpartum care metric which assesses visit timeliness surrounding delivery. Rates improved for all the access to primary care measures for children of all ages except for those ages 12-24 months. BMI assessment rates for both younger

[11] Effective July 1, 2014, Healthfirst's Medicaid beneficiaries were migrated to WellCare. The field period for the 2014 CAHPS began in April 2014 and respondents were required to have been enrolled with their health plan for at least the prior 6 months to be eligible for the survey. Therefore, the 2014 estimates relate to beneficiaries enrolled in Healthfirst, and are thus comparable to previous years.

[12] Other limitations relating to CAHPS® survey include low response rates making sample sizes small for some questions for some plans. Differential non-response, particularly in small samples, can create unquantifiable bias in estimates.

children and adolescents improved. For adults, the BMI assessment rate also improved, as did the breast cancer screening rate. There was no change in the cervical cancer screening rate.

Table 1.2 shows the CAHPS® measure for dental care utilization. In each plan and separately for adults and children, the percentage of respondents who self-report that they have received care from a dental office or clinic in the past six months is shown for 2011, 2012, 2013, and 2014. The pattern of rates suggests a general improvement in dental care utilization among both adults and children in Medicaid managed care. For example, the overall rates for adults who received care from a dental office or clinic in the past six months were 28% and 31% for 2011 and 2012, respectively, while the rates were 32% and 43% for 2013 and 2014, respectively. The rates improved from 2011-2012 to 2013-2014 for adults in all four Medicaid managed care plans and in two of the four plans for children.

*Behavioral Health Care Services Quality Measures:* Table 1.3 shows quality measures related to behavioral health care services for adults in Medicaid managed care. The HEDIS® measures in Table 1.3 are also National Quality Forum (NQF) endorsed measures related to follow-up care for individuals with certain behavioral health diagnoses. The rates shown for *Initiation Phase* under *Follow-up Care for Children Prescribed ADHD Medication* refer to the percentage of 6-12 year old children newly prescribed attention-deficit/hyperactivity disorder (ADHD) medication who had at least one face-to-face follow-up care visit within 30 days of when ADHD medication was first dispensed. In 2011-2012, the pooled rate was 31.81% among the eligible population. In 2013-2014, the pooled rate was 32.50%. There was no statistically significant difference in rates between these two periods. The measure, *Follow-Up After Hospitalization for Mental Illness,* applies only to the DDD Medicaid managed care beneficiaries ages 6 and older who were hospitalized for treatment of certain mental illness diagnoses. In 2011-2012, 38.28% of this population had a qualifying follow-up visit within 30 days after discharge. In 2013-2014, the rate was 32.87% representing a significant decline in this quality measure. There was no change in the 7-day follow-up rates between the two periods.

*Treatment of Chronic Conditions Quality Measures:* Table 1.4 shows quality measures related to treatment of chronic conditions for adults and children in Medicaid managed care. These HEDIS® measures are all National Quality Forum (NQF) endorsed measures related to high prevalence chronic conditions like diabetes and asthma. Results were mixed for the measures under *Annual Monitoring for Patients on Persistent Medications* (rates declined for digoxin[13], but showed no significant change for ACE inhibitors, diuretics, or anti-convulsants) and for measures under *Comprehensive Diabetes Care* (rates improved for the percentage of adult managed care

[13] The NCQA specification was changed to no longer allow a blood urea nitrogen therapeutic monitoring test to count as evidence of annual monitoring of kidney function.

beneficiaries with diabetes who received a Hemoglobin A1c (HbA1c) test or an eye exam during the year, but declined for HbA1c control). The rates for blood pressure control improved. The rates for the percentage of patients who had persistent asthma and were appropriately prescribed medication were mixed for different age groups (no change in those ages 5-11 or 19-50; rates improved for those ages 12-18 but declined for those ages 51-64).

*Measures of Consumer Satisfaction:* Tables 1.5 and 1.6 show a variety of CAHPS® measures related to perceptions of care quality among adults and children in Medicaid managed care. The first three measures in the tables are composite measures which group together questions on similar topics to simplify interpretation of the data and to enhance the reliability of results (ACS Government Healthcare Solutions 2011). For example, the *Getting Needed Care* composite is a combination of beneficiaries' responses to questions on the ease of getting appointments and the ease of getting the care, tests, and treatment needed under their health plan. In Table 1.5 for adults, all measures with data for all four years showed improved rates from 2011-2012 to 2013-2014 both overall and for all four Medicaid managed care plans. This includes these measures: *Getting Needed Care* composite, *Getting Care Quickly* composite, *How Well Doctors Communicate* composite, *Overall Rating of Personal Doctor*, and *Ease of Getting Appointments with Specialists*. For children in Medicaid managed care plans in Table 1.6, the rates improved overall from 2011-2012 to 2013-2014 for four of the five measures with data for all four years (*Getting Needed Care* composite, *Getting Care Quickly* composite, *Overall Rating of Personal Doctor*, and *Ease of Getting Appointments with Specialists*). There was no change in the *How Well Doctors Communicate* composite. Three of the four individual plans showed improvement in at least four of the measures.

## Table 1.1: HEDIS® measures of preventive care quality, 2011–2014

New Jersey Medicaid Managed Care Population

| | 2011 | | 2012 | | 2013 | | 2014 | | 2011-2012 Pooled Rate | 2013-2014 Pooled Rate | 2013/2014-2011/2012 Difference | SE | 95% Confidence Interval | | Performance 2013/2014-2011/2012 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Population | Rate | Population | Rate | Population | Rate | Population | Rate | | | | | LCI | UCI | |
| Childhood Immunization Status | | | | | | | | | | | | | | | |
| Vaccine Combination 2[a] | 31,174 | 70.61% | 30,025 | 70.49% | 29,515 | 69.86% | 28,725 | 70.94% | 70.55% | 70.40% | -0.00154 | 0.00264 | -0.00672 | 0.00363 | Same |
| Vaccine Combination 3[b] | 31,174 | 65.74% | 30,025 | 64.97% | 29,515 | 64.63% | 28,725 | 65.16% | 65.36% | 64.89% | -0.00472 | 0.00276 | -0.01013 | 0.00068 | Same |
| Immunizations for Adolescents | | | | | | | | | | | | | | | |
| Meningococcal | 24,258 | 82.94% | 26,133 | 86.16% | 28,328 | 86.36% | 27,900 | 86.28% | 84.61% | 86.32% | 0.01711 | 0.00216 | 0.01287 | 0.02135 | Improved |
| Tdap/Td | 24,258 | 90.00% | 26,133 | 88.50% | 27,328 | 90.72% | 27,900 | 93.79% | 89.22% | 92.27% | 0.03044 | 0.00179 | 0.02693 | 0.03394 | Improved |
| Vaccine Combination 1[c] | 24,258 | 81.05% | 26,133 | 83.33% | 27,328 | 84.92% | 27,900 | 85.68% | 82.23% | 85.30% | 0.03073 | 0.00227 | 0.02628 | 0.03519 | Improved |
| Well-Child Visits in First 15 Months of Life | 20,818 | 66.83% | 21,036 | 66.74% | 20,798 | 68.71% | 19,654 | 69.98% | 66.78% | 69.33% | 0.02545 | 0.00325 | 0.01909 | 0.03182 | Improved |
| Well-Child Visits in the 3rd, 4th, 5th, and 6th Years of Life | 138,289 | 78.97% | 142,930 | 78.48% | 133,964 | 81.36% | 137,429 | 78.10% | 78.72% | 79.71% | 0.00988 | 0.00109 | 0.00774 | 0.01202 | Improved |
| Adolescent Well-Care Visits | 179,870 | 57.76% | 195,050 | 62.33% | 190,350 | 64.00% | 205,676 | 63.72% | 60.14% | 63.86% | 0.03719 | 0.00111 | 0.03502 | 0.03935 | Improved |
| Frequency of Ongoing Prenatal Care[d] | 17,815 | 56.22% | 18,387 | 62.20% | 21,979 | 59.14% | 21,945 | 61.18% | 59.26% | 60.16% | 0.00903 | 0.00348 | 0.00221 | 0.01586 | Improved |
| Prenatal and Postpartum Care | | | | | | | | | | | | | | | |
| Timeliness of Prenatal Care | 20,457 | 83.44% | 21,631 | 83.95% | 21,975 | 79.42% | 21,945 | 85.42% | 83.71% | 82.42% | -0.01284 | 0.00256 | -0.01786 | -0.00783 | Declined |
| Postpartum Care | 20,457 | 58.16% | 21,631 | 61.16% | 21,975 | 57.86% | 21,945 | 57.61% | 59.70% | 57.74% | -0.01968 | 0.00336 | -0.02626 | -0.01310 | Declined |
| Children and Adolescents' Access to Primary Care Practitioners | | | | | | | | | | | | | | | |
| 12-24 months | --[e] | --[e] | 31,332 | 97.42% | 30,468 | 97.73% | 28,222 | 96.57% | 97.42% | 97.17% | -0.00255 | 0.00113 | -0.00476 | -0.00035 | Declined |
| 25 months - 6 years | --[e] | --[e] | 173,075 | 91.20% | 162,659 | 92.95% | 167,569 | 92.61% | 91.20% | 92.78% | 0.01578 | 0.00082 | 0.01418 | 0.01738 | Improved |
| 7-11 years | --[e] | --[e] | 124,755 | 93.24% | 124,466 | 93.68% | 130,909 | 94.60% | 93.24% | 94.15% | 0.00908 | 0.00085 | 0.00741 | 0.01074 | Improved |
| 12-19 years | --[e] | --[e] | 145,363 | 91.55% | 147,962 | 91.59% | 154,598 | 92.15% | 91.55% | 91.88% | 0.00332 | 0.00088 | 0.00159 | 0.00505 | Improved |
| BMI Assessment for Children/Adolescents[d] | | | | | | | | | | | | | | | |
| 3 - 11 years | 214,846 | 51.10% | 255,415 | 51.60% | 250,689 | 49.01% | 262,524 | 59.84% | 51.37% | 54.55% | 0.03179 | 0.00101 | 0.02982 | 0.03377 | Improved |
| 12 - 17 years | 98,731 | 53.49% | 121,820 | 47.80% | 122,091 | 53.22% | 130,029 | 58.36% | 50.35% | 55.87% | 0.05522 | 0.00145 | 0.05237 | 0.05807 | Improved |
| Total | 313,577 | 51.87% | 377,235 | 50.40% | 372,780 | 50.43% | 392,533 | 59.18% | 51.07% | 54.92% | 0.03847 | 0.00083 | 0.03685 | 0.04009 | Improved |
| Adult BMI Asssessment | --[e] | --[e] | 145,123 | 65.41% | 149,284 | 74.73% | 148,786 | 76.58% | 65.41% | 75.66% | 0.10246 | 0.00148 | 0.09957 | 0.10536 | Improved |
| Breast Cancer Screening | 36,948 | 52.80% | 40,684 | 52.73% | 17,811 | 53.58% | 16,237 | 54.67% | 52.76% | 54.10% | 0.01342 | 0.00324 | 0.00707 | 0.01977 | Improved |
| Cervical Cancer Screening | 139,926 | 64.82% | 145,436 | 64.23% | 136,535 | 67.12% | 163,017 | 62.16% | 64.52% | 64.42% | -0.00103 | 0.00125 | -0.00348 | 0.00143 | Same |

Notes: Data shown indicate performance during year indicated; SE=standard error; LCI=lower bound of 95% confidence interval; UCI=upper bound of 95% confidence interval.

[a]Combination 2 includes DTaP, IPV, MMR, HiB, HepB, and VZV vaccinations.

[b]Combination 3 includes DTaP, IPV, MMR, HiB, HepB, VZV, and PCV vaccinations.

[c]Combination 1 indicates receipt of both component vaccinations (Meningococcal and Tdap/Td).

[d]Excludes members in one health plan due to differing methodology in the calculation of this measure.

[e]This metric was not reported in 2011.

Difference is weighted, pooled 2013-2014 estimate minus weighted, pooled 2011-2012 estimate.

## Table 1.2: CAHPS® measures of preventive care quality, 2011–2014

New Jersey Medicaid Managed Care Population

| | | Amerigroup | | | | Healthfirst | | | | Horizon | | | | United Healthcare | | | | **Overall Plan Average** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | **2011** | **2012** | 2013 | 2014 |
| Received Care from Dental Office or Clinic in Past 6 Months | Adults | *n=684* | *n=474* | *n=528* | n=277 | *n=543* | *n=238* | *n=464* | *n=286* | *n=723* | *n=580* | *n=572* | *n=486* | *n=766* | *n=556* | *n=560* | *n=369* | *n=2716* | *n=1848* | *n=2124* | n=1418 |
| | | 26% | 33% | 30% | 42% | 28% | 24% | 32% | 37% | 30% | 33% | 36% | 45% | 28% | 32% | 29% | 48% | 28% | 31% | 32% | 43% |
| | Children | *n=733* | *n=558* | *n=499* | n=516 | *n=750* | *n=290* | *n=474* | *n=587* | *n=810* | *n-676* | *n=613* | *n=505* | *n=834* | *n=701* | *n=610* | *n=428* | *n=3127* | *n=2225* | *n=2196* | n=2036 |
| | | 60% | 68% | 69% | 69% | 60% | 63% | 56% | 56% | 59% | 67% | 64% | 64% | 58% | 63% | 65% | 65% | 59% | 65% | 64% | 64% |

Note: Shading scheme does not indicate statistically significant differences, only the direction of change (>1%) in point estimates from 2011 to 2012 to 2013 to 2014 as follows:

Improved

No Change or Mixed Trend

Declined

## Table 1.3: HEDIS® measures of behavioral health care services quality, 2011–2014

New Jersey Medicaid Managed Care Population

| | 2011 | | 2012 | | 2013 | | 2014 | | 2011-2012 | 2013-2014 | 2013/2014-2011/2012 | SE | 95% Confidence Interval | | Performance 2013/2014- |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Population | Rate | Population | Rate | Population | Rate | Population | Rate | Pooled | Pooled | | | LCI | UCI | |
| Follow-up Care for Children Prescribed ADHD Medication | | | | | | | | | | | | | | | |
| Initiation Phase | 4,806 | 31.25% | 5,805 | 32.27% | 5,755 | 32.49% | 5,638 | 32.51% | 31.81% | 32.50% | 0.00693 | 0.00630 | -0.00542 | 0.01927 | Same |
| Continuation and Maintenance Phase | --[a] | --[a] | 1,364 | 34.61% | 1,147 | 35.92% | 1,088 | 37.32% | 34.61% | 36.60% | 0.01994 | 0.01642 | -0.01225 | 0.05213 | Same |
| Follow-Up After Hospitalization for Mental Illness (DDD only) | | | | | | | | | | | | | | | |
| 7 Day Follow-up | 300 | 14.66% | 421 | 22.80% | 453 | 14.35% | 262 | 28.25% | 19.42% | 19.44% | 0.00025 | 0.02088 | -0.04068 | 0.04118 | Same |
| 30 Day Follow-up | 300 | 31.00% | 421 | 43.47% | 453 | 28.70% | 262 | 40.08% | 38.28% | 32.87% | -0.05413 | 0.02522 | -0.10357 | -0.00469 | Declined |

Notes: Data shown indicate performance during year indicated; SE=standard error; LCI=lower bound of 95% confidence interval; UCI=upper bound of 95% confidence interval.

[a]This metric was not reported in 2011.

## Table 1.4: HEDIS® measures of chronic condition treatment quality, 2011–2014

New Jersey Medicaid Managed Care Population

| | 2011 | | 2012 | | 2013 | | 2014 | | 2011-2012 Pooled Rate | 2013-2014 Pooled Rate | 2013/2014-2011/2012 Difference | SE | 95% Confidence Interval | | Performance 2013/2014-2011/2012 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Population | Rate | Population | Rate | Population | Rate | Population | Rate | | | | | LCI | UCI | |
| Annual Monitoring for Patients on Persistent Medications | | | | | | | | | | | | | | | |
| ACE Inhibitors or ARBs | --[a] | --[a] | 25,145 | 86.03% | 25,518 | 86.52% | 28,275 | 85.78% | 86.03% | 86.13% | 0.00104 | 0.00265 | -0.00415 | 0.00623 | Same |
| Digoxin | --[a] | --[a] | 537 | 90.13% | 532 | 91.92% | 392 | 46.42% | 90.13% | 72.62% | -0.17510 | 0.01952 | -0.21335 | -0.13685 | Declined |
| Diuretics | --[a] | --[a] | 17,477 | 85.72% | 17,326 | 86.18% | 19,416 | 84.91% | 85.72% | 85.51% | -0.00208 | 0.00322 | -0.00839 | 0.00423 | Same |
| Anti-convulsants | --[a] | --[a] | 4,848 | 63.41% | 4,683 | 62.55% | --[b] | --[b] | 63.41% | 62.55% | -0.00858 | 0.00989 | -0.02797 | 0.01081 | Same |
| Total | --[a] | --[a] | 48,007 | 83.68% | 48,059 | 84.12% | 48,083 | 85.11% | 83.68% | 84.62% | 0.00938 | 0.00205 | 0.00536 | 0.01339 | Improved |
| Comprehensive Diabetes Care | | | | | | | | | | | | | | | |
| HbA1c Testing | 23,821 | 79.38% | 27,585 | 78.12% | 27,582 | 80.68% | 28,699 | 82.95% | 78.70% | 81.84% | 0.03136 | 0.00243 | 0.02660 | 0.03612 | Improved |
| HbA1c Poor Control (>9.0%) | 23,821 | 45.25% | 27,585 | 45.68% | 27,582 | 45.40% | 28,699 | 39.40% | 45.48% | 42.34% | -0.03143 | 0.00303 | -0.03737 | -0.02550 | Declined |
| Eye Exam | 23,821 | 54.41% | 27,585 | 54.09% | 27,582 | 56.97% | 28,699 | 59.21% | 54.24% | 58.11% | 0.03869 | 0.00303 | 0.03276 | 0.04462 | Improved |
| Controlling High Blood pressure | --[a] | --[a] | 41,599 | 51.70% | 42,231 | 50.53% | 45,525 | 58.25% | 51.70% | 54.54% | 0.02832 | 0.00297 | 0.02250 | 0.03415 | Improved |
| Use of Appropriate Medications for People with Asthma | | | | | | | | | | | | | | | |
| 5-11 Years | 5,646 | 87.58% | 7,335 | 83.50% | 4,658 | 85.34% | 4,515 | 85.03% | 85.28% | 85.18% | -0.00091 | 0.00484 | -0.01040 | 0.00858 | Same |
| 12-18 Years | 3,010 | 82.46% | 3,993 | 78.64% | 3,675 | 82.15% | 3,690 | 81.65% | 80.28% | 81.90% | 0.01622 | 0.00654 | 0.00341 | 0.02904 | Improved |
| 19-50 Years | 2,963 | 75.63% | 3,507 | 74.25% | 3,627 | 74.86% | 3,654 | 75.67% | 74.89% | 75.26% | 0.00377 | 0.00739 | -0.01072 | 0.01826 | Same |
| 51-64 Years | 748 | 79.01% | 1,019 | 77.43% | 1,266 | 75.75% | 1,279 | 75.21% | 78.10% | 75.48% | -0.02616 | 0.01302 | -0.05168 | -0.00064 | Declined |
| Total | 12,367 | 82.95% | 15,854 | 79.84% | 13,226 | 80.66% | 13,109 | 80.53% | 81.21% | 80.60% | -0.00610 | 0.00337 | -0.01271 | 0.00050 | Same |

Notes: Data shown indicate performance during year indicated; SE=standard error; LCI=lower bound of 95% confidence interval; UCI=upper bound of 95% confidence interval.

[a]This metric was not reported in 2011.

[b]This metric was not reported in 2014.

## Table 1.5: CAHPS® measures of consumer satisfaction with adult health care services, 2011–2014

New Jersey Medicaid Managed Care Population

| *Adult Survey* | Amerigroup | | | | Healthfirst | | | | Horizon | | | | United Healthcare | | | | **Overall Plan Average** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | **2011** | **2012** | **2013** | **2014** |
| Getting Needed Care composite | *n=355* | *n=255* | *n=436* | *n=436* | *n=306* | *n=109* | *n=472* | *n=472* | *n=406* | *n=330* | *n=493* | *n=493* | *n=430* | *n=335* | *n=492* | *n=492* | *n=1497* | *n=1029* | *n=1893* | *n=1893* |
| Always | 40% | 42% | 57% | 53% | 46% | 46% | 50% | 56% | 41% | 47% | 52% | 56% | 45% | 43% | 51% | 53% | 43% | 45% | 53% | 54% |
| Usually | 32% | 32% | 27% | 28% | 27% | 23% | 28% | 29% | 34% | 29% | 32% | 28% | 32% | 30% | 29% | 29% | 31% | 28% | 29% | 28% |
| Never/Sometimes | 27% | 26% | 16% | 19% | 27% | 31% | 21% | 15% | 25% | 24% | 16% | 16% | 22% | 27% | 20% | 19% | 25% | 27% | 18% | 17% |
| Getting Care Quickly composite | *n=513* | *n=363* | *n=435* | *n=230* | *n=433* | *n=178* | *n=386* | *n=259* | *n=583* | *n=474* | *n=491* | *n=393* | *n=607* | *n=453* | *n=476* | *n=290* | *n=2136* | *n=1468* | *n=1788* | *n=1172* |
| Always | 50% | 52% | 60% | 58% | 50% | 47% | 55% | 60% | 55% | 57% | 60% | 62% | 54% | 56% | 60% | 61% | 52% | 53% | 59% | 60% |
| Usually | 28% | 26% | 22% | 25% | 23% | 28% | 22% | 24% | 26% | 23% | 24% | 22% | 25% | 25% | 24% | 25% | 26% | 26% | 23% | 24% |
| Never/Sometimes | 22% | 21% | 18% | 17% | 27% | 24% | 22% | 16% | 19% | 20% | 16% | 16% | 22% | 19% | 17% | 14% | 22% | 21% | 18% | 16% |
| How Well Doctors Communicate composite | *n=476* | *n=344* | *n=416* | *n=225* | *n=407* | *n=185* | *n=366* | *n=252* | *n=531* | *n=442* | *n=470* | *n=386* | *n=574* | *n=432* | *n=466* | *n=285* | *n=1988* | *n=1402* | *n=1718* | *n=1148* |
| Always | 68% | 64% | 75% | 74% | 68% | 70% | 73% | 73% | 65% | 68% | 71% | 77% | 67% | 65% | 72% | 75% | 67% | 67% | 73% | 75% |
| Usually | 22% | 25% | 18% | 17% | 21% | 22% | 19% | 21% | 21% | 21% | 20% | 18% | 22% | 25% | 19% | 19% | 21% | 23% | 19% | 19% |
| Never/Sometimes | 10% | 10% | 7% | 9% | 12% | 8% | 8% | 6% | 14% | 12% | 9% | 5% | 11% | 10% | 8% | 6% | 11% | 10% | 8% | 6% |
| Overall Rating of Personal Doctor | *n=576* | *n=412* | *n=485* | *n=241* | *n=460* | *n=209* | *n=411* | *n=266* | *n=622* | *n=494* | *n=547* | *n=441* | *n=653* | *n=494* | *n=525* | *n=329* | *n=2311* | *n=1609* | *n=1968* | *n=1148* |
| Best Doctor (9-10 Rating) | 56% | 53% | 68% | 71% | 63% | 61% | 69% | 73% | 54% | 59% | 66% | 73% | 61% | 55% | 67% | 73% | 58% | 57% | 67% | 72% |
| 7-8 Rating | 25% | 29% | 23% | 16% | 23% | 27% | 22% | 20% | 29% | 22% | 21% | 22% | 24% | 31% | 22% | 18% | 25% | 27% | 22% | 19% |
| Worst Doctor (0-6 Rating) | 19% | 18% | 9% | 13% | 14% | 12% | 9% | 7% | 17% | 19% | 13% | 6% | 15% | 15% | 12% | 9% | 16% | 16% | 11% | 9% |
| Ease of Getting Appointments with Specialists | *n=258* | *n=204* | *n=238* | *n=137* | *n=238* | *n=86* | *n=230* | *n=165* | *n=328* | *n=262* | *n=309* | *n=231* | *n=331* | *n=235* | *n=286* | *n=174* | *n=1155* | *n=787* | *n=1063* | *n=707* |
| Always | 41% | 42% | 56% | 50% | 42% | 47% | 45% | 50% | 39% | 45% | 51% | 55% | 44% | 40% | 47% | 51% | 42% | 43% | 50% | 52% |
| Usually | 32% | 30% | 26% | 26% | 26% | 23% | 29% | 32% | 34% | 29% | 29% | 25% | 31% | 29% | 28% | 28% | 31% | 28% | 28% | 28% |
| Never/Sometimes | 27% | 28% | 18% | 23% | 32% | 30% | 26% | 18% | 27% | 27% | 20% | 20% | 24% | 31% | 24% | 21% | 28% | 29% | 22% | 21% |
| Personal Doctor Informed about Other Providers | *n=210* | *n=163* | *n/a* | *n/a* | *n=184* | *n=77* | *n/a* | *n/a* | *n=285* | *n=242* | *n/a* | *n/a* | *n=293* | *n=209* | *n/a* | *n/a* | *n=972* | *n=691* | *n/a* | *n/a* |
| Always | 48% | 44% | | | 48% | 52% | | | 50% | 47% | | | 49% | 46% | | | 49% | 47% | | |
| Usually | 30% | 29% | | | 27% | 26% | | | 24% | 27% | | | 29% | 31% | | | 27% | 28% | | |
| Never/Sometimes | 23% | 26% | | | 24% | 22% | | | 26% | 26% | | | 22% | 23% | | | 24% | 24% | | |

Note: Shading scheme does not indicate statistically significant differences, only the direction of change (>1%) in point estimates from 2011 to 2012 to 2013 to 2014 as follows:

Improved

No Change or Mixed Trend

Declined

## Table 1.6: CAHPS® measures of consumer satisfaction with child health care services, 2011–2014

New Jersey Medicaid Managed Care Population

| *Child Survey* | Amerigroup | | | | Healthfirst | | | | Horizon | | | | United Healthcare | | | | **Overall Plan Average** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | **2011** | **2012** | **2013** | **2014** |
| Getting Needed Care composite | *n=242* | *n=195* | *n=195* | *n=429* | *n=248* | *n=101* | *n=101* | *n=474* | *n=276* | *n=288* | *n=288* | *n=417* | *n=298* | *n=242* | *n=242* | *n=348* | *n=1064* | *n=826* | *n=826* | *n=1668* |
| Always | 51% | 50% | 55% | 59% | 44% | 55% | 48% | 54% | 48% | 49% | 55% | 59% | 49% | 50% | 59% | 56% | 48% | 51% | 54% | 57% |
| Usually | 25% | 32% | 27% | 23% | 29% | 25% | 25% | 21% | 31% | 31% | 30% | 21% | 29% | 24% | 26% | 25% | 28% | 28% | 27% | 22% |
| Never/Sometimes | 24% | 18% | 19% | 18% | 26% | 20% | 27% | 25% | 22% | 21% | 15% | 20% | 22% | 25% | 15% | 20% | 24% | 21% | 19% | 21% |
| Getting Care Quickly composite | *n=765* | *n=603* | *n=546* | *n=423* | *n=771* | *n=317* | *n=562* | *n=473* | *n=874* | *n=751* | *n=742* | *n=402* | *n=884* | *n=773* | *n=711* | *n=342* | *n=3294* | *n=2244* | *n=2561* | *n=1640* |
| Always | 67% | 62% | 67% | 65% | 57% | 57% | 54% | 60% | 66% | 64% | 65% | 70% | 65% | 62% | 68% | 65% | 64% | 61% | 63% | 65% |
| Usually | 16% | 16% | 17% | 16% | 17% | 19% | 23% | 18% | 15% | 15% | 18% | 14% | 19% | 17% | 18% | 13% | 17% | 17% | 19% | 15% |
| Never/Sometimes | 17% | 22% | 16% | 19% | 27% | 25% | 23% | 22% | 19% | 21% | 17% | 17% | 16% | 21% | 15% | 23% | 20% | 22% | 18% | 20% |
| How Well Doctors Communicate composite | *n=573* | *n=450* | *n=450* | *n=423* | *n=591* | *n=232* | *n=232* | *n=475* | *n=641* | *n=542* | *n=542* | *n=421* | *n=655* | *n=557* | *n=557* | *n=348* | *n=2640* | *n=1781* | *n=1781* | *n=1667* |
| Always | 74% | 74% | 75% | 80% | 76% | 79% | 74% | 76% | 73% | 72% | 73% | 75% | 74% | 78% | 75% | 76% | 74% | 76% | 74% | 77% |
| Usually | 18% | 20% | 20% | 17% | 18% | 16% | 20% | 20% | 20% | 21% | 20% | 19% | 19% | 16% | 19% | 16% | 19% | 18% | 20% | 18% |
| Never/Sometimes | 8% | 5% | 5% | 4% | 6% | 5% | 6% | 5% | 8% | 7% | 7% | 6% | 7% | 6% | 6% | 8% | 7% | 6% | 6% | 6% |
| Overall Rating of Personal Doctor | *n=663* | *n=494* | *n=476* | *n=461* | *n=654* | *n=257* | *n=437* | *n=532* | *n=718* | *n=608* | *n=570* | *n=466* | *n=737* | *n=637* | *n=581* | *n=387* | *n=2772* | *n=1996* | *n=2064* | *n=2064* |
| Best Doctor (9-10 Rating) | 70% | 70% | 73% | 82% | 74% | 74% | 70% | 74% | 67% | 69% | 72% | 74% | 70% | 73% | 75% | 73% | 70% | 72% | 72% | 76% |
| 7-8 Rating | 21% | 22% | 21% | 14% | 21% | 23% | 22% | 21% | 22% | 22% | 22% | 18% | 21% | 20% | 19% | 20% | 21% | 22% | 21% | 18% |
| Worst Doctor (0-6 Rating) | 8% | 8% | 7% | 4% | 5% | 3% | 8% | 5% | 11% | 9% | 6% | 7% | 9% | 6% | 6% | 7% | 8% | 6% | 7% | 6% |
| Ease of Getting Appointments with Specialists | *n=199* | *n=185* | *n=153* | *n=153* | *n=175* | *n=82* | *n=121* | *n=121* | *n=227* | *n=250* | *n=193* | *n=193* | *n=288* | *n=237* | *n=241* | *n=241* | *n=889* | *n=754* | *n=708* | *n=708* |
| Always | 46% | 44% | 45% | 45% | 38% | 44% | 38% | 38% | 44% | 47% | 51% | 51% | 49% | 47% | 56% | 56% | 44% | 45% | 48% | 48% |
| Usually | 27% | 36% | 27% | 27% | 29% | 30% | 23% | 23% | 30% | 30% | 30% | 30% | 26% | 26% | 23% | 23% | 28% | 31% | 26% | 26% |
| Never/Sometimes | 28% | 20% | 28% | 28% | 34% | 26% | 39% | 39% | 25% | 23% | 19% | 19% | 25% | 27% | 20% | 20% | 28% | 24% | 26% | 26% |
| Personal Doctor Informed about Other Providers | *n=218* | *n=190* | *n/a* | *n/a* | *n=196* | *n=83* | *n/a* | *n/a* | *n=235* | *n=236* | *n/a* | *n/a* | *n=267* | *n=207* | *n/a* | *n/a* | *n=916* | *n=716* | *n/a* | *n/a* |
| Always | 57% | 52% | | | 47% | 47% | | | 51% | 47% | | | 52% | 49% | | | 52% | 49% | | |
| Usually | 25% | 33% | | | 29% | 37% | | | 29% | 34% | | | 26% | 29% | | | 27% | 34% | | |
| Never/Sometimes | 18% | 15% | | | 24% | 16% | | | 20% | 18% | | | 21% | 21% | | | 21% | 18% | | |

Note: Shading scheme does not indicate statistically significant differences, only the direction of change (>1%) in point estimates from 2011 to 2012 to 2013 to 2014 as follows:

Improved

No Change or Mixed Trend

Declined

# Discussion

In this chapter, we presented HEDIS® and CAHPS® managed care performance data for the baseline (2011-2012) and first two implementation years (2013-2014) of the Comprehensive Medicaid Waiver Demonstration. We assessed differences between these two time periods to evaluate the broad impact of the managed care expansion in long-term services and supports on access to care, and the quality, efficiency, and coordination of care for Medicaid managed care beneficiaries overall.[14] With a few exceptions, the findings presented in this chapter support the conclusion that overall quality of care for Medicaid managed care beneficiaries was at the least maintained, and in many cases improved, during the first two years of the demonstration period.

The evidence for this conclusion is strongest in the preventive care domain. Here, most metrics demonstrate improvement and the few declines are, on average, of a smaller magnitude than the improvements. For most of the quality metrics for chronic conditions, we observed unchanged or improved quality. There were some declines but the magnitudes were smaller than those related to improvements.[15] It is important to note that the availability of data pertaining to behavioral health care quality was limited to only two HEDIS® metrics calculated for individuals with developmental disabilities and children prescribed ADHD medication. CAHPS® metrics in this domain were from a standalone survey module which was not administered in 2013 or 2014 and consequently not reported here.[16] Metrics pertaining to behavioral health care quality were conceived in our evaluation plan to capture the impact of the behavioral health-related policy changes, namely the establishment of an ASO/MBHO, as part of the waiver demonstration. However, this change was not implemented during the study period presented in this report. Claims-based analyses presented in Chapter 3 will include additional findings in the behavioral health domain for Medicaid overall, as a way to gauge overall adherence to quality standards during the waiver demonstration period, and for recipients of MLTSS whose behavioral health was integrated under their MCOs.

Consumer satisfaction with care showed improvement across health plans during the first two years of waiver implementation (compared to the baseline period), especially for adults. Among children, improvements in satisfaction are also evident, most consistently among the health plans covering the largest number of lives.

[14] Evaluation of the impact of the managed care expansion on cost of care, which is part of Research Question 1a, will be assessed in Chapter 3 using claims-based analyses. HEDIS® and CAHPS® metrics do not address this domain.
[15] Excluding the digoxin component of the *Annual Monitoring for Patients on Persistent Medications* metric, which was re-specified in 2014.
[16] Please see our baseline report for the 2011-2012 estimates.

While examining the findings presented in this chapter it is important to remember that they are descriptive and do not adjust for beneficiary characteristics. Some of the observed differences may reflect changes in beneficiary characteristics given the change in Medicaid coverage from fee-for-service to managed care during 2011-2012 for certain eligibility groups and the statewide Medicaid expansion in 2014. CAHPS® metrics are not reported for the population of Medicaid managed care beneficiaries as a whole and the statistical significance of changes seen over the interim time period in the overall plan average or within plans could not be assessed. Nevertheless, examining unadjusted trends in the metrics presented in this chapter is an essential part of monitoring progress toward the goals of the Division of Medical Assistance and Health Services (DMAHS) Quality Strategy (DMAHS 2014) during the waiver demonstration period. While our final report will include an additional year of data fully after the July 2014 implementation of MLTSS, the interim evidence from the metrics we examined in this chapter suggests that quality of care has not been compromised for most managed care beneficiaries during the demonstration period.

# References


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# Chapter 2: An Examination of MLTSS-related Measures Reported by Managed Care Organizations, External Quality Review, and State Government

## Introduction and Background

To prepare for the transition in July 2014, when New Jersey brought four §1915(c) home and community based services (HCBS) waivers into managed care with its comprehensive §1115 waiver,[17] the state updated its Quality Strategy[18] to include 40 measures addressing several aspects of managed long-term services and supports (MLTSS). This chapter will discuss these measures, in addition to other data that has been presented in a variety of reports and settings. An earlier report we authored, completed in July of 2015, provides more details about MLTSS implementation in New Jersey—in it we discuss stakeholder feedback from providers, consumer advocates, managed care organizations (MCOs) and state officials on MLTSS implementation.[19] We have considered suggestions from stakeholders with respect to the data we draw upon in our evaluation. This chapter focuses on describing data and performance measures collected and reported by MCOs, external quality review organizations and state government offices relating to a post-implementation period spanning SFY 2015-16.

**Note on Chapter Structure**

The main text of this chapter is quite detailed and lengthy. A summary section at the end of the chapter provides a summary of findings from each section of the chapter. It differs from a conventional format in that it also contains some policy background and metric definition/conceptualization to give a greater context to those findings. The chapter ends with a discussion of these findings and implications for the MLTSS implementation.

[17] See NJ Department of Human Services, Division of Medical Assistance and Health Services, "Comprehensive Medicaid Waiver" web page with links to descriptive documents at http://www.nj.gov/humanservices/dmahs/home/waiver.html.

[18] See a copy of the Quality Strategy as updated June 12, 2014 at http://www.nj.gov/humanservices/dmahs/home/MLTSS_Quality_Strategy-CMS.pdf.

[19] Farnham J, Chakravarty S and K Lloyd. 2015. "Initial Stakeholder Feedback on Implementation of the Managed Care Expansion in Long-Term Services and Supports." New Brunswick, NJ: Rutgers Center for State Health Policy. http://www.cshp.rutgers.edu/Downloads/10740.pdf.

**Description of MLTSS Quality Oversight and Member Appeal Mechanisms**

MCOs are required to report regularly on a number of measures, and to report all claims and encounter data to the state. There are monthly meetings of an MLTSS—MCO Quality Workgroup with membership from each MCO as well as the Division of Medical Assistance and Health Services (DMAHS) and the Division of Aging Services (DoAS) to discuss details around reporting and ensure comparability. In addition to these measurement-focused meetings, MCOs and state divisions have more frequent standing meetings to discuss general operational issues. DMAHS and DoAS maintain hotlines for consumers and providers to report quality issues. An external quality review organization (EQRO) does annual audits of MCO case files. New Jersey participates in the NCI-AD Survey, which involves face-to-face surveys of long-term care consumers.[20] On a quarterly basis, the state reports quality measure data to CMS.[21] It also reports regularly to the MLTSS Steering Committee and the Medical Assistance Advisory Committee.[22] Finally, as discussed in Chapter 1 of this report, New Jersey MCOs participate in the Healthcare Effectiveness Data and Information Set (HEDIS®), a system of standardized performance measures developed by the National Committee for Quality Assurance (NCQA) in conjunction with a variety of public and private partners and the CAHPS® (Consumer Assessment of Healthcare Providers and Systems) survey that, on an annual basis, assesses members' perceptions of the quality of care and services they receive in their Medicaid health plan. These measure sets apply to all MCO enrollees, not just those receiving MLTSS services.

MLTSS members looking to appeal an MCO decision may appeal directly to the MCO, call the state quality hotlines, request an independent review in some cases through New Jersey's Division of Banking and Insurance,[23] or file a Medicaid fair hearing request.[24]

**MLTSS Measure Domains**

The measures in the state's Quality Strategy span six areas of focus: *participant access* (timeliness of assessments and evidence of options counseling), *participant-centered service planning and delivery* (examination of care plans along several dimensions), *provider capacity* (network adequacy and credentialing timeliness), *participant safeguards* (critical incident reporting), *participant rights and responsibilities* (complaints, grievances and appeals), and *effectiveness of*

[20] See http://www.nasuad.org/initiatives/national-core-indicators-aging-and-disabilities; results were collected through the summer and fall of 2015 should be available sometime in 2016.
[21] Most of these reports are posted here: https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/Waivers_faceted.html?filterBy=New%20Jersey.
[22] Agendas, Presentations and Meeting Minutes are posted here: http://www.state.nj.us/humanservices/dmahs/boards/maac/.
[23] See http://www.state.nj.us/dobi/division_insurance/managedcare/ihcap.htm.
[24] See http://www.state.nj.us/humanservices/dmahs/info/fads.html.

*MLTSS activities* (hospital use, transitions between facilities and community settings, and followup after hospitalization for mental illness).

**MLTSS Measure Frequency**

The frequency of measure calculation and reporting varies from monthly to annually. There is also variation in the lag time needed to calculate measures due to claim filing windows that apply to some measures.

**MLTSS Measure Sources**

Data to calculate the measures in the Quality Strategy comes from three sources: Managed Care Organization (MCO) reports to the state, External Quality Review Organization (EQRO) review of MCO files, and state government departments, based on the data that they collect.

In addition to measures included in the Quality Strategy, the state has calculated a variety of other measures to describe LTSS-related programs and populations and included them in presentations to the MLTSS Steering Committee[25] or the Medical Assistance Advisory Council (MAAC).[26] These additional measures were calculated in response to stakeholder inquiries or as part of state efforts to describe the program and affected populations.

# Analytic Objective

This chapter will examine selected measures reported in the state's reports to CMS, the MLTSS Steering Committee, or the Medical Assistance Advisory Council (MAAC), and draw implications where possible on what they reflect regarding the MLTSS implementation process. Based on a review of all available data, we have selected those that seem to have the most bearing on our evaluation hypotheses and research questions, listed below.

Hypothesis 1: **"Expanding Medicaid managed care to include long-term care services and supports will result in improved access to care and quality of care and reduced costs, and allow more individuals to live in their communities instead of institutions."**

Research Question 1a: **"What is the impact of the managed care expansion on access to care, the quality, efficiency, and coordination of care, and the cost of care for adults and children?"**

[25] See http://www.nj.gov/humanservices/dmahs/home/mltss_committee.html for more information about the MLTSS Steering Committee, including a description of members and recommendations made prior to MLTSS implementation.

[26] See http://www.state.nj.us/humanservices/dmahs/boards/maac/ for more information about the MAAC, including agendas, minutes, and presentations.

Research Question 1b: **"What is the impact of including long-term care services in the capitated managed care benefit on access to care, quality of care, and mix of care settings employed?"**

Hypothesis 3: **"Utilizing a projected spend-down provision and eliminating the look back period at time of application for transfer of assets for applicants or beneficiaries seeking long term services and supports whose income is at or below 100% of the FPL will simplify Medicaid eligibility and enrollment processes without compromising program integrity."**

Research Question 3a: **"What is the impact of the projected spend-down provision on the Medicaid eligibility and enrollment process? What economies or efficiencies were achieved, and if so, what were they? Was there a change in the number of individuals or on the mix of individuals qualifying for Medicaid due to this provision?"**
Research Question 3b: **"What is the impact of eliminating the transfer of assets look-back period for long term care and home and community based services for individuals who are at or below 100% of the FPL? Was there a change in the number of individuals or on the mix of individuals qualifying for Medicaid due to this provision?"**

Table 1 describes the measures we examine and their sources.

**Table 1: Secondary metric list**

| | Metric | Metric Source | CSHP's Source | Description |
|---|---|---|---|---|
| 1 | Long-term care population by setting | NJ DMAHS | MLTSS Steering Committee Presentations | Based on the available numbers of HCBS, PACE, and Nursing Facility Residents, we have calculated the percent of the LTC population every 3 months from July 2014 to January 2016 in each setting. |
| 2 | Setting, former waiver enrollees | NJ DMAHS | MAAC/MLTSS Steering Committee Presentations | Tracks the current status of waiver enrollees who transitioned in July 2014 as of November 2015, February 2016, and March 2016 |
| 3 | MLTSS Demographics | NJ DMAHS | MAAC Presentation | Shows the ages of participants in MLTSS and long-term care generally, in October 2015 |
| 4 | Assessment Timeliness | NJ OCCO,[27] MCOs | DMAHS reports to CMS | • Number and timeliness of level of care assessments (required to receive |

[27] Division of Aging Services, Office of Community Choice Options.

| | Metric | Metric Source | CSHP's Source | Description |
|---|---|---|---|---|
| | | | | MLTSS services), monthly from July 2014 to October 2015<br>• Number of assessments by MCO in the period July 2014 to October 2015 and % authorized by OCCO (OCCO must approve) |
| 5 | Care plan characteristics | EQRO | DMAHS reports to CMS | For the annual period July 2014 to June 2015, the extent to which care plans were completed within 30 days of enrollment, were aligned with member needs as per assessment data, were developed using person-centered care principles, and had a back-up plan to ensure safety |
| 6 | Critical incidents | DoAS | DMAHS reports to CMS | Number, timeliness (monthly July 2014 to November 2015) and categories of reporting (Year 1 and Q1 of Year 2) of incidents that had or could have adverse effects on members |
| 7 | Appeals, Grievances Complaints and Service Reductions | MCOs, DMAHS, DOBI | DMAHS reports to CMS, MLTSS Steering Committee presentations, DMAHS final agency decisions, DOBI IHCAP reports | • Quarterly MCO appeals, grievances and complaints from January 2015 to September 2015, including outcomes of home health and private duty nursing appeals.<br>• MCO service reduction reports in Q3, 2015<br>• Fair Hearing Outcomes 2014, 2015, and Q1 of 2016, based on all Medicaid enrollees, by plan<br>• NJ DOBI, Independent Health Care Appeals Program (IHCAP), Jan 16, 2010 to July 15, 2015 (semiannual) |
| 8 | Nursing Facility admissions | MCOs | DMAHS reports to CMS | The percentage of members in a NF living arrangement at any time, out of unique members with an eligibility start date during the measurement year (excludes previous FFS NF residents), for July 2014 to June 2015 |

| | Metric | Metric Source | CSHP's Source | Description |
|---|---|---|---|---|
| 9 | Transitions between nursing facility and community | MCOs | DMAHS reports to CMS | • Transitions from NF to community and back to NF within 90 days<br>• Transitions from community to NF, short-term and long-term<br>Quarterly, July 2014 to September 2015, continuously enrolled members |
| 10 | Hospital and ED Use | MCOs | DMAHS reports to CMS | Any hospitalization or ED visit by continuously enrolled MLTSS members: quarterly, HCBS (July 2014-March 2015) and NF (October 2014-March 2015) |
| 11 | Use of self-directed MLTSS services | Division of Disability Services | DMAHS reports to CMS | Use of MLTSS self-directed services, by plan, as of August 2015 |
| 12 | Network adequacy | MCOs | DMAHS reports to CMS | GeoAccess reports of the percent of members with access to 17 acute care services as of June 30, 2015. |
| 13 | Policy/Administrative changes | DMAHS | DMAHS reports to CMS | Take-up of Qualified Income Trusts; self-attestations regarding asset transfer. Both from July 2014 to December 31, 2015. |

# Results

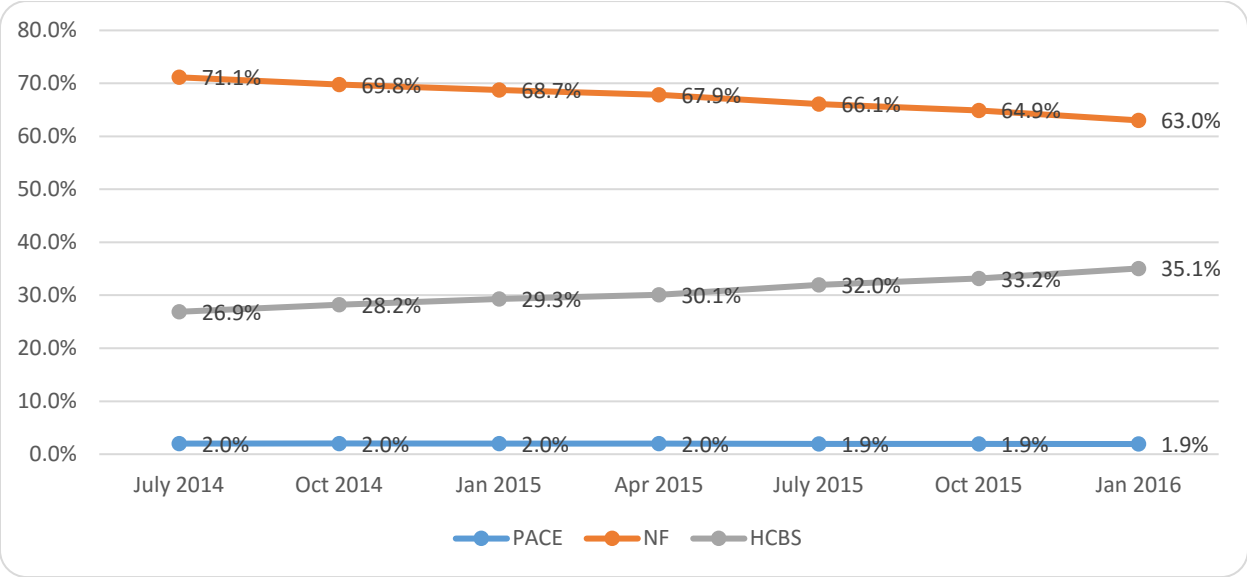
**Setting, All LTC Enrollees**

As shown in Figure 1, the share of the population receiving long-term care services in home and community-based settings (not including PACE) increased from 27% in July 2014 to 35% in January 2016. The share of the same population in nursing facilities has dropped from 71% in July 2014 to 63% in January 2016. This appears to indicate that the state is moving toward providing more services in home and community settings. PACE has remained steady at about 2% of the long-term care population.[28] Among the HCBS population, about 20% are in assisted living facilities and the remaining 80% are in other types of community settings.[29]

[28] The Program of All-inclusive Care for the Elderly (PACE) enrolls people initially in community settings, but will provide nursing facility care if it becomes necessary. For more information, see http://www.state.nj.us/humanservices/doas/services/pace/.

[29] Calculated from data in MLTSS Steering Committee Slides – Feb 2016 (slide 5), which is based on "DMAHS Shared Data Warehouse Monthly Eligibility Universe, accessed 2/9/2016."

**Figure 1: NJ Medicaid LTC population by setting, July 2014–January 2016**




Source: Calculated from MLTSS Steering Committee Slides - Feb 2016 (slide 3), which is based on "Monthly Eligibility Universe (MMX) in Shared Data Warehouse (SDW), accessed on 2/9/2016."

## Setting, Former Waiver Enrollees

Among the group of people enrolled in the former §1915(c) waiver programs who transitioned to managed care in July 2014, 65% were still receiving HCBS services through MLTSS as of March 2016. About 8% are now in nursing facilities, and the remaining 28% are no longer enrolled in MLTSS or no longer enrolled in Medicaid. Many of the latter category have likely passed away. This appears to indicate that people who begin receiving services in community settings are largely able to remain there. Table 2 shows the change from November 2015 to March 2016 in the status of former waiver enrollees (on June 30, 2014 all of these enrollees were receiving HCBS waiver services).

**Table 2: Current status of former waiver enrollees**

| Current Service Status | Percent, July 2014 | Percent, November 2015 | Percent, February 2016 | Percent, March 2016 |
|---|---|---|---|---|
| MLTSS HCBS | 100% | 69% | 67% | 65% |
| MLTSS Nursing Facility | n/a | 7% | 7% | 8% |
| No Longer Enrolled | n/a | 20% | 23% | 25% |

| Current Service Status | Percent, July 2014 | Percent, November 2015 | Percent, February 2016 | Percent, March 2016 |
|---|---|---|---|---|
| Other (Non MLTSS Medicaid) | n/a | 4% | 3% | 3% |

Sources: MAAC Meeting Presentation 4/20/16, based on "DMAHS Shared Data Warehouse Monthly Eligibility Universe, accessed 3/11/16."; MLTSS Steering Committee Slides - Feb 2016 (slide 8), based on "DMAHS Shared Data Warehouse Monthly Eligibility Universe, accessed 2/9/16"; MLTSS Presentation for Steering Committee December 2015 (slide 12), based on "DMAHS Shared Data Warehouse Monthly Eligibility Universe, accessed 11/16/15."

## Demographics

Table 3 shows the distribution across age groups for individuals in the New Jersey Medicaid long-term care (LTC) population and those enrolled in MLTSS. The long-term care population includes those "grandfathered" consumers residing in nursing facilities under a fee-for-service arrangement—about 61% of nursing facility residents in October 2015.[30] The largest share of the population in both general long-term care and MLTSS is comprised of people ages 65 and over (a breakdown of the long-term care population shows that the largest share here is people ages 85 and over). MLTSS has a slightly larger share of consumers under age 65 than the general long-term care population. In December 2015, about 89% of the long-term care population was dually eligible for both Medicare and Medicaid (people under age 65 with disabilities may be eligible for Medicare).[31]

**Table 3: Ages of NJ long-term care[32] and MLTSS populations, October 2015**

| Age Group | Percent of Population | | % of LTC population in MLTSS |
|---|---|---|---|
| | LTC | MLTSS | |
| **0-21** | 1.1% | 1.4% | 61.1% |
| **22-64** | 22.4% | 24.5% | 51.9% |
| **65+** | 76.5% | 74.1% | 46.0% |
| | | | |
| **65-74** | 17.1% | n/a | n/a |
| **75-84** | 23.1% | n/a | n/a |

[30] Calculated from data from MAAC_Meeting_Presentations_1_20_16 (slide 23), which is based on "Monthly Eligibility Universe (MMX) in Shared Data Warehouse (SDW), accessed on 12/8/2015."
[31] MLTSS Presentation for Steering Committee– December 2015 (slide 4).
[32] Including fee-for-service nursing home residents as well as those served by MLTSS.

| Age Group | Percent of Population | | % of LTC population in MLTSS |
|---|---|---|---|
| | LTC | MLTSS | |
| **85+** | 34.0% | n/a | n/a |

Sources: Calculated from MAAC_Meeting_Presentations_1_20_16 (slide 23), which is based on "NJ DMAHS Shared Data Warehouse Regular MMX Eligibility Summary Universe, accessed 12/8/15" and slide 25, which is based on "DMAHS Shared Data Warehouse Monthly Eligibility Universe, accessed 12/8/15."

**Assessment Timeliness**

Two of the Quality Strategy measures examine the timeliness of the assessment to determine whether or not the consumer meets a nursing facility level of care. In order to enroll into MLTSS, consumers must meet this level of care. This assessment is done by the Department of Human Services, Division of Aging Services, Office of Community Choice Options (OCCO) for consumers who are not already both on Medicaid and enrolled in managed care and by MCOs for consumers who are enrolled with them through Medicaid.

The metric measures whether or not the assessment is completed within 30 days of the referral date (there is no measure of duration to assess the magnitude of delay beyond 30 days). Figure 2 shows the results for OCCO, the MCO average, and the individual MCO results (dashed lines). The MCOs with the most variability also have the lowest enrollment. OCCO began reporting this metric upon implementation in July 2014; MCOs began reporting this data in January 2015 due to the need for system development.[33]

The OCCO average climbed from 49% in July 2014 to 76% in October 2015. There is some regional variability in this, though specific numbers are not available. It has been historically more difficult to recruit and retain staff in Northern New Jersey because of more alternative employment opportunities and a higher cost of living. Working conditions for staff making numerous home visits are frequently more onerous in the North because of greater difficulty with transportation and parking. Where possible, OCCO has shifted work to the Southern office (e.g., electronic approvals). OCCO staffing resources were strained during the initial implementation of MLTSS because they had to conduct re-assessments for after MCO assessment submissions could not be authorized (discussed in more detail in Table 4 and surrounding text).[34] OCCO has hired new staff and conducted training for MCO assessors to address the issue.[35]

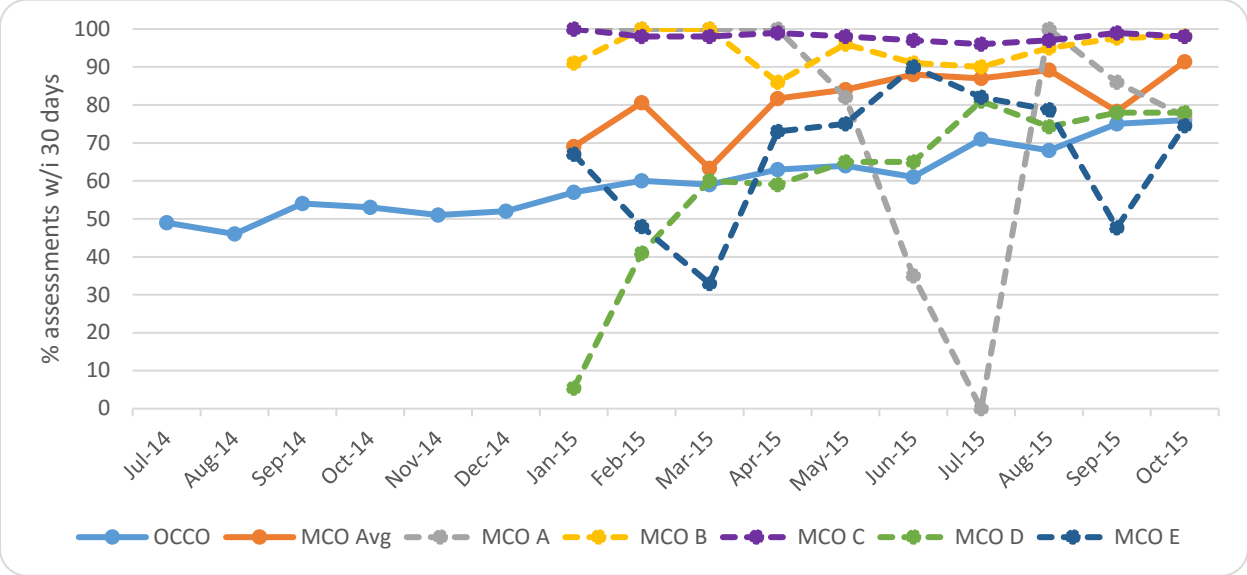
[33] DMAHS, MLTSS Performance Measure Report, 1/1/2015 – 3/31/2015, p. 1.

[34] OCCO is responsible for authorizing all MCO level of care assessments. If it looks from the MCO-submitted documents as if the client does not qualify, OCCO does its own face-to-face assessment of the client before ruling them ineligible.

[35] DMAHS, MLTSS Performance Measure Report, 7/1/14-6/30/15, p. 4.

The MCO overall monthly average for this metric increased from 69% in January 2015 to 91% in October 2015. Individual averages showed considerable range. For the period January 2015 to October 2015, individual MCO averages ranged from 61% to 94% per average month, with an 81% average for all MCOs together. During the same period, OCCO's monthly average was 65%.

**Figure 2: Timeliness of nursing facility level of care assessment, by month**

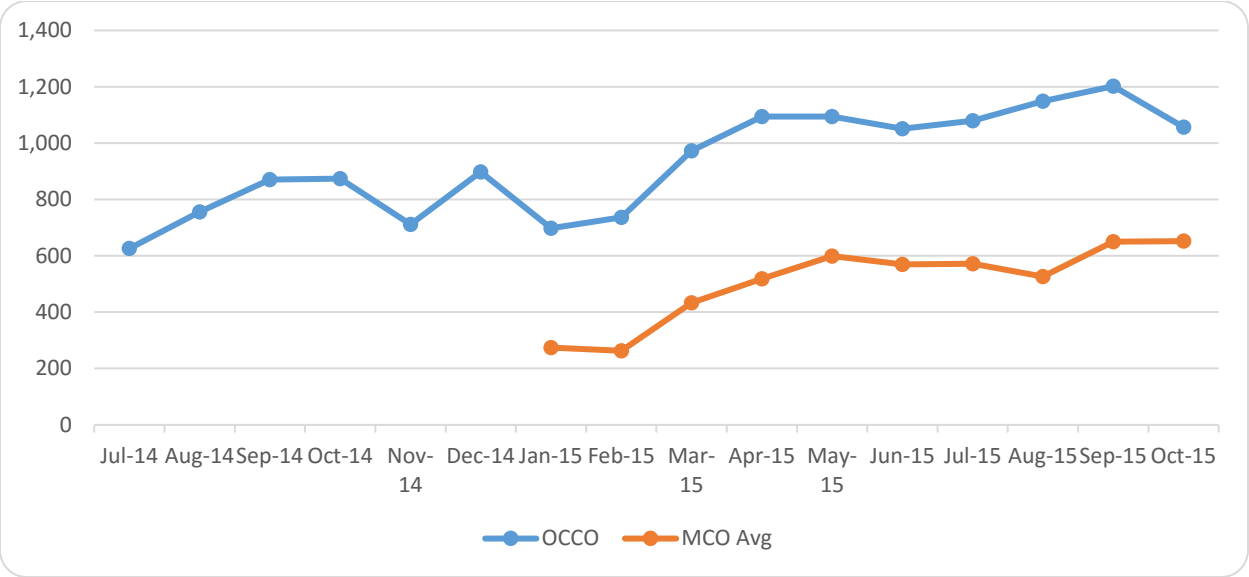



Source: DMAHS, MLTSS Performance Measure Reports, 7/1/14–6/30/15, 7/1/15–9/30/15 and 10/1/15–12/31/15.

OCCO conducts a larger volume of assessments (about double) compared with all MCOs combined, as shown in Figure 3. For the period of January 2015 to October 2015, OCCO conducted an average of 1,013 assessments per month, as compared with 506 for all MCOs combined. OCCO staff report that referrals have increased since the implementation of MLTSS. OCCO receives referrals for anyone applying for long-term care services through Medicaid as well as anyone entering a nursing home for any reason (including rehab) who may become eligible for Medicaid within 180 days. As of April 2016, OCCO was receiving an average of 5,800 referrals a month—many of these referrals do not result in an assessment because the consumer is discharged quickly or passes away before an assessment can be done.[36] This means that OCCO is able to triage referrals when they are aware of people who need to be assessed quickly.

[36] This information as well as some other facts in this section were gathered by a telephone conversation with staff from the Division of Aging Services in April of 2016.

**Figure 3: Number of level of care assessments conducted, by month**

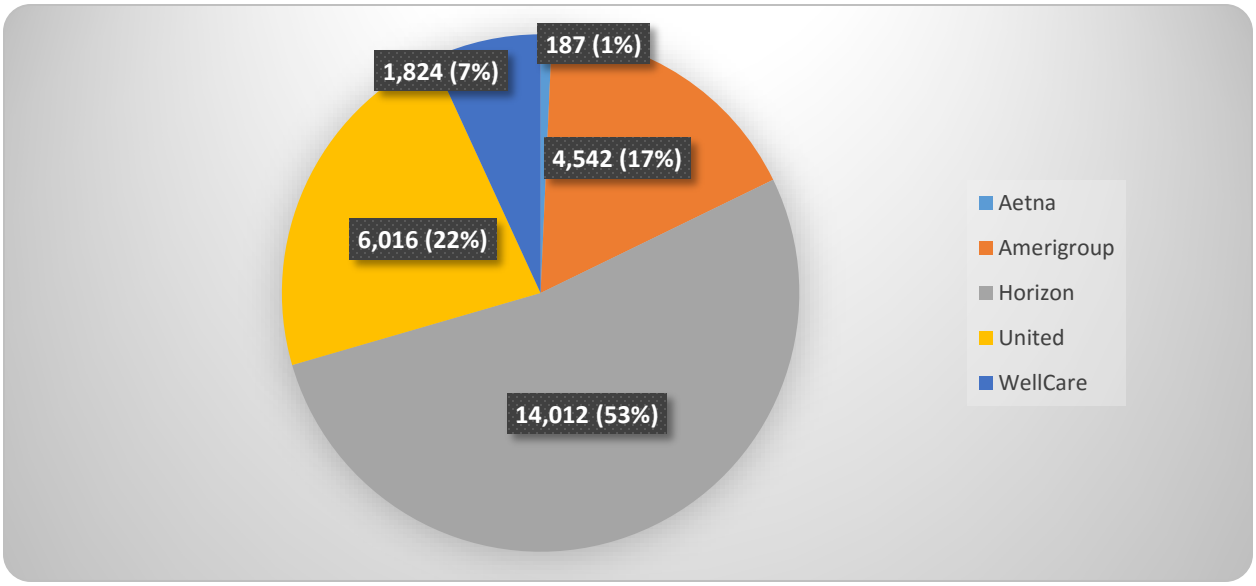



Source: DMAHS, MLTSS Performance Measure Reports, 7/1/14–6/30/15, 7/1/15–9/30/15 and 10/1/15–12/31/15.

MLTSS Level of Care Assessments by Plan

Figure 4 shows the number of MLTSS assessments done by each plan from January 2014 to June 2015. More than half of the assessments are done by Horizon, meaning that their results are very influential in the overall MCO average.

**Figure 4: Number of MLTSS level of care assessments conducted July 2014–June 2015, by plan**




Source: New Jersey Comprehensive Waiver Demonstration Section 1115 Annual Report, Demonstration Year 3: July 1, 2014–June 30, 2015, Attachment C.2.

Table 4 shows the number of assessments, the percentage share of assessments for each plan, the percentage of each plan's assessments that were authorized by OCCO (this means that OCCO was able to certify that the client met nursing facility level of care requirements based on the information provided by the MCO) and the percentage of not authorized assessments that were ultimately approved for each plan. Most clients (95%) are ultimately approved. Across all plans for the first year of MLTSS, 5% of the not authorized assessments were ultimately denied[37] (this represented 209 individuals). There were only minor variations by plan in the extent to which assessments were authorized and ultimately approved, as shown in Table 4.[38] The extent to which assessments are not authorized by OCCO depends upon the completeness of the assessment information provided by the MCO as well as the acuity level or extent of care needs of the client being assessed. OCCO has provided and continues to provide training to MCOs to ensure that assessors provide all necessary information. They have seen improvements in the authorized rate, and future contracts will require it to be at or above 93%, which four of five MCOs were meeting as of October 2015.[39] When plans submit assessments to OCCO that cannot be authorized, this means that OCCO has to do its own face-to-face assessment, which is required before any denial of eligibility. Higher than expected rates of not authorized submissions early in MLTSS implementation resulted in an unexpected level of workload for OCCO, straining staff resources.

**Table 4: MLTSS level of care assessments and assessment outcomes July 2014–June 2015, by plan**

| | Number of Assessments, July 2014-June 2015 | % of Total Assessments | % of Assessments Authorized by OCCO | % of Not Authorized Assessments Ultimately Approved |
|---|---|---|---|---|
| Aetna | 187 | 0.7% | 40.0% | 88.9% |
| Amerigroup | 4,542 | 17.1% | 70.0% | 97.6% |
| Horizon | 14,012 | 52.7% | 70.0% | 93.8% |
| United | 6,016 | 22.6% | 65.0% | 93.9% |
| WellCare | 1,824 | 6.9% | 73.0% | 96.4% |
| *Total* | *26,581* | *100.0%* | *68.4%* | *94.5%* |

Source: New Jersey Comprehensive Waiver Demonstration Section 1115 Annual Report, Demonstration Year 3: July 1, 2014–June 30, 2015, Attachment C.2.

[37] Shown in Table 4 as 95% ultimately approved.

[38] We include Aetna's numbers for the sake of completeness, but they only began operations in January 2015 and had a small number of assessments, so they should not be compared with the others.

[39] Trainings held during the first year are documented in New Jersey Comprehensive Waiver Demonstration Section 1115 Annual Report, Demonstration Year 3: July 1, 2014–June 30, 2015, Section VI and Attachment C.1.

**Care Plan Characteristics**

An external quality review organization audited MCO records (100 from each of the four MCOs that were operating upon implementation) and calculated metrics based on several aspects of consumers' care plans for the first year of MLTSS, as shown in Figure 5 and discussed in more detail below. For the first year of implementation, there were two audits done—one for each six month period. The first audit had few cases involving individuals new to MLTSS (12 to 17 per MCO), so comparisons between the first and second audits should be made with caution.[40] The audit results were combined to give an annual average. Going forward, audits will be done annually. Because the reported metrics are seen as important to ensure quality, MCOs are required to submit a work plan to improve rates less than 85%.

1. Timeliness—Care plans established within 30 days of enrollment into MLTSS/HCBS are considered timely. Examining the percent of care plans that were timely (out of all care plans audited) reveals that the average for all MCOs was 51.7%, with the values for individual MCOs ranging from 25% to 72%. All MCOs were below the 85% threshold where a corrective action plan is required. The EQRO reported improvement in the second half of the year. We do not know how services to consumers were affected by this.
2. Aligned with Needs—This measure looks at the percentage of plans of care that were aligned with assessment results of the NJ Choice[41] in type, scope, amount, frequency and duration. MCOs were higher on this measure, ranging from 87% to 97% (93% overall). However, all MCOs showed a decline in this measure from the first to the second review period. For individuals new to MLTSS, the rate declined from 96% to 91% from the first period to the second. We do not have any further information about the ways in which care plans were aligned or not, or what this meant for consumers.
3. Person-Centered Principles—This measure examines whether plans of care were developed using person-centered principles.[42] This measure showed a large range for individual MCOs--from 10% to 97%-- with a 61% average across all MCOs. The overall rate for individuals new to MLTSS showed an increase from the first to the second periods. MCO E's results are low due to the lack of documented member goals in the service plan.
4. Back-up Plan—This measure documents the presence of a back-up plan (i.e., what happens if a home care aide is out sick for services delivered in a private home where

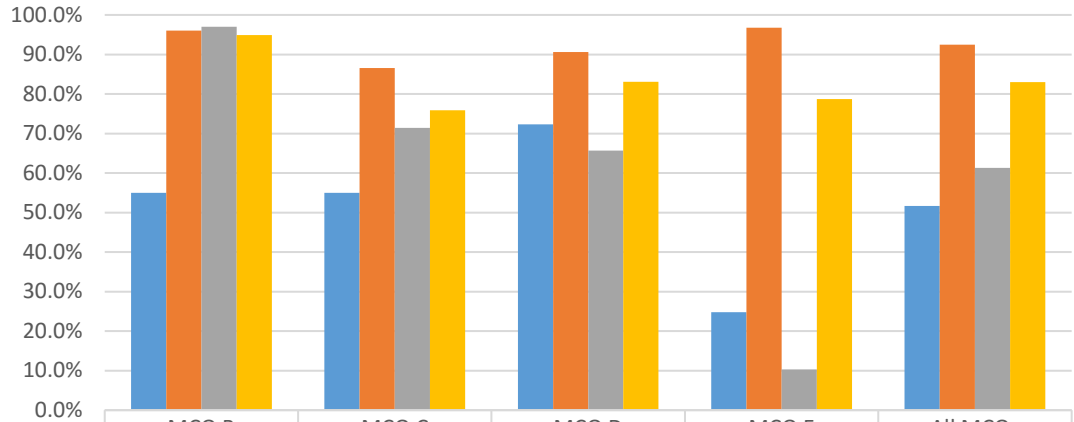
[40] "Methodology of MLTSS-CM Focus Study," extract from EQRO report provided to authors by DMAHS.

[41] NJ Choice is an assessment tool used by OCCO and MCOs to determine whether a consumer meets a nursing facility level of care. See http://www.state.nj.us/humanservices/dmahs/home/NJ_Level_of_Care_and_Assessment_Training.pdf for more details.

[42] Reports do not specify how person-centered principles were measured by the EQRO. A report that discusses person-centered planning in the context of MLTSS and New Jersey is Orlowski, G and J Carter. 2015. *A Right to Person-Centered Care Planning.* Washington, DC: Justice in Aging http://justiceinaging.org/wp-content/uploads/2015/04/FINAL_Person-Centered_Apr2015.pdf.

there is no regularly scheduled staff). As implemented in the initial audit, this was calculated for all files selected, rather than just those in an HCBS setting without regular staffing, and the results are still under discussion for that reason. The overall results for individuals new to MLTSS decreased from 88% in the first review to 81% in the second, with an overall average for all cases of 83% (range 76%-95%).

**Figure 5: Care plan characteristics, July 2014–June 2015**




| | MCO B | MCO C | MCO D | MCO E | All MCOs |
|---|---|---|---|---|---|
| In 30days | 55.0% | 55.0% | 72.3% | 24.8% | 51.7% |
| Aligned w/ Needs | 96.0% | 86.6% | 90.6% | 96.8% | 92.5% |
| Person-Centered | 97.0% | 71.4% | 65.7% | 10.3% | 61.3% |
| Has B/U plan* | 94.9% | 75.9% | 83.1% | 78.7% | 83.0% |

*Results still under discussion.
Source: DMAHS, MLTSS Performance Measure Report, 10/1/15–12/31/15.

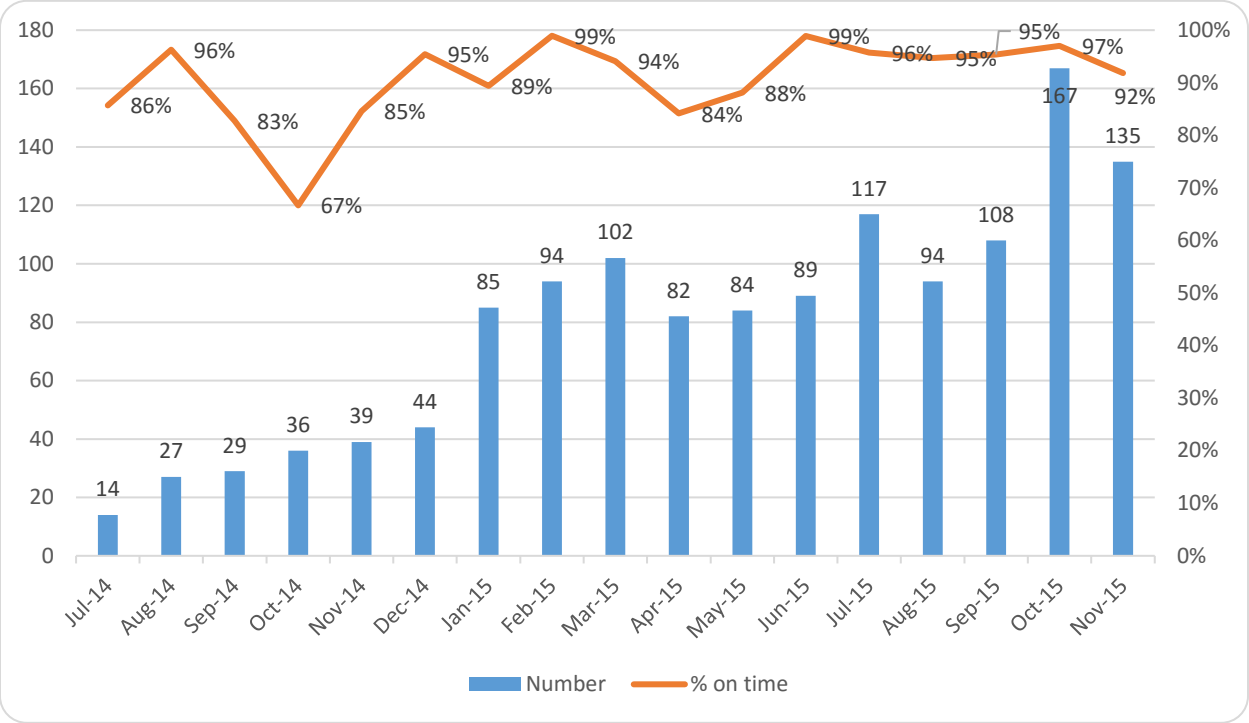
## Critical Incidents

Critical incidents are defined in the managed care contract as "an occurrence involving the care, supervision, or actions involving a Member that is adverse in nature or has the potential to have an adverse impact on the health, safety, and welfare of the Member or others. Critical incidents also include situations occurring with staff or individuals or affecting the operations of a facility/institution/school."[43] Figure 6 shows the number and timeliness[44] of reporting for critical incidents from July 2014 to November 2015. The monthly average for timeliness ranged from 67% in October 2014 to 99% in February and June of 2015. The overall average for timeliness is 93% and the average number of reports per month is 79 for July 2014 to November 2015. The smallest number of incidents (14) were reported in July 2014 and the largest number in October

[43] Quote from Article 1, Page 8 of the Managed Care Contract, 01/2015 Accepted, accessed March 31, 2016 from http://www.state.nj.us/humanservices/dmahs/info/resources/care/hmo-contract.pdf.
MLTSS-related critical incidents are detailed in Article 9, Pages 55-56.
[44] Timeliness is defined as within one business day for unexpected deaths or media/potential media involvement and two business days otherwise.

2015 (167). The October number translates into about 0.8% of 20,321 MLTSS enrollees reported in October.[45]

**Figure 6: Critical incident numbers and timeliness, July 2014–November 2015**




Sources: DMAHS, MLTSS Performance Measure Reports, 7/1/14–6/30/15, 7/1/15–9/30/15 and 10/1/15–12/31/15, combined measures 17 and 17a.

Table 5 details the categories of incidents in Year 1 and the first quarter of Year 2. The most common incidents are injuries or falls and medical or psychiatric emergencies. Together, these account for more than half of incidents.

**Table 5: Critical incident categories**

| Critical Incident Categories | Year 1 (July 2014-June 2015) | Percent | Year 2, Q1 (July 2015-Sep 2015) | Percent |
|---|---|---|---|---|
| Severe injury/fall requiring treatment | 262 | 36.7% | 115 | 37.5% |
| Medical/psychiatric emergency | 122 | 17.1% | 64 | 20.8% |
| Missing/unable to contact or wandering from home/facility | 70 | 9.8% | 34 | 11.1% |
| Other/media involvement/medication error with serious consequences | 59 | 8.3% | 25 | 8.1% |
| Inappropriate conduct by provider | 37 | 5.2% | 9 | 2.9% |

[45] Slide 3, MLTSS Presentation for Steering Committee December 2015.

| Critical Incident Categories | Year 1 (July 2014-June 2015) | Percent | Year 2, Q1 (July 2015-Sep 2015) | Percent |
|---|---|---|---|---|
| Theft/exploitation | 35 | 4.9% | 12 | 3.9% |
| Neglect/mistreatment, including self, caregiver overwhelmed, environmental | 35 | 4.9% | 15 | 4.9% |
| Abuse-suspected or evidenced | 34 | 4.8% | 12 | 3.9% |
| Backup plan failure | 30 | 4.2% | 6 | 2.0% |
| Eviction/utility cutoff | 17 | 2.4% | 9 | 2.9% |
| Unexpected death | 13 | 1.8% | 6 | 2.0% |
| Total | 714 | | 307 | |

Sources: DMAHS, MLTSS Performance Measure Reports, 7/1/14–6/30/15, 7/1/15–9/30/15 and 10/1/15–12/31/15, combined measures 17 and 17a.

There aren't many differences by MCO. Overall rates of reporting by MCO enrollment seemed to suggest that one MCO was quite a bit lower than the others for the first year, but this seemed to equalize in the first quarter of the second year.[46] There were two differences that we found notable, but we were not able to determine whether or how these differences impacted services to members. These differences may reflect reporting differences by these MCOs, differences in the populations they are serving, or different procedures in dealing with members:

1. One MCO stood out for the share of incidents involving missing persons or unable to contact (this MCO accounts for 74% of the reports in this category for the combined periods, and the specific incident category accounts for 27% of the MCO's incidents in year 1 versus 0%-3% for others; and 36% of the MCO's incidents in quarter 1 of year 2 versus 0%-7% for others). This could be due to any (or a combination) of the following: 1) a higher likelihood to report clients missing relative to other MCOs (regardless of whether they are actually missing), 2) a true higher percentage of clients who the MCO is unable to contact, or 3) a reduced likelihood relative to other MCOs of updating the critical incident reporting when a missing client is found. State staff were not sure why this MCO stood out, but said that most unable-to-contact cases occurred in the context of the initial meeting with the client, where care managers may have minimal contact information. This MCO performed better than average with respect to timeliness of care planning, so it wasn't clear whether or how this difference affects member service.
2. Another MCO stood out for the share of incidents in an undefined "other" category, accounting for 74% of reports in this category for the combined periods, with "other" being 40% of this MCO's incidents in year 1 versus 0%-6% for others and 38% of incidents in quarter 1 of year 2 versus 0%-2% of others. State staff did not believe that this MCO

[46] Calculations not shown because we are not completely sure about the appropriate denominator.

was significantly different in the types of incidents it reported, but believed that it tended to report incidents as "other" whenever the situation crossed multiple categories, instead of choosing just one.

**Appeals, Grievances and Complaints**

MCOs are required to report Appeals, Grievances and Complaints for MLTSS members.[47] An appeal is a request for review of an action. A complaint is a protest regarding the MCO or contractor that could be resolved within five business days. A grievance is a complaint that could not be resolved within five business days.

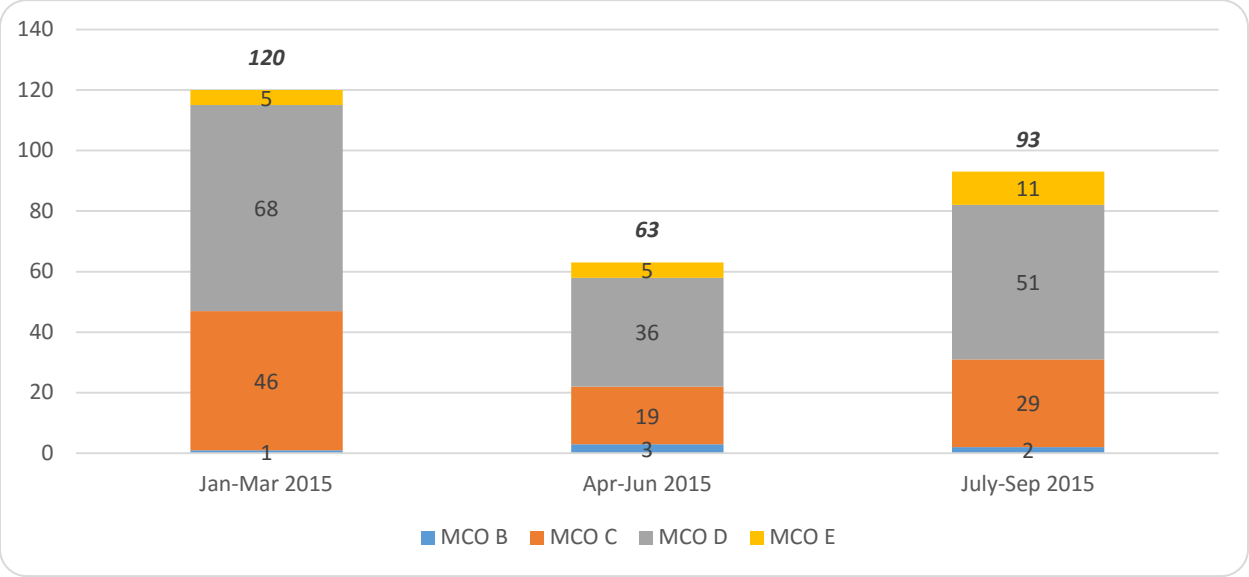
It is important to note that there are nuances with this type of measure such that lower numbers or rates do not necessarily reflect positive member experiences relative to other organizations and higher numbers or rates may not always reflect relatively negative experiences. With respect to MCO reporting of appeals/grievances/complaints they receive, members must be able to reach the MCO, make the MCO understand that the member has an issue, and the MCO must then document and report the issue (and hopefully, address it). An MCO with fewer reported issues may actually have fewer issues, or there may be communication barriers within their organization such that they are not recognizing the issues that they have. In addition, some members are more likely to complain or to be able to complain, and this kind of reporting does not adjust for these factors.

Until January 2015, MCOs reported all Medicaid members together. As of January 2015, MLTSS members are reported as a separate category. Appeals and grievances are reported separately from complaints. Despite the five day language above, investigation is considered timely when complete within 30 days. A completed investigation does not mean that the matter has been resolved to the member's satisfaction, but rather that the MCO has considered the issue and rendered an opinion as to its merit. Timeliness for appeals, grievances and complaints is very high, with only two complaints going slightly beyond 30 days to resolve.[48] Figure 7 shows the number of appeals and grievances in the first three quarters of 2015 by MCO and overall. Figure 8 shows the number of complaints in the first three quarters of 2015 by MCO and overall. There is no clear trend in the data over time. MCO A did not have any appeals, grievances or complaints during this period.

[47] See detailed definitions in Article 1 of the Managed Care Contract, 01/2015 Accepted, accessed March 31, 2016 from http://www.state.nj.us/humanservices/dmahs/info/resources/care/hmo-contract.pdf. Appeals in Article 1, p.2; Complaints in Article 1, p.6 and Grievances in Article 1, p.13.

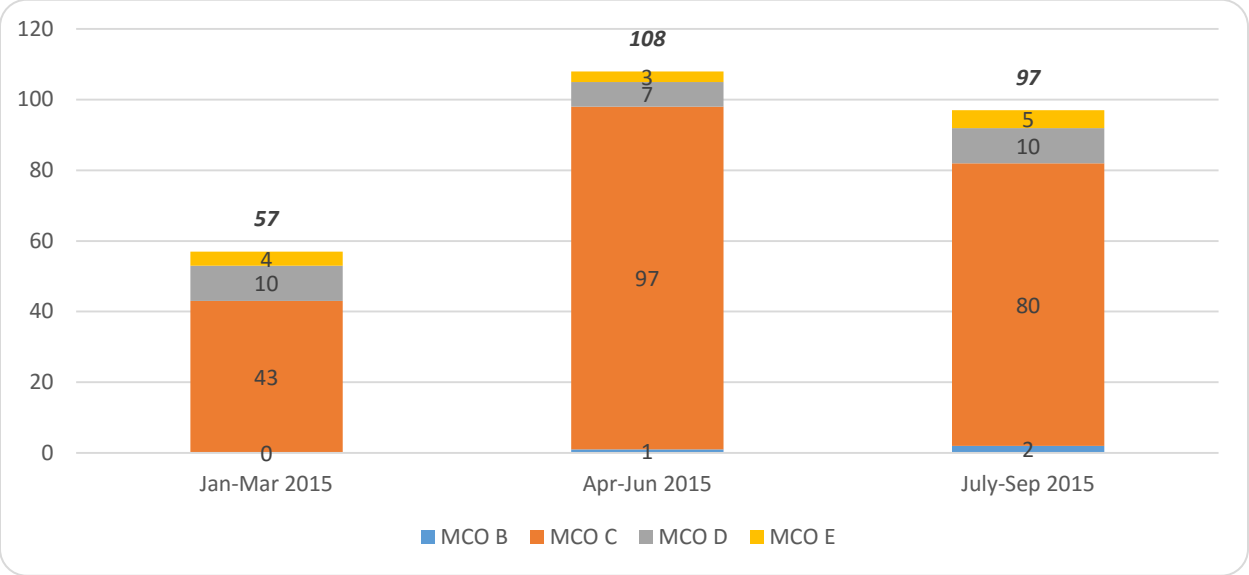
[48] One complaint took 33 days (DMAHS, MLTSS Performance Measure Reports, 7/1/14–6/30/15); another 42 days (DMAHS, MLTSS Performance Measure Reports, 10/1/15–12/31/15).

**Figure 7: Quarterly number of MLTSS member appeals and grievances by MCO (total at top), 2015**




Sources: DMAHS, MLTSS Performance Measure Reports, 7/1/14–6/30/15 and 10/1/15–12/31/15 Note: MCO A did not have any appeals/grievances in this time.

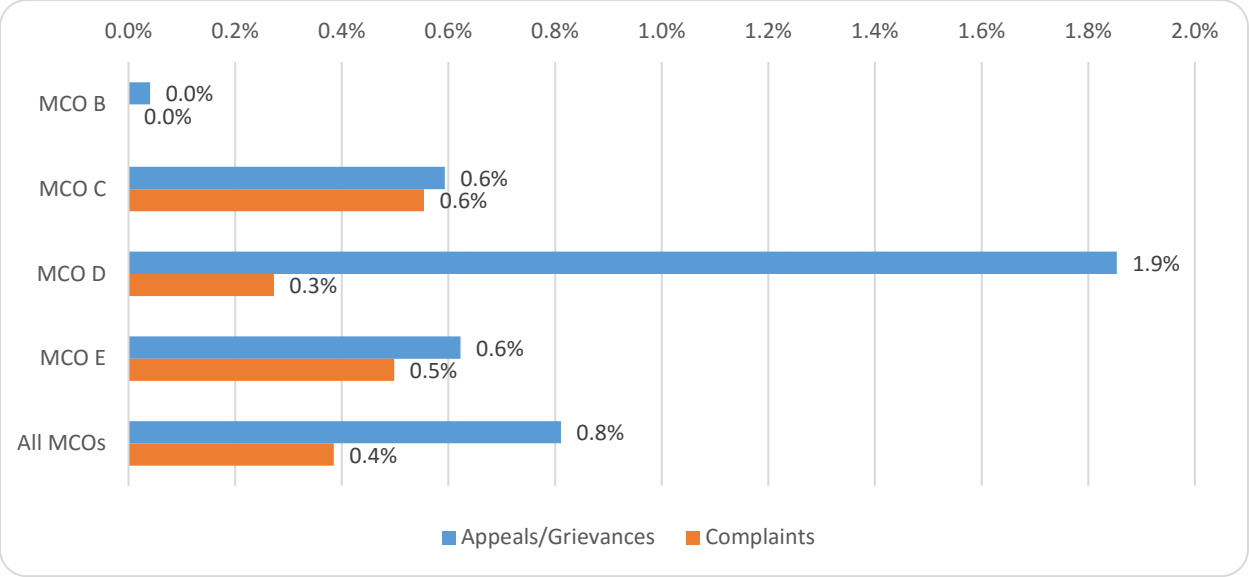
**Figure 8: Quarterly number of MLTSS member complaints by MCO (total at top), 2015**




Sources: DMAHS, MLTSS Performance Measure Reports, 7/1/14–6/30/15 and 10/1/15–12/31/15 Note: MCO A did not have any complaints in this time.

Because the different MCOs have different enrollment totals, the raw numbers shown in the previous figures do not give a sense of the rate of appeals/grievances and complaints among the MCO's members. Figure 9 presents our calculation of the appeals and grievances for the first quarter of 2015 per each 1,000 enrolled MLTSS members for each MCO. Enrollment totals were not available for subsequent quarters.

**Figure 9: Estimated percentage of MLTSS members eligible for services with appeals/grievances and complaints, January–March 2015**




Sources: DMAHS, MLTSS Performance Measure Reports, 7/1/14–6/30/15 and 10/1/15–12/31/15 Note: MCO A did not have any appeals, grievances or complaints in this time.

Figure 9 shows that the rate of appeals and grievances for MCO D appears higher than for other MCOs (by about 3 times), and its rate of complaints appears somewhat lower (by about half). Assuming these are unique (they may not be—that is, some people may register multiple issues) and adding appeals/grievances and complaints together, as many as 1.9% of MCO D's MLTSS members registered an issue, compared with less than 1% of the other two MCOs' members. It is important to consider a few caveats while interpreting these numbers. First, these complaints and the number of enrolled members are reported by the MCOs and have not been verified. It may be that MCO D is more likely to encourage appeals by members, and/or more likely to classify a complaint as an appeal or grievance. It may be that MCO D has understated its enrollment relative to other MCOs, which could make the rates look higher. Finally, these rates are for one quarter only—appeal data collected by the Department of Banking and Insurance (discussed later) show substantial variability over semiannual periods. As Figure 7 shows, MCO D's appeals and grievances were smaller over the next two quarters.

Outcome of Appeals

DMAHS examined not only the MCO-reported timeliness of appeal resolution (i.e., those investigated within 30 days) but also the MCO-reported outcome of appeals regarding denials of home health (215 appeals) and private duty nursing services (40 appeals) for 2015. With home

health services, the MCO upheld 197 of the denials (92%) and overturned 18 (8%) in full or part. With private duty nursing, all but one of the denials were upheld.[49]

Relation of Appeals and Fair Hearings to Service Reductions

Service reductions and the extent to which they are associated with appeals or fair hearings has been reported publicly for one quarter, to our knowledge (Q2 of 2015).[50] MCOs reported one full reduction in physical therapy, one partial reduction in private duty nursing, 7 reductions in adult medical day (4 full; 3 partial) and 41 reductions in personal care assistance (9 full; 32 partial). There is no indication of the number or percentage of hours involved. The presentation noted that none of the 14 full reductions were appealed. Of the 36 partial reductions, 4 (11%) went to a first level appeal, 1 (3%) went to a second level appeal and 1 (3%) went to a fair hearing. It is not clear whether service reductions have an effect on client outcomes. A lack of appeals and fair hearings cannot be assumed to indicate client satisfaction. Another presentation from this time period notes that there were a total of 10,866 MLTSS HCBS members in August of 2015, plus another 3,027 in Assisted Living.[51] This is the population to which reductions would apply. While these results are not audited, it would appear that reductions affected a small proportion of members in this quarter. Without information on other time periods, it is impossible to know how typical this quarter was.

Fair Hearings

Another potential measure of member complaints is the extent to which members file Medicaid fair hearing requests with the Department of Human Services. The outcomes of fair hearing requests that proceed through to a final decision are posted on the Department of Human Services web site. It is not possible to determine the extent to which these decisions relate to members enrolled in MLTSS and often it is not possible to tell the ultimate outcome—i.e., often, the result is that the MCO is told to do a new assessment, and the reader cannot tell whether they ultimately approved the desired service. Table 6 shows the number of final agency decisions by MCO along with information on the number of total Medicaid enrollees as well as MLTSS enrollees.[52] It is possible that some individuals are represented more than once in the fair hearing data. In addition, this table does not adjust for member factors that could affect the probability of filing a fair hearing request—that is, a larger number of final agency decisions could mean that an MCO is more likely to serve members that are more likely to file a fair hearing request as well as the more straightforward interpretation that larger numbers mean more members with

[49] Calculated from data from MAAC_Meeting_Presentations_4_20_16 (slides 28-30), which notes that the data is pending state and IPRO validation.
[50] Slide 8 in 9.24.15 Quality Slides for MLTSS Steering Committee.
[51] Slide 3 in MLTSS Presentation Steering Committee 9.24.15.
[52] See Department of Human Services, DMAHS Final Agency Decisions, accessed April 1, 2016 from http://www.state.nj.us/humanservices/dmahs/info/fads.html.

disputes. In addition, MCOs inform their members of the right to file a request—while efforts are made by the state to ensure standard minimum language used in disclosures, it is possible that better efforts by an MCO to inform members could result in more requests.

All MCOs have small numbers of fair hearing outcomes posted given the size of their enrollment. United appears to have higher numbers than might be expected given their enrollment, but it is difficult to establish patterns with certainty given the short amount of time, potential for duplicate cases in the data, and other issues mentioned that could affect the number of cases filed. In the MAAC meeting on April 20, an advocate who files fair hearing requests on behalf of members noted that she had felt pressure at times from MCOs to withdraw cases before a final outcome would be posted—if there are differential efforts in this regard, that could affect the numbers as well.

Though the names of MCOs are not included in the data on MCO-reported appeals, grievances and complaints, precluding us from directly comparing MCO-reported results with fair hearing outcomes, these results appear to match reasonably well with the pattern of MCO-reported incidents discussed earlier, which reflects positively on the validity of the MCO reports. In general, and subject to all the caveats discussed above, an MCO reporting low numbers of member disputes but showing up with a high number of fair hearing requests could be discouraging or undercounting member disputes in some way, calling their reporting into question. Alternatively, an MCO with high levels of reported member disputes (particularly if they are not resolved to members' satisfaction) but no fair hearing requests may not be adequately informing members of their right to a fair hearing.

**Table 6: Fair hearing outcomes and enrollment by MCO**

| MCO | # of DMAHS Final Agency Decisions, 2014* | # of DMAHS Final Agency Decisions, 2015** | # of DMAHS Final Agency Decisions, 2016 (Jan-Mar)** | Average Total Medicaid Enrollees, 2015*** | Enrollees eligible to receive MLTSS Services, Jan-Mar 2015**** |
|---|---|---|---|---|---|
| Aetna | 0 | 0 | 0 | 8,512 | 84 |
| Amerigroup | 1 | 2 | 1 | 210,303 | 2,486 |
| Horizon | 1 | 11 | 3 | 833,872 | 7,758 |
| United | 4 | 27 | 3 | 492,951 | 3,669 |

| MCO | # of DMAHS Final Agency Decisions, 2014* | # of DMAHS Final Agency Decisions, 2015** | # of DMAHS Final Agency Decisions, 2016 (Jan-Mar)** | Average Total Medicaid Enrollees, 2015*** | Enrollees eligible to receive MLTSS Services, Jan-Mar 2015**** |
|---|---|---|---|---|---|
| WellCare | 0 | 0 | 0 | 58,748 | 803 |

Sources: * DMAHS Final Agency Decisions 2014, accessed April 18, 2016 from http://www.state.nj.us/humanservices/providers/rulefees/decisions/dmahs2014.html.
** DMAHS Final Agency Decisions, accessed April 27, 2016 from http://www.state.nj.us/humanservices/dmahs/info/fads.html.
***NJ Department of Banking and Insurance, Carrier Enrollment Reports (Calculated from 2015 quarters), accessed April 18, 2016 from http://www.state.nj.us/dobi/division_insurance/lhactuar.htm#HMOReports.
****MLTSS Performance Measure Report, 10/1/25–12/31/2015.

Independent Health Care Appeals Program (IHCAP)

IHCAP[53] begin in 1997 and is an external review program administered by the NJ Department of Banking and Insurance (DOBI) to review adverse determinations made by insurance carriers for any health benefit. DOBI contracts with multiple Independent Utilization Review Organizations (IURO) to perform reviews. Insurance carriers bear the costs even if they reverse their decision prior to the IURO rendering a decision, or the individual or health care provider withdraws the appeal. Since 1997, DOBI has issued semi-annual reports tracking appeals and their resolution. Reports do not break out results by type of product—thus, these data contain all lines of business for each carrier (Medicaid and commercial). Self-insured and Medicare Advantage plans are not included, nor is Medicare.

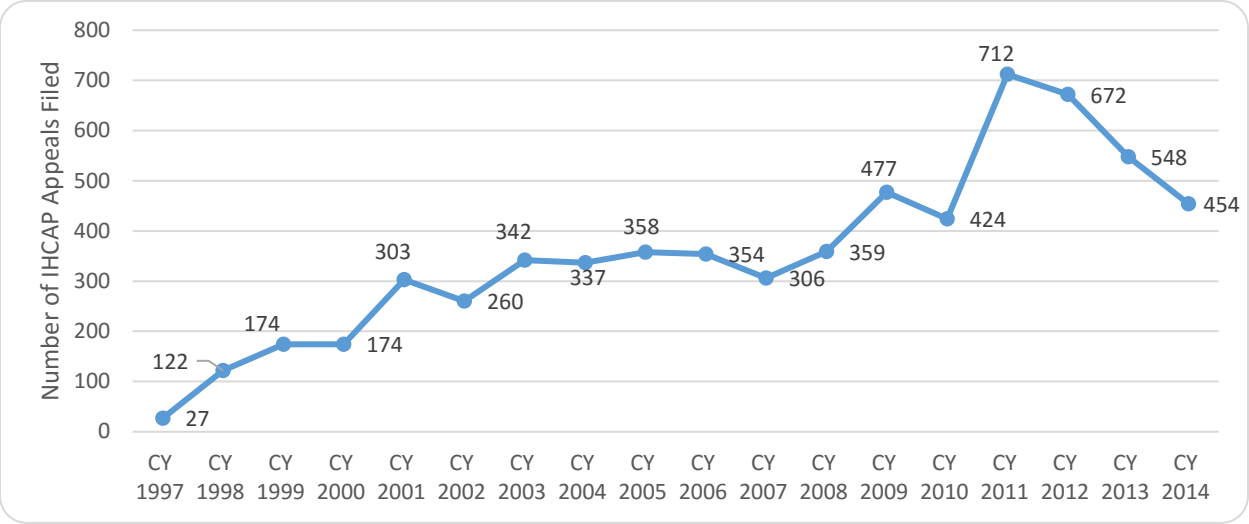
Figure 10 shows the number of appeals filed by calendar year since the program begin in 1997. There was a spike in appeals filed in 2011, which coincides with a period in which many health services under Medicaid, including personal care assistance (PCA) and adult day health services, were moved into managed care. Appeals have declined since that time. It is probably too early to see the effects of MLTSS implementation in these data, though it is clear that there was no immediate spike in the number of cases upon implementation in 2014 (changes in the time period of 2014 and forward could also be due to increases in insured people due to the Affordable Care Act).

One potentially notable change, however, is the kinds of determinations that are appealed, though we are not sure how significant this is. It is only in the past year that DOBI has broken out the issues appealed with specific frequency numbers. The report for the first half of 2014 has a list of issues by declining frequency and notes that the first category, inpatient hospital, accounts

[53] See http://www.state.nj.us/dobi/division_insurance/managedcare/ihcap.htm.

for "substantially more denials than any other category."[54] Similar language is used in prior reports. In the second half of 2014 the report lists a frequency table for the issues involved. Inpatient hospital has 40 appeals (18% of the total), followed by dental issues (21, 9%), behavioral services (21, 9%), prescription drugs (19, 8.5%), reduction in acuity level (19, 8.5%), and home health services (17, 7.6%).[55] In the following report for the first half of 2015, denial of home health care is the top category (32 appeals, 12% of the total). The report says "These denials involved the reduction of private duty nursing services by Medicaid HMOs." It goes on to note that hospital-appealed filings for several categories total 78 (29%) and behavioral health/substance abuse appeals were at 38.[56] So, there does appear to be an increase in the number and share of appeals filed involving home health services, but it is difficult to tell how significant it is because the categories are not broken over time. A near doubling of cases in a semi-annual period seems high, but the percentage increase from 7.6% of the total to 12% isn't as alarming, and we don't know what the normal period-to-period variation for this or other categories is.

**Figure 10: Number of IHCAP appeals filed, 1997–2014**




Source: Semi-Annual Legislative Report, Independent Health Care Appeals Program, Department of Banking and Insurance, January 16, 2015–July 15, 2015, accessed April 26, 2016 from http://www.state.nj.us/dobi/division_insurance/managedcare/omc/34thihcaprpt.pdf.

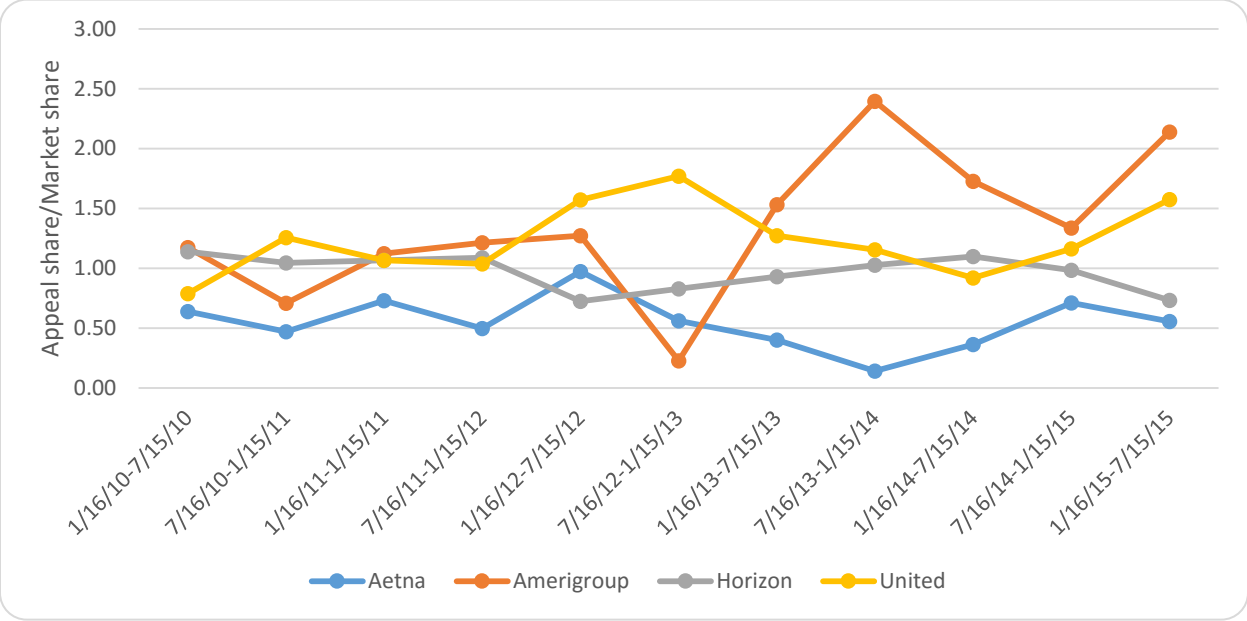
To provide a longer historical context for the complaints data presented earlier, Figure 11 presents, for four of the carriers discussed above, a comparison between their semi-annual share of appeals compared with their market share from 2010 through mid-July of 2015. A result above 1 means that the carrier's appeals exceeded their market share. A result of 1 means that the

[54] See http://www.state.nj.us/dobi/division_insurance/managedcare/omc/32ndihcaprpt.pdf.
[55] See http://www.state.nj.us/dobi/division_insurance/managedcare/omc/33rdihcaprpt_tbl3.pdf.
[56] See http://www.state.nj.us/dobi/division_insurance/managedcare/omc/34thihcaprpt.pdf.

carrier had an appeal rate equivalent to its market share. A result below 1 means that the carrier had an appeal rate below the level of its market share.

We are interested in the amount of variation across periods to assess the variation we might expect to see in other measures assessing MLTSS appeals (MCO reports and fair hearings). Figure 11 shows that there is a fairly large amount of year-to-year variability in appeals, particularly for the carrier with the smallest market share. Horizon has the steadiest rate—its average share of appeals filed for the period of 2010 through the first half of 2015 is slightly below its average market share in the same period. Aetna's share of appeals is generally well below its market share. Amerigroup and United (includes AmeriChoice and Oxford) generally have shares of appeals that are greater than their market share. In addition to being a measure of the extent to which carrier policyholders disagree with their decisions, the share of appeals may reflect the kinds of business lines that carriers are in as well as their propensity to inform their members of the right to pursue an independent review. Thus, interpretation of this measure is not straightforward as it has potentially neutral (business lines), positive (carrier efforts to inform members of rights) and negative (aggrieved member) interpretations regarding members' experiences with the carrier. Average results for the period shown for all carriers as well as their market shares at the beginning and end of the period are shown in Table 7.

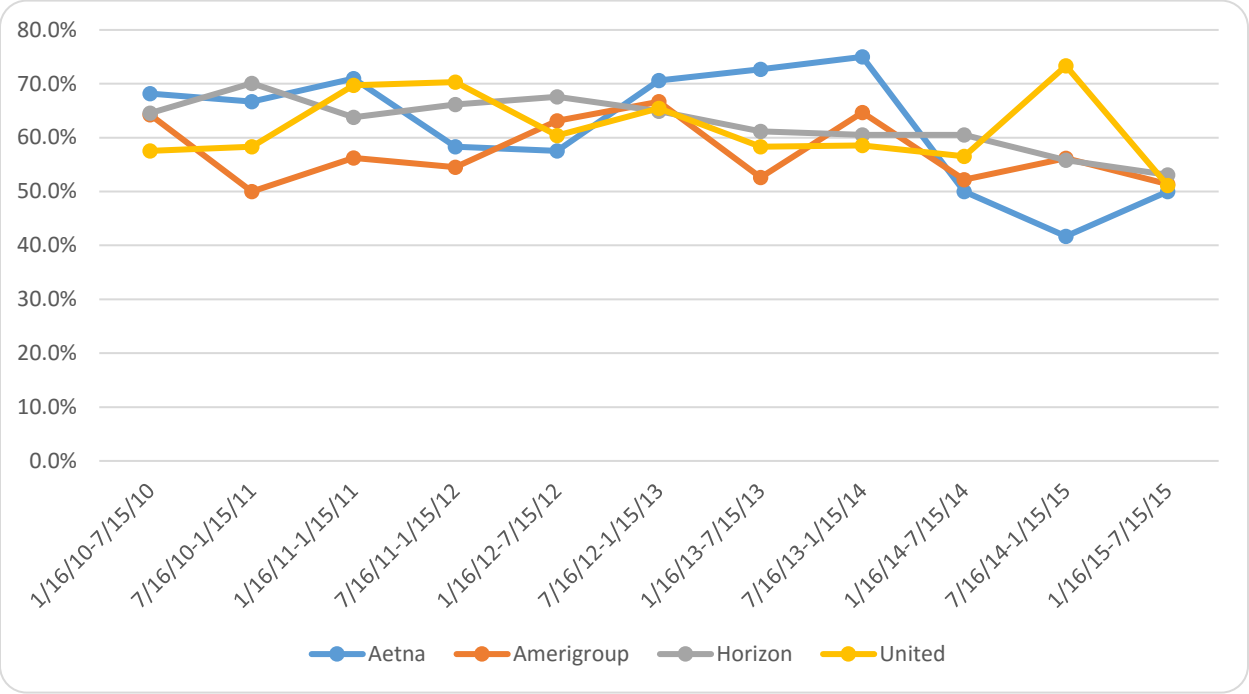
**Figure 11: Carrier share of IHCAP appeals compared with market share, 2010–2015 (semiannual periods)**




Source: Semi-Annual Legislative Reports, Independent Health Care Appeals Program, Department of Banking and Insurance, accessed April 26, 2016 from http://www.state.nj.us/dobi/division_insurance/managedcare/ihcapreports.htm (the latest report covering the period in question was always used—generally Table 2).
Note: We have added together the appeals for United member organizations AmeriChoice, Oxford and United because market share is reported jointly.

Figure 12 denotes the extent to which the Independent Utilization Review Organization (IURO) agrees with the carrier once the review is complete (that is, the denial is upheld), and averages over the period are presented in Table X. Average rates of agreement between the IURO and carriers over the period range from 57.5% (Amerigroup) to 62.6% (Horizon), but there is a lot of year-to-year variability in this measure, so we would not call this a significant difference.

**Figure 12: IURO agreement with carrier (denial upheld), 2010–2015 (semiannual periods)**




Source: Semi-Annual Legislative Reports, Independent Health Care Appeals Program, Department of Banking and Insurance, accessed April 26, 2016 from http://www.state.nj.us/dobi/division_insurance/managedcare/ihcapreports.htm (the latest report covering the period in question was always used—generally Table 2).
Note: We have added together the appeals for United member organizations AmeriChoice, Oxford and United because market share is reported jointly.

**Table 7: Independent health care appeals averages 2010–2015 (semiannual periods), by market share and IURO agreement with carrier (denial upheld)**

| | Market Share | | Appeal share/Market Share | IURO Agreement |
|---|---|---|---|---|
| Carrier | 2015 | 2010 | Average of semiannual periods, 2010-2015 (1st half) | |
| Aetna | 9.6% | 14.7% | 0.55 | 62.0% |
| Amerigroup | 6.6% | 5.1% | 1.35 | 57.5% |
| Horizon | 51.0% | 47.7% | 0.97 | 62.6% |
| United | 21.8% | 17.9% | 1.23 | 61.8% |

Source: Semi-Annual Legislative Reports, Independent Health Care Appeals Program, Department of Banking and Insurance, accessed April 26, 2016 from http://www.state.nj.us/dobi/division_insurance/managedcare/ihcapreports.htm (the latest report covering the period in question was always used—generally Table 2).
Note: We have added together the appeals for United member organizations AmeriChoice, Oxford and United because market share is reported jointly.

Other State Hotlines

We are aware that DMAHS has hotlines for Medicaid members and providers and have heard positive feedback from stakeholders about the responsiveness of staff there. At times, presentations to the MAAC or MLTSS Steering Committee appear to contain some data collected from these hotlines. We know that there are other state points of contact for consumers and aren't sure to what degree data may be collected there. We will inquire about these as potential sources of data for the final evaluation report.

CAHPS® Survey

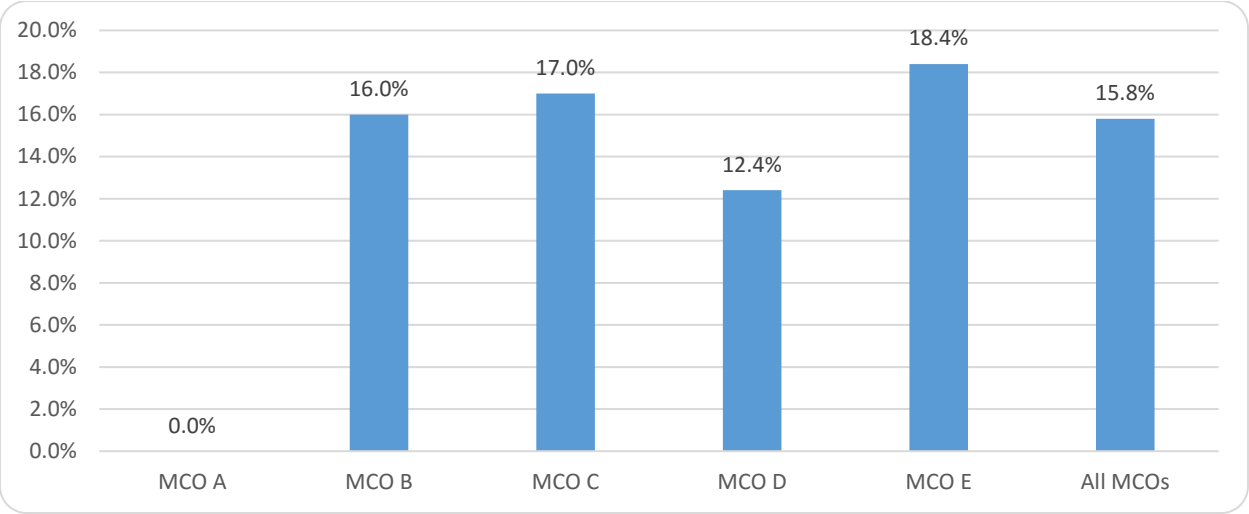
The CAHPS® (Consumer Assessment of Healthcare Providers and Systems) survey mentioned in Chapter 1 was mailed out in April 2014, before MLTSS was initiated, so the results would not reflect on member's experiences with MLTSS. The 2014 CAHPS Survey of general Medicaid enrollees showed no significant differences in member satisfaction with plans.[57]

**Nursing Facility Admissions**

Figure 13 shows the percent of new MLTSS members during the measurement year who had a nursing facility admission (it appears that all former HCBS waiver enrollees are counted as new in the first year, while any individuals transitioning from fee-for-service nursing facility care to MLTSS nursing facility care are not included). There is some variance by MCO, which may reflect differences in the health conditions or social supports of the underlying population, the ways people may enroll into MLTSS and select or be auto-enrolled into an MCO, and the care provided by MCO care managers and providers, which can prevent or shorten facility admissions.

[57] Laster-Bradley M. September 2014. 2014 NJ CAHPS® Survey 5.0 Analysis & Health Plan Comparison Report. Xerox State Healthcare for The New Jersey Division of Medical Assistance and Health Services.

**Figure 13: New MLTSS members with a nursing facility admission, July 1, 2014–June 30, 2015**




Source: DMAHS, MLTSS Performance Measure Report, 7/1/14–6/30/15.

## Transitions between Nursing Facility and Community[58]

The reporting of member transitions between nursing facility and community settings is complicated by members who may pass away or switch between MCOs. It appears that some MCOs may interpret a requirement to report only continuously enrolled members somewhat differently, so we have not presented tables or figures for this section. The state is implementing a nursing facility transition incentive payment initiative that will require a minimum of 120 calendar days of residence in the community after the transition.

1. Transitions from Nursing Facility to Community and Back within 90 Days: MCOs report to the department the number of MLTSS members per quarter who have transitioned from a nursing facility to a community setting. There were 227 transitions out of nursing facilities in the first year of MLTSS and another 122 from July 2015 to September of 2015 for a total of 349 transitioned. Fifteen of those transitioned in the first year of MLTSS returned to a nursing facility for more than 90 days. There do not appear to be large differences among the MCOs on these measures.
2. Transitions from Community to Nursing Facility, Short-Term (less than or equal to 180 days) and Long-Term (greater than 180 days): In the first quarter after MLTSS implementation, about 90 individuals transitioned from the community to a nursing facility, the majority (about 74%) for a long-term stay of greater than 180 days. This pattern held for all of the MCOs. For each of the following two quarters, nearly 420 MLTSS-enrolled individuals transitioned from the community to a nursing facility. In these

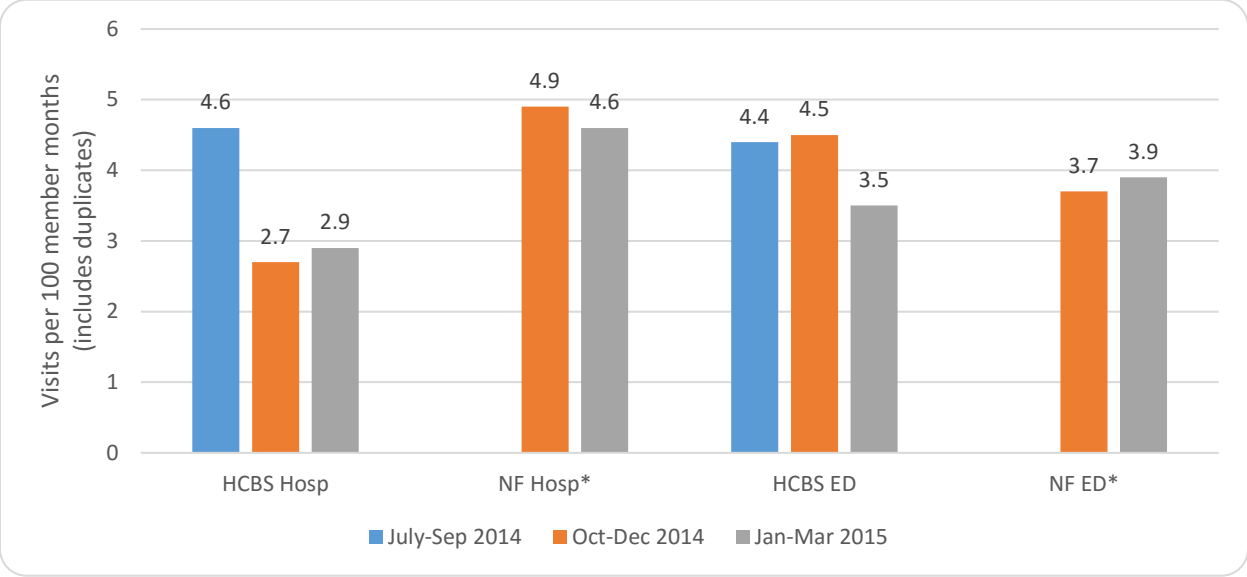
[58] Sources for this section are DMAHS, MLTSS Performance Measure Reports, 7/1/14–6/30/15 and 10/1/15–12/31/15, plus communication with DMAHS about updates MCOs have made to these reports.

quarters, the majority (54% and 59%) were only there for a short-term stay. However, this pattern was only seen in one MCO (because it has the largest number of enrollees, it affects the total more than the others). For the other MCOs, more than 60 percent of their nursing facility admissions were long-term. Without knowing the health and social support status of the MLTSS members involved, it is impossible to know whether these differences are due to underlying differences in members in these MCOs or differences in the way that MCOs are assisting members.

## Hospital and Emergency Department Use

As shown in Figure 14, hospital and ED use has been stable or declined over the first three quarters of MLTSS implementation. Hospitalizations are somewhat higher for the nursing facility population, which is expected given the often more fragile health of these MLTSS enrollees. Hospitalizations for the HCBS MLTSS population declined from 4.6% of enrollees in the first quarter after implementation to slightly below 3% in the next two quarters. ED use among HCBS enrollees appeared to decline in the third quarter of implementation. We do not include data on nursing facility enrollees for the first quarter because there were only around 50 of them reported by the MCOs as continuously enrolled during that period.

**Figure 14: Rate of hospital and ED use among continuously enrolled MLTSS members, quarterly, by setting (nursing facility or HCBS)**




*Too few enrollees in the July–Sep 2014 period to include.
Note: Percent is calculated as the number of events (hospital/ED visits) divided by the number of continuously enrolled members. Individuals are counted for each event they had.
Sources: DMAHS, MLTSS Performance Measure Reports, 7/1/14–6/30/15 and 10/1/15–12/31/15.

**Use of Self-Directed MLTSS Services**

Self-directed services are those where consumers receive a cash budget based on assessed needs which they can use to purchase goods and services or hire workers. MCO case managers may suggest items they believe will enhance members' quality of life, as did one NJ MCO who determined that its members were having health problems due to excessive heat. The MCO purchased window air conditioning units to assist clients using the self-direction option. Where there is a worker providing services to the member, the member is the employer of the worker and directs their own care (or a representative may do this for them). For MLTSS, services available for self-direction include personal care assistance (PCA), chore services, non-medical transportation (e.g., shopping, religious services, etc.) and home-based supportive care (e.g., grocery shopping, money management, housekeeping).

The opportunity to self-direct PCA services has been available since 1999 for all those receiving state plan services, though enrollment grew with the movement of PCA to managed care in 2011 and continues to grow. MCOs are required to inform members of the option to self-direct.

With the inception of MLTSS in July 2014, the PCA rate was reduced from $15.50 per hour to $15.00 per hour, leading to a reduction in purchases of goods and services and an increase in the proportion of the budget going toward worker pay. Table 8 shows the number and percent of MLTSS members using self-directed services for each MCO as of August 2015, as well as the percentage of MLTSS members eligible to receive services during January-March of 2015.[59] Figure 15 shows a graphic depiction of the number of self-directed service users per 1,000 members. Horizon's members constitute 61% of self-directed service users. An estimated 5.3% of Horizon's MLTSS members use self-directed services. This is the largest percentage of all MCOs, though the three other MCOs who were active at implementation are close behind.

**Table 8: MLTSS self-directed services by MCO as of August 2015**

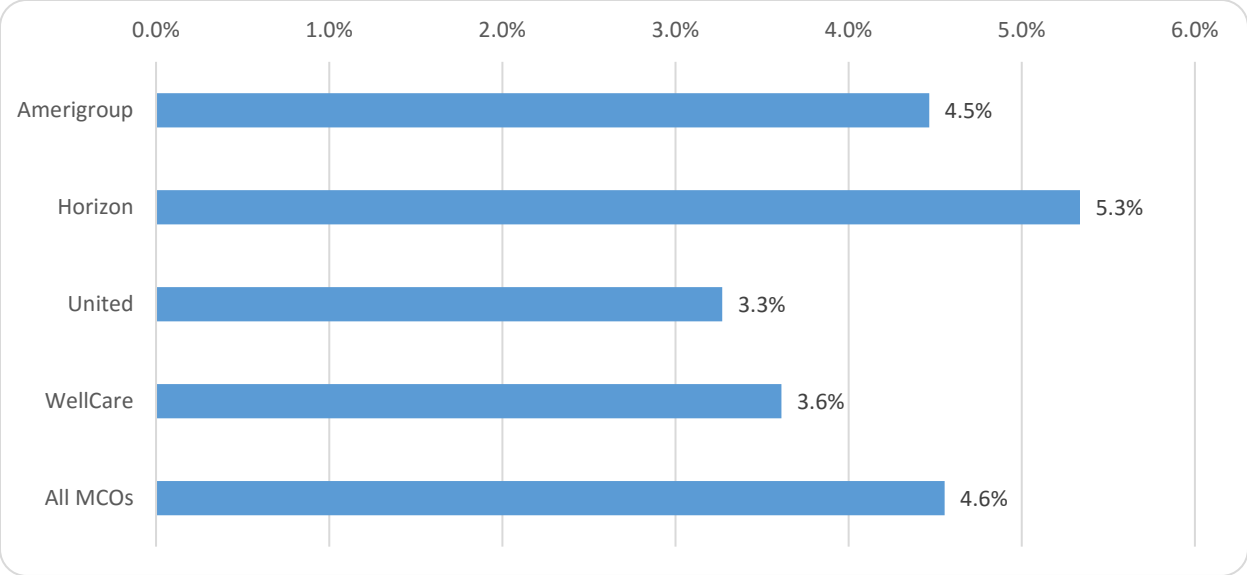
| MCO | Number of members using MLTSS self-directed services | Share of total self-directed service use | Estimated percent of enrollees eligible for MLTSS services Jan-Mar 2015 using MLTSS self-directed services* |
|---|---|---|---|
| Aetna | 0 | 0% | 0% |
| Amerigroup | 111 | 16% | 4.5% |

[59] We would like to have used a later time period for the number of eligible members, but this was the latest available to us. A slide presented in the MLTSS Steering Committee on June 9, 2016 shows the percentages in the first year (July 2014-June 2015) by those eligible to self direct but does not show the MCO names. The patterns look similar to our Figure 15, but the overall estimate would be about 10% of enrollees self-directing when the denominator is those in services that allow self-direction.

| MCO | Number of members using MLTSS self-directed services | Share of total self-directed service use | Estimated percent of enrollees eligible for MLTSS services Jan-Mar 2015 using MLTSS self-directed services* |
|---|---|---|---|
| Horizon | 414 | 61% | 5.3% |
| United | 120 | 18% | 3.3% |
| WellCare | 29 | 4% | 3.6% |
| Total | 674 | 100% | 4.6% |

*Note: This includes all MLTSS enrollees, even those in settings where they are unable to self-direct
Source: New Jersey Comprehensive Waiver Demonstration Section 1115 Annual Report, Demonstration Year 3: July 1, 2014–June 30, 2015, Section IV.

**Figure 15: Percent of enrollees eligible for MLTSS services Jan–Mar 2015 using MLTSS self-directed services**




Source: New Jersey Comprehensive Waiver Demonstration Section 1115 Annual Report, Demonstration Year 3: July 1, 2014–June 30, 2015, Section IV and Attachment E (for enrollee numbers).

## Network Adequacy

The New Jersey Comprehensive Waiver Demonstration Section 1115 Annual Report for Demonstration Year 3 (covering the period of July 1, 2014 to June 30, 2015) contains GeoAccess reports for 17 acute care services as of June 30, 2015.[60] For MLTSS services, MCOs are required to have at least two providers for each home and community-based service (other than community-based residential alternatives)—for services provided in members' residences, the provider does not need to be located in the member's county but must we willing and able to

[60] See Section VII and Attachment D https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/nj/Comprehensive-Waiver/nj-1115-request-Annl-rpt-demo-yr3-11102015.pdf.

serve residents of that county.[61] Presumably for this reason, GeoAccess reports are not available for MLTSS services. However, the annual report notes that MCOs submit network files (including MLTSS providers) on a quarterly basis to DMAHS, which reviews them for potential gaps in coverage. In addition, MCOs report any potential gaps in coverage and the action they are taking to mitigate impacts on members during regular conference calls with the State. According to the annual report, should there be a gap in services for a member, MCOs will complete a single case agreement with a nonparticipating provider and/or arrange for transportation to a participating provider in a contiguous county.[62] We do not know how often this occurs. A summary of detailed grievance information reported by the MCOs covering the period of January to December 2015 shows 12 instances of difficulty obtaining access to MLTSS providers.[63] We are uncertain about the comprehensiveness of this number.

For the 17 acute care services shown in the report, there are only very slight differences among the MCOs, with all reporting 99% or higher levels of access overall. Services with less than 99.9% coverage (averaged among all MCOs in all counties served by the MCO) include hospitals (94% overall, 15 counties), general dentists (95% overall, 19 counties), and both adult and pediatric primary care physicians (97% overall, 13 counties for adults and 15 for pediatrics). Table 9 shows the counties in order of access coverage. Rates are generally 75% or higher, with only 10 instances in 7 counties of a rate for any provider below 80%.

**Table 9: Average rate of GeoAccess coverage for 17 acute care services as of June 30, 2015**

| Rate | Counties |
|---|---|
| Less than 97% | Cumberland |
| 97% - 98.49% | Sussex, Hunterdon, Atlantic, Morris, Warren |
| 98.5%-99.49% | Ocean, Gloucester, Burlington, Somerset, Mercer |
| 99.5% and higher | Cape May, Monmouth, Passaic, Middlesex, Camden, Bergen, Salem, Union, Essex, Hudson |

Source: New Jersey Comprehensive Waiver Demonstration Section 1115 Annual Report, Demonstration Year 3: July 1, 2014–June 30, 2015, Attachment D.

The accuracy of provider directories, on which these data are based, has been questioned nationally and in New Jersey. One recent examination notes that New Jersey is among the most strict group of states with respect to provider directory requirements.[64] It is unclear whether

[61] See Section 4.8.10 MLTSS Network Requirements (Article 4, p.101 of the 01/2015 Accepted contract), http://www.state.nj.us/humanservices/dmahs/info/resources/care/hmo-contract.pdf.

[62] See Attachment E, PM#14 on p.8 https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/nj/Comprehensive-Waiver/nj-1115-request-Annl-rpt-demo-yr3-11102015.pdf.

[63] MAAC Meeting Presentations 4 20 16, slide 28.

[64] Hoyt B. 2015. Provider Directories: Litigation, Regulatory, And Operational Challenges. Washington, DC: Berkeley Research Group. http://www.thinkbrg.com/media/publication/579_Hoyt_DirectoryWhitePaper_032015_WEB.pdf.

recent changes to requirements will be sufficient to overcome the problems found by the Mental Health Association in New Jersey in 2013 where researchers found that 33% of 525 psychiatrists had incorrect listings and that only 61% were able to provide information on their ability to accept new patients, many after multiple contact attempts.[65]

**Policy and Administrative Changes**

Qualified Income Trusts. As part of the comprehensive waiver, New Jersey now allows individuals whose monthly income exceeds 300% of the SSI rate (recently $2,199) but who are clinically and otherwise eligible for Medicaid, to set up a Qualified Income Trust with a separate bank account for income above the threshold, which is used for cost-sharing expenses. This replaces the medically needy category, which was only available to individuals entering nursing facilities. As of the end of 2015 almost 900 beneficiaries had set up QITs.[66] We are not sure how many are in community settings. In October of 2015, there were 89 people receiving MLTSS HCBS services who had QITs (about 17% of the total—43% were in nursing facilities and the remaining 40% were classified in other ways where we cannot determine their setting).[67]

Self-attestation of Asset Transfer. Another policy/administrative change with the comprehensive waiver involved allowing individuals under 100% of the federal poverty level who are applying for long-term care to self-attest as to whether or not they have transferred assets in the past five years, rather than undergoing a detailed examination of all of their assets over this time period—a process that is burdensome for government staff as well as individuals who are applying. As of the end of 2015 approximately 627 individuals had utilized the self-attestation process.[68]

# Summary

Overview. This chapter examines MLTSS-related measures reported by managed care organizations (MCOs), External Quality Review Organizations (EQRO) and New Jersey state government offices across a variety of domains affecting members. None of these measures represent a direct survey of member satisfaction or quality of life. There will be separate sources for measures like this for MLTSS members and other consumers of long-term care services when the NCI-AD results from data collected in the summer and fall of 2015 are released in 2016.

[65] Mental Health Association in New Jersey. July 2013. Managed Care Network Adequacy Report. http://www.mhanj.org/wp-content/uploads/2014/09/Network-Adequacy-Report-Final.pdf.
[66] NJ Department of Human Services, Renewal 1115 Waiver Concept Paper.
[67] MLTSS Presentation for Steering Committee December 2015, listing a source of NJ DMAHS Shared Data Warehouse Regular MMX Eligibility Summary Universe & Recipient Universe, accessed 11/13/15.
[68] NJ Department of Human Services, Renewal 1115 Waiver Concept Paper.

Quality Oversight Efforts/Member Appeal Mechanisms. There are a variety of quality oversight efforts and member appeal mechanisms that were described in this section. Member appeal mechanisms include direct appeals with MCOs, complaints to state quality hotlines, independent review requests through the Division of Banking and Insurance, and Medicaid fair hearing requests.

Long-Term Care Population by Setting. Data showed an increase in the share of the population receiving services in home and community-based settings from 27% in July 2014 to 35% in January 2016. Given the general preference of consumers for HCBS over facility services, this is a positive development. The share of the same population in nursing facilities dropped from 71% in July 2014 to 65% in January 2016. PACE (which always starts in a community setting but can progress to nursing facility care) remained constant at about 2% of the long-term care population. Among the HCBS population, about 20% are in assisted living facilities and the remaining 80% are in other types of community settings.

Setting of Former Waiver Enrollees. Among the group of people enrolled in the former §1915(c) home and community based services (HCBS) waivers that were combined in the §1115 comprehensive waiver, 65% were still receiving HCBS services through MLTSS in March 2016. About 8% were in nursing facilities and the remaining 28% are no longer enrolled in either MLTSS or Medicaid (most have passed away). This seems to suggest that people who begin receiving services in community settings are largely able to remain there.

Age Groups in MLTSS and LTC. MLTSS has a slightly larger share of consumers under age 65 than the general long-term care population, which includes those individuals receiving fee-for-service nursing facility services. This trend will likely continue as MLTSS has new enrollees and the fee-for-service population does not.

Assessment Timeliness. There are positive trends in the timeliness (defined as completion within 30 days of referral) of level-of care assessments. These are conducted by the Department of Human Services, Division of Aging Services, Office of Community Choice Options (OCCO) for consumers who are not already both on Medicaid and enrolled in managed care and by MCOs for consumers who are enrolled with them through Medicaid. OCCO's timeliness suffered early on in MLTSS implementation when they had to do a large number of face-to-face reassessments for MCO enrollees after the MCO assessments could not be authorized (OCCO authorizes all level of care assessments done by MCOs and must do its own face-to-face assessment before anyone is denied a nursing facility level of care designation). Additional training of MCO assessors seems to have addressed the issue. As of October 2015, 76% of OCCO assessments and 91% of MCO assessments were completed within 30 days of referral. Individual MCO values ranged from 75%

to 98% in October 2015. Horizon conducts more than half of the assessments for all five MCOs combined, so their results influence the MCO average most heavily. In terms of assessment volume, OCCO conducts about double the assessments of all MCOs combined. As of April 2016, OCCO was receiving an average of 5,800 referrals a month—many of these referrals do not result in an assessment because the consumer is discharged quickly or passes away before an assessment can be done. This means that OCCO is able to triage referrals when they are aware of people who need to be assessed quickly.

Care Plan Characteristics. An external quality review organization audited MCO records (100 from each of the four MCOs that were operating upon implementation) and calculated metrics based on several aspects of consumers' care plans for the first year of MLTSS. For this first year, there were two audits done—one for each six month period. The results were combined to give an annual average. The first audit had few cases involving individuals new to MLTSS (12 to 17 per MCO), so comparisons between the first and second audits should be made with caution. Going forward, audits will be done annually. Four aspects of care planning were evaluated, as shown below. MCOs were required to submit a work plan to address any rates below 85% on any of these measures. We do not know how results on these measures affected consumers.

1. *Timeliness (established within 30 days of enrollment)*—MCO values ranged from 25% to 72%, with an average of 52%. Corrective action plans for improvement were required for all MCOs on this measure. The EQRO reported improvement in the second half of the year. We do not know how services to consumers were affected by this.
2. *Aligned with Needs (as assessed with NJ Choice in type, scope, amount, frequency and duration)*—MCOs were higher on this measure, ranging from 87% to 97% (93% average, all MCOs). However, all MCOs showed a decline in this measure from the first to the second review period. For individuals new to MLTSS, the rate declined from 96% to 91% from the first period to the second. We do not have any further information about the ways in which care plans were aligned or not, or what this meant for consumers.
3. *Person-Centered Principles*—We do not know exactly how this measure was defined or how these results affected consumers. It showed a large range for individual MCOs--from 10% to 97%-- with a 61% average across all MCOs. Based on the 85% threshold, 3 plans would have been required to provide corrective action plans. The overall rate for individuals new to MLTSS showed an increase from the first to the second periods. One MCO's results are low due to the lack of documented member goals in the service plan.
4. *Percent of Consumers with a Back-up Plan*—As implemented in the initial audit, this was calculated for all files selected, rather than just those in an HCBS setting without regular staffing, and the results are still under discussion for that reason. The overall results for individuals new to MLTSS decreased from 88% in the first review to 81% in the second,

with an overall average for all cases of 83% (range 76%-95%). Based on the 85% threshold, 3 plans would have been required to provide corrective action plans. As with the other care plan measures, we do not know how these results affected consumers.

Critical Incidents. Critical incidents are defined in the managed care contract as "an occurrence involving the care, supervision, or actions involving a Member that is adverse in nature or has the potential to have an adverse impact on the health, safety, and welfare of the Member or others. Critical incidents also include situations occurring with staff or individuals or affecting the operations of a facility/institution/school."[69] The number of critical incidents has grown as enrollment has increased, but the percentage of enrollees affected is small. Timeliness of reporting (1-2 business days, depending on the nature of the event) has generally been very good, with an overall average of 93% from July 2014 to November 2015. Falls and medical or psychiatric emergencies accounted for more than half of incidents. Table 5 provided a detailed list of categories.

We found only two persistent differences by MCO—one in the share of incidents involving missing or unable to contact members and the other with respect to the share of reports classified as "other." We were not able to determine whether or how these differences impacted services to members. Differences may reflect reporting differences by these MCOs, differences in the populations they are serving, or different procedures in dealing with members.

Appeals, Grievances and Complaints. It is important to note that there are nuances with this type of measure such that lower numbers or rates do not necessarily reflect good member experiences relative to other organizations and higher numbers or rates may not always reflect relatively bad experiences. With respect to MCO reporting of appeals/grievances/complaints they receive, members must be able to reach the MCO, make the MCO understand that the member has an issue, and the MCO must then document and report the issue (and hopefully, address it). An MCO with fewer reported issues may actually have fewer issues, or there may be communication barriers within their organization such that they are not recognizing the issues that they have. With respect to external appeals/grievances/complaints, in many cases it is the MCO informing members of their rights to such appeals. Despite state efforts to require minimal standard disclosures, there may be differences in the effectiveness with which MCOs inform their members of their rights. In addition to these considerations, some members are more likely to

[69] Quote from Article 1, Page 8 of the Managed Care Contract, 01/2015 Accepted, accessed March 31, 2016 from http://www.state.nj.us/humanservices/dmahs/info/resources/care/hmo-contract.pdf.
MLTSS-related critical incidents are detailed in Article 9, Pages 55-56.

complain or to be able to complain, and this kind of reporting does not adjust for these factors. With these caveats in mind, we attempted to look at a number of indicators.

MCO Reports. MCOs report appeals and grievances separately from complaints, all on a quarterly basis. Until January 2015, MCOs reported all Medicaid members together. In January 2015, they began reporting MLTSS members separately.

*Timeliness*. They report the number of incidents and the timeliness of their investigations of the incidents (within 30 days is considered timely). As of September 2015, only two incidents (both complaints) took longer than 30 days to investigate (33 and 42 days).

*Outcome of Investigations*. It is important to note that a completed investigation does not mean that the member is satisfied—the MCO may deny the appeal request or decide that the complaint or grievance is without merit. DMAHS requests for the outcome of appeals regarding home health and private duty nursing services showed that 92% of denials were upheld (197 of 215) for home health and that all but one of the 40 private duty nursing-related appeals were upheld.

*Volume and Rate of Investigations by MCO*. Appeals and grievances were at their largest in the January-March 2015 quarter (120), declining to 63 and 93 in the following two quarters. Complaints peaked in April-June 2015 (108), from 57 the previous quarter and declining to 97 the following. These numbers are not adjusted for the number of enrollees in MLTSS. However, we can roughly estimate that appeals/grievances and complaints affected a small percentage of enrollees—around 1-2% at the most. We were only able to calculate MCO rates adjusted for the member population for one quarter—January-March 2015, shown in Figure 9. One MCO had rates of appeals/grievances that was about 3 times higher than the other MCOs, along with rates of complaints that were about half as high—assuming these are unique (they may not be) and adding appeals/grievances and complaints together, as many as 2% of this MCO's MLTSS members registered an issue, compared with about 1% in the two other MCOs that had significant numbers to report. With only one quarter, this may be an outlier or affected by reporting error in some way.

*Service Reductions and Relation to Appeals*. DMAHS also asked MCOs to report service reductions and the extent to which they were associated with appeals or fair hearings, and data are available for the third quarter of 2015. Across physical therapy, private duty nursing, adult medical day and personal care assistance, there were 14 full reductions and 36 partial reductions. None of the full reductions were appealed. Of the partial reductions, 4 (11%) went to a first level appeal, 1 (3%) went to a second level appeal and 1 (3%) went to a fair hearing.

It is not clear whether these service reductions have an effect on client outcomes. A lack of appeals and fair hearings cannot be assumed to indicate client satisfaction. There were a total of 10,866 MLTSS HCBS members in August of 2015, plus another 3,027 in Assisted Living. This is the population to which reductions would apply. While these results are not audited, it would appear that reductions affected a small proportion of members in this quarter. Without information on other time periods, it is impossible to know how typical this quarter was.

Fair Hearings. All Medicaid members can request fair hearings through the Department of Human Services. Outcomes that proceed to a final decision are posted on the Department's web site. It is not possible to determine the extent to which these decisions relate to members enrolled in MLTSS; however, the MCO name appears and we used that to count the number of cases in 2014, 2015 and the first quarter of 2016. These counts are not adjusted for duplicate filings, MCO efforts to inform members of fair hearing rights, or MCO efforts to get cases withdrawn before a final decision so that it does not appear. All MCOs have small numbers of fair hearing outcomes posted given the size of their total Medicaid enrollment. We cannot match MCO names since the MLTSS Performance Report identifies them only by letter. However, the patterns in the fair hearing data seem to match up with the pattern of appeals/grievances and complaints reported by MCOs, which reflects positively on the validity of those reports. The MCO with the highest number of fair hearing outcomes relative to its membership in 2014 and 2015 is much closer to other MCOs in the first quarter of 2016. Data examined from the Independent Health Care Appeals Program (IHCAP) suggests that there is period-to-period variation in this kind of data.

Independent Health Care Appeals Program (IHCAP). Another source of appeal data is IHCAP, an external review program administered by the NJ Department of Banking and Insurance (DOBI) to review adverse determinations made by insurance carriers for any health benefit (self-insured plans and Medicare plans are not eligible, but Medicaid and many commercial insurance lines are). We examined the total appeals filed by year from 1997-2014. There is a large spike in 2011 when many Medicaid services, including adult day health and personal care assistance (PCA) were moved into managed care. However, 2014 did not show an increase in filings, despite the implementation of the MLTSS and expanded eligibility for insurance generally under the Affordable Care Act. While effects in these data probably would not show until 2015, the lack of immediate increase in filings would appear to be a positive sign.

We also examined appeal data by carrier from 2010 to 2015 (11 semiannual periods) to provide additional context for the findings above—we were interested in the period to period

variation as well as the extent to which there may be patterns by carrier in the data. Specifically, we looked at the level of appeals for each carrier compared with their market share as well as the extent to which the independent reviews upheld their findings. It was not possible to restrict this analysis to Medicaid only, so this is across all business lines. In addition to being a measure of the extent to which carrier policyholders disagree with their decisions, the share of appeals may reflect the kinds of business lines that carriers are in as well as their propensity to inform their members of the right to pursue an independent review. Thus, interpretation of this measure is not straightforward.

We find that there is a good deal of period-to-period variation in the level of appeals filed relative to market share. A couple of the carriers appear to have higher levels of appeals than would be expected given their market share, but that could be due to different lines of business they may be in. With respect to the level of agreement, the external review organization generally agrees at least half the time with the carrier. We did not feel there were significant differences among the carriers for the time periods examined.

There is a potentially notable change in the types of issues appealed that could relate to MLTSS. The report for the first half of 2015 lists denials of home health care as the top issue in their frequency table of filings and notes that "These denials involved the reduction of private duty nursing services by Medicaid HMOs." While there were 17 of these cases in the latter half of 2014 (numbers were not given before then), there were 32 such cases in the first half of 2015 (this represented an increase from 7.6% of the total filings to 12%). However, because there isn't historical detail in the reports, it is impossible to know how typical this kind of change is. It does appear that the first half of 2015 is the first time that any category has been higher than inpatient admissions. However, it also appears that there are potentially different ways to group the appeal categories, some of which could make the growth in home health care seem less significant.

Other Potential Data Sources: State Hotlines, CAHPS® Surveys. We are aware that there are different state offices that interact with members and providers and sometimes discuss data they have collected in MAAC and MLTSS Steering Committee meetings. We have heard positive feedback from stakeholders about the responsiveness of state staff to inquiries made to various offices. We will inquire about these as potential sources of data for the final evaluation report. The CAHPS® (Consumer Assessment of Healthcare Providers and Systems) survey mentioned in Chapter 1 was mailed out in April 2014, before MLTSS was initiated, so the results would not reflect on member's experiences with MLTSS (reported results of the

survey showed no significant differences in overall Medicaid member satisfaction with plans).[70]

Nursing Facility Admissions. About 16% of new MLTSS members (including waiver transitionees) had a nursing facility admission in the first year of MLTSS. Individual MCO rates varied from 12.4% to 18.4%. There may be different factors driving that variation including differences in the health conditions or social supports of the underlying population, the ways people may enroll into MLTSS and select or be auto-enrolled into an MCO, and the care provided by MCO care managers and providers, which can prevent or shorten facility admissions.

Transitions between Nursing Facility and Community. The state is implementing a nursing facility transition incentive payment initiative that will require a minimum of 120 calendar days of residence in the community after the transition. Performance measures ask MCOs to report about a 90 day residence.

*Transitions from Nursing Facility to Community and Back within 90 Days*. There were 227 transitions out of nursing facilities in the first year of MLTSS and another 122 from July 2015 to September of 2015 for a total of 349 people transitioned. Fifteen of those transitioned in the first year of MLTSS returned to a nursing facility for more than 90 days. There do not appear to be large differences among the MCOs on these measures.

*Transitions from Community to Nursing Facility, Short-Term (less than or equal to 180 days) and Long-Term (greater than 180 days)*. In the first quarter after MLTSS implementation, about 90 individuals transitioned from the community to a nursing facility, the majority (about 74%) for a long-term stay of greater than 180 days. This pattern held for all of the MCOs. For the following two quarters, nearly 420 MLTSS-enrolled individuals transitioned from the community to a nursing facility. In these quarters, the majority (54% and 59%) were only there for a short-term stay. However, this pattern was only seen in one MCO (because it has the largest number of enrollees, it affects the total more than the others). For the other MCOs, more than 60 percent of their nursing facility admissions were long-term. Without knowing the health and social support status of the MLTSS members involved, it is impossible to know whether these differences are due to underlying differences in members in these MCOs or differences in the way that MCOs are assisting members.

Hospital and Emergency Department Use. MCO-reported hospital and ED use has been stable or declined over the first three quarters of MLTSS implementation. Hospitalizations are somewhat

[70] Laster-Bradley M. September 2014. 2014 NJ CAHPS® Survey 5.0 Analysis & Health Plan Comparison Report. Xerox State Healthcare for The New Jersey Division of Medical Assistance and Health Services.

higher for the nursing facility population, which is expected given the often more fragile health of these MLTSS enrollees. Hospitalizations for the HCBS MLTSS population declined from 4.6% of enrollees in the first quarter after implementation to slightly below 3% in the next two quarters. ED use among HCBS enrollees appeared to decline in the third quarter of implementation.

Use of Self-Directed MLTSS Services. Self-directed services are those where consumers receive a cash budget based on assessed needs which they can use to purchase goods and services or hire workers. For MLTSS, services available for self-direction include personal care assistance (PCA), chore services, non-medical transportation (e.g., shopping, religious services, etc.) and home-based supportive care (e.g., grocery shopping, money management, housekeeping). The opportunity to self-direct PCA services has been available since 1999 for all those receiving state plan services, though enrollment grew with the movement of PCA to managed care in 2011. MCOs are required to inform members of the option to self-direct. With the inception of MLTSS in July 2014, the PCA rate was reduced from $15.50 per hour to $15.00 per hour, leading to a reduction in purchases of goods and services and an increase in the proportion of the budget going toward worker pay. Horizon's members constitute 61% of self-directed service users. An estimated 5.3% of Horizon's MLTSS members use self-directed services. This is the largest percentage of all MCOs, though the three other MCOs who were active at implementation are close behind.

Network Adequacy. For MLTSS services, MCOs are required to have at least two providers for each home and community-based service (other than community-based residential alternatives). For services provided in members' residences, the provider does not need to be located in the member's county but must be willing and able to serve residents of that county. MCOs submit network files (including MLTSS providers) on a quarterly basis to DMAHS, which reviews them for potential gaps in coverage. In addition, MCOs report any potential gaps in coverage and the action they are taking to mitigate impacts on members during regular conference calls with the State. Should there be a gap in services for a member, MCOs will complete a single case agreement with a nonparticipating provider and/or arrange for transportation to a participating provider in a contiguous county. GeoAccess reports were not provided by DMAHS for MLTSS services. MCO-reported grievance information covering all of 2015 shows 12 instances of difficulty obtaining access to MLTSS providers. We are not sure of the comprehensiveness of this information.

For the 17 acute care services shown in the GeoAccess report, there are only very slight differences among the MCOs, with all reporting 99% or higher levels of access overall. Services with less than 99.9% coverage (averaged among all MCOs in all counties served by the MCO) include hospitals, general dentists, and both adult and pediatric primary care physicians. Rates

are generally 75% or higher, with only 10 instances in 7 counties of a rate for any provider below 80%.

The accuracy of provider directories, on which these data are based, has been questioned nationally and in New Jersey. A recent examination notes that New Jersey is among the most stringent group of states with respect to provider directory requirements.

Policy and Administrative Changes. As of the end of 2015, almost 900 beneficiaries had set up *qualified income trusts* (QIT), which allow clinically eligible individuals whose monthly income is above 300% of the SSI rate (recently $2,199) to spend down their resources on long-term supports and services (HCBS or nursing facility) to become eligible for Medicaid. Prior to the comprehensive waiver, this was only available for nursing facility residents (a medically needy designation), which may have led people who could not afford to pay the full cost of HCBS care themselves into nursing facilities at a higher cost to the state.

*Self-Attestation of Asset Transfer*. Another policy/administrative change with the comprehensive waiver involved allowing individuals under 100% of the federal poverty level who are applying for long-term care to self-attest as to whether or not they have transferred assets in the past five years, rather than undergoing a detailed examination of all of their assets over this time period—a process that is burdensome for government staff as well as individuals who are applying. As of the end of 2015 approximately 627 individuals had utilized the self-attestation process.

# Discussion

This chapter discussed a number of positive trends or indications regarding New Jersey's Managed Long Term Services and Supports program.

- The percentage of enrollees served in home and community settings has grown since implementation, from 27% in July 2014 to 35% in January of 2016. This may indicate progress in serving consumers in their preferred setting.
- An examination of the current setting of former enrollees shows that the majority who transitioned from the former §1915(c) home and community based services (HCBS) waivers remain in community settings, with only about 8% having transitioned to nursing facilities as of March 2016.
- Timeliness of nursing-facility level of care assessments, which are required for people to enroll into MLTSS, continues to trend upward. The state has taken a proactive approach in training MCO assessors to prevent state assessors from having to do a second assessment to facilitate enrollment, and has placed a requirement into the managed care contract that a target percentage of MCO assessments must meet approvable standards.

- External quality review organization results from two audits of MCO care plans for individual MLTSS enrollees in the first year of MLTSS showed improvement on two of four items measured. One item that showed a small decline was high initially; the other was contested as to audit file selection.
- MCO-reported critical incidents (unaudited) appear to affect a small number of members and to be reported in a timely fashion.
- MCO-reported appeals, grievances and complaints (unaudited) appear to affect a small number of members and appear realistic when compared with other indicators of member disputes (i.e., to the limited extent that it is possible to examine, we do not see any evidence that MCOs are underreporting appeals, grievances and complaints).
- MCO-reported appeals, grievances and complaints (unaudited) appear to be investigated within a timely manner. Most appeals appear to be upheld by the MCO, rather than overturned.
- The limited information presented on service reductions (unaudited MCO reports, one quarter) indicates that such reductions affect a small number of enrollees. Most are not appealed in any way.
- One MCO that had a high number of Fair Hearing Outcomes posted 2015 relative to other MCOs appears to be trending downward in 2016 (though this is difficult to say with certainty as the numbers are small and subject to variation, and cases may be withdrawn before an outcome is posted).
- MCO-reported hospital and ED use for MLTSS enrollees has been stable or declined over the first three quarters of MLTSS implementation.
- Close to 5% of MLTSS enrollees are using self-directed services, and enrollment continues to grow.
- Network adequacy for 17 acute care services, defined as the percentage of members with access to the service or provider, averages 99% overall and is generally 75% or higher (exceptions are for hospital services in some areas where an MCO does not contract with a nearby hospital).
- Network adequacy information for MLTSS services has not been provided publically, but MCO-reported grievance information appears to show, at most, 12 cases during 2015 of problems accessing MLTSS providers. We are uncertain of the comprehensiveness of this information.
- Policy/administrative changes put into place with MLTSS have allowed members to access services they would not have otherwise (qualified income trusts allow those slightly above Medicaid income limits to spend down for either HCBS or nursing facility services) and reduced the administrative burden for government staff and members (self-attestation).

Other findings we present are neutral:

- The percent of MLTSS members with a nursing facility admission during the first year provides a baseline against which other years can be compared.

We will continue to monitor MLTSS-related data for our final evaluation. There are limitations to many of the findings, and some findings raise questions or potential concerns:

- The measures we examine in this chapter are not adjusted for member health conditions or levels of social support, making it difficult to know if MCO efforts are driving differences in performance versus underlying effects intrinsic to members that MCOs cannot change.
- We do not know the actual effects on consumers of many of the findings in this chapter. The forthcoming NCI-AD results may shed light on many of these issues.
- Timeliness of enrollment—the various timeliness measures do not tell us how long people are waiting from the time an LTSS need is identified until they are actually enrolled in MLTSS. This time is difficult to measure, but it is important to establish HCBS care quickly to stabilize people's health and prevent progression to a higher level of care where possible.
- There is limited information regarding service reductions to MLTSS members. This is a topic about which there is a good deal of stakeholder concern. The limited information presented so far suggests that reductions are not extensive—more regular reports could confirm this.
- External appeal data reported by DOBI may indicate an increase in appeals related to denials of private duty nursing with the implementation of MLTSS. The information so far is not certain, but we will watch for further developments regarding appeals of MLTSS services.
- State hotline data on consumer/provider complaints—we have heard about other potential sources of consumer or provider complaints beyond those we have explored in this chapter. We will continue to monitor for additional sources of data we should be considering.
- Regarding network adequacy:
    - Network adequacy for MLTSS services has not been reported publically, though MCOs are required to report this information to the state, which reviews it for any coverage gaps. MCOs are required to address gaps by doing single case agreements with nonparticipating providers or providing transportation to a participating provider. We do not know the extent to which this occurs. MCO-reported grievance information appears to show, at most, 12 instances of problems reported with accessing MLTSS providers. We will check on the comprehensiveness of this information.
    - There are some acute care provider shortages that may affect the ability of some MLTSS members to access care (hospitals, general dentists, and adult and pediatric primary care physicians). Some of these shortages are due to a lack of providers in certain geographic areas related to larger industry and economic issues.

- The accuracy of MCO provider directory information has been questioned nationally and in New Jersey. Though New Jersey is among the states with the strictest standards, we will continue to monitor developments in this area.

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# Chapter 3: Analysis of Medicaid Claims Data to Examine Access to Care, Quality, and Cost of Care for the Baseline and Early Demonstration Period

## Introduction

In this chapter, we assess the impact of the expansion of managed care to Long Term Services and Supports (LTSS) and behavioral health (for selected LTSS-eligible populations) by examining measures of access to care, quality of care, and cost of health care for NJ Medicaid beneficiaries calculated from Medicaid fee-for-service (FFS) claims and managed care encounter data over 2011-2014. We examine the effects of the policy change on the targeted LTSS-eligible population, and we also examine potential changes in the quality of care for the entire managed care population as a result of this expansion in the services. All effects are identified by examining changes in selected quality metrics from the pre- to the post-implementation period of the MLTSS program.

Our research strategy is guided by the Division of Medical Assistance and Health Services (DMAHS) Quality Strategy (DMAHS 2014b) which includes quality issues relevant to the expansion in managed care and more generally, guides the State's healthcare monitoring, assessment, and improvement efforts for all Medicaid managed care services. The following goals are put forth in the Quality Strategy:

- To improve timely, appropriate access to primary, preventive, and long term services and supports for adults and children;
- To improve the quality of care and services;
- To promote person-centered health care and social services and supports;
- To assure member satisfaction with services and improve quality of life.

These goals align with the specific evaluation hypothesis and research questions enumerated in the waiver Special Terms and Conditions document (CMS 2014) relating to the managed care

expansion. These evaluation aims guide our selection, analysis, and presentation of metrics in this chapter[71]:

Hypothesis 1: **"Expanding Medicaid managed care to include long-term care services and supports will result in improved access to care and quality of care and reduced costs, and allow more individuals to live in their communities instead of institutions.";**

Research Question 1a: **"What is the impact of the managed care expansion on access to care, the quality, efficiency, and coordination of care, and the cost of care for adults and children?"**
Research Question 1b: **"What is the impact of including long-term care services in the capitated managed care benefit on access to care, quality of care, and mix of care settings employed?"**

To answer and address these research questions, we examine changes over time of specific metrics for the overall Medicaid and Medicaid managed care populations. Examining potential changes across all managed care beneficiaries examines overall adherence to the Quality Strategy by Medicaid managed care organizations (MCOs) undertaking the MLTSS reforms and provide the evidence needed for answering Research Question 1a. These findings also supplement those presented in Chapter 1. We also examine selected metrics for specific groups of Medicaid beneficiaries targeted by the managed care expansion. These are groups of long-term care (LTC) beneficiaries meeting an institutional level of care and residing either in a nursing facility or in their homes and communities under the former §1915(c) waiver programs or, after July 1, 2014, under MLTSS. These subpopulation analyses supplement the findings presented in Chapter 2 and provide the evidence needed for answering Research Question 1b.

In contrast to Chapters 1 and 2 where the data come from secondary sources, here we calculate selected metrics using Medicaid claims data for populations of Medicaid beneficiaries, including the LTC population, and additionally those who had a behavioral health (BH) diagnosis. Stratification of quality metrics to these specific subpopulations contributes to answering Research Questions 1a and 1b and more generally, Hypothesis 1. These results thus examine any indirect effects of MLTSS implementation on the quality of care for the overall Medicaid managed care population, and additionally, the direct effects of the MLTSS policy on the LTSS-eligible population that includes effects from integration of physical, behavioral, and long-term care services under MCOs. Further, the findings establish a pre-implementation[72] baseline period for

[71] Separate from this report we have also presented findings from stakeholder interviews that sheds light on member satisfaction and potential provider and payer issues that may not be captured in some of the claims-based metrics. Member satisfaction related to the overall managed care population is also analyzed in Chapters 1.
[72] It was not until July 2015 when an Interim Managing Entity for addiction services was operationalized.

the reforms in behavioral health care delivery (for populations outside MLTSS) authorized under the Waiver and falling under the purview of Hypothesis 1.

Broadly, this chapter is divided into two sections. Section A contains tables with annual estimates of selected quality metrics. Section B contains multivariate regression analyses that use statistical techniques such as Segmented Regression Analysis and Difference-in-Differences Modeling (see Methods section for details) to account for individual, geographic and provider characteristics while identifying the impacts of the managed care expansion under the Waiver.

# Methods

**Data Sources**

The analyses in this chapter were generated using Medicaid FFS claims and managed care encounter data for January 1, 2011 through January 31, 2015. We used recipient and claims-level information to allow for stratification of quality metrics to relevant subpopulations. All utilization and spending estimates reflect claims adjustments and updates through 6 months from the date of service.

**Metrics**

The metrics in this chapter are monthly, quarterly or annual estimates over the period 2011–2014[73] and can be broadly organized into several categories of outcomes: avoidable hospital use reflecting inadequate quality of ambulatory care; hospital readmissions that may reflect inadequate inpatient and outpatient care as well as gaps in care coordination; and rates of follow-up care in the post-acute phase that may reveal gaps in care coordination or care transition. We also examine spending relating to hospital use overall, avoidable hospital use, and total spending by the LTSS-eligible population. We examine whether the share of this last category of spending between community-living beneficiaries and those staying in nursing facility changes over time focusing on specific components of spending such as those relating LTSS services and avoidable/preventable hospitalizations. These cost trends illustrate savings potentially realized from increased efficiencies in care delivery and assess progress in rebalancing spending from institutions to the community under MLTSS. Appendix A contains additional details on each of these measures.

Table A outlines the broad categories of metrics calculated using the Medicaid FFS claims and managed care encounter data. Metrics 1-4 are population-based and rates are assessed per unit

[73] While the waiver demonstration period starts on October 2012, our analytic findings here are based on full calendar years so that our estimates are not driven by seasonality differences.

population. Metrics 5-7, on the other hand, are based on index events that arise in a hospital setting. Metrics 8-11 measure costs and are assessed overall and per unit population.

**Table A: Metrics related to quantitative evaluation of Hypothesis 1**

| | Metrics | Description/Motivation |
|---|---|---|
| | Utilization | |
| 1 | Prevention Quality Indicators (ages 18+) | Ambulatory care sensitive hospitalizations by adults that reflect inadequate community-level care. |
| 2 | Pediatric Quality Indicators (children 6-17) | Ambulatory care sensitive hospitalizations by children that reflect inadequate community-level care. |
| 3 | Avoidable emergency department (ED) visits (all ages) | ED visits that occur due to inadequate access to primary care. |
| 4 | Hospital utilization (all ages) | Inpatient and hospital emergency department utilization. |
| 5 | 30-day readmissions (ages 18+) | All-cause unplanned readmissions following all hospital admissions and following hospital admissions specifically for heart failure, pneumonia, and acute myocardial infarction. All of these may reflect gaps in inpatient care and/or care coordination following discharge. |
| 6 | Follow-up after hospitalization for mental illness (ages 6+) | Follow-up with a mental health practitioner within 7 days and 30 days of an acute care hospitalization for mental illness. |
| 7 | Ambulatory visit 14 days after discharge (all ages) | Follow-up with a health practitioner after a hospital stay for medical reasons. |
| | Cost/Spending | |
| 8 | Cost related to avoidable hospitalizations and ED visits | Assesses potential savings by avoiding preventable hospital utilization. |
| 9 | Costs related to all inpatient hospitalizations and ED visits | Assess the effects of the managed care expansion on acute care spending overall. |
| 10 | Long-term care spending in community and nursing facilities | Spending ratio assesses whether there is rebalancing of resources from the institutional setting to the community. |
| 11 | Total spending | Assess any effects on spending including long-term care, non-long-term care, avoidable and non-avoidable. |

Table B enumerates the populations for which the above metrics are calculated. It also provides a brief description of the purpose of each population stratification with additional details on definitions and motivations for the stratifications in the narrative below.

**Table B: Medicaid populations related to evaluation of Hypothesis 1**

| Populations | Purpose/Motivation for Inclusion |
|---|---|
| All beneficiaries | Examine overall trends in quality and costs for the entire Medicaid population. |
| All managed care (MC) beneficiaries | Examine trends in quality and costs for all beneficiaries in managed care. |
| Specific Eligibility Categories<br>- Aged/Blind/Disabled (ABD),<br>- NJ FamilyCare,<br>- General Assistance (GA),<br>- Children's Services,<br>- All Other Eligibility Categories | Eligibility categories offer a natural stratification for metrics based on age (e.g., Children's Services), disability-impacted health (e.g., ABD), or age and income (ABD, GA) for determining how trends vary based on these beneficiary characteristics. |
| Beneficiaries with behavioral health conditions | Examine quality of care for these beneficiaries since behavioral health care is carved into MCOs under MLTSS. Additionally, the demonstration plans to transition behavioral health services for all Medicaid beneficiaries out of FFS to management under an ASO. |
| Long-term care (LTC) beneficiaries | Examine quality and costs of care for beneficiaries directly impacted by the MLTSS demonstration program. |
| LTC beneficiaries residing in a nursing facility | Examine quality and costs of care for institutionalized long-term care beneficiaries undergoing a modified transition to MLTSS and remaining FFS until the transition is triggered. |
| LTC beneficiaries receiving home and community-based services (HCBS) | Examine quality and costs of care for community-residing beneficiaries transitioning to MLTSS under the Comprehensive Waiver. This population is comprised of the original §1915(c) waiver populations who had their acute care transitioned to MCOs in 2011 and any individuals joining MLTSS on or after July 1, 2014 and residing in their homes or in the community (assisted living). |

**Population Definitions**

*Medicaid Eligibility:* Beneficiaries with any period of active enrollment in a particular year, as indicated by the effective dates of their Program Status Codes, made up the beneficiary cohort for that year. If there was any period during the year when the beneficiary had a managed care plan code, the beneficiary was considered part of the managed care population for that year. Assignment to eligibility categories was based on the protocol used for Medicaid's monthly public reporting. Using the first program status code in the calendar year along with age and any concurrent special program codes, each beneficiary was assigned to one of the following categories: Aged/Blind/Disabled, NJ FamilyCare, Children's Services, General Assistance,[74] and Other. Classification into these eligibility groups will allow us to consider differing beneficiary

[74] In 2014, adult beneficiaries enrolling as part of the statewide Medicaid expansion under the Affordable Care Act are classified in the General Assistance eligibility category.

characteristics while assessing the impact of the Waiver on Medicaid beneficiaries overall during the demonstration period.

*Long-Term Care Population:* The Waiver combined several §1915(c) waivers serving people in the community with care needs at an institutional level into MLTSS. The largest historical §1915(c) waiver, Global Options (GO), had served older adults, and three smaller waivers included or targeted younger individuals. The Traumatic Brain Injury (TBI) waiver included people diagnosed with acquired brain injury after age 21 but before age 65. Community Resources for People with Disabilities (CRPD) served individuals of any age, including children, and the AIDS Community Care Alternatives Program (ACCAP) waiver served individuals of any age with AIDS and children under the age of 13 who were HIV positive. In addition to bringing these populations under the MLTSS umbrella, the Waiver also required new entrants to nursing facilities to enroll in MLTSS (residents of nursing facilities at the time of MLTSS implementation remain in a fee-for-service arrangement unless they have a change in the status of their level of care).

We developed an algorithm for defining the LTC population and designating each LTC beneficiary as either part of the nursing facility or home and community-based LTC population.[75] This was done on both an annual and monthly basis. The annual assignment results in a more stably defined cohort[76] and is used in descriptive tables of metrics by year. The monthly assignment is more refined, capturing transitions between different statuses within a year and allowing a more granular categorizing of claims and associated spending for a beneficiary at the time of service delivery. The monthly assignment is used in statistical models. The algorithm for these assignments is detailed in Appendix D.

In both enrollment volume and beneficiary characteristics (e.g. age, health), the original §1915(c) waiver programs (CRPD, ACCAP, TBI, or GO) were distinct. While the original waiver under which HCBS beneficiaries were entitled to services could be identified in 2011-2013, these distinct categories ceased to exist when MLTSS went into effect on July 1, 2014. In order to examine whether there were different trajectories of quality or spending for these four original populations across the interim study period, we isolated a cohort of §1915(c) waiver enrollees by their status in January 2014 and present some metrics for all years for this cohort (as allowed by sample size).

[75] The LTC population evaluated in this report does not include PACE enrollees or individuals with developmental disabilities residing in developmental centers or receiving services under the Community Care Waiver, which was carved out of MLTSS. It includes only the MLTSS-eligible populations.

[76] This implies that a LTC-eligible beneficiary who received HCBS services for a small period during the year but was a NF resident for the most of the year would be designated NF resident for that year.

*Behavioral Health Conditions:* In order to assess coordination of behavioral and physical health services occurring as part of the managed care expansion under the Waiver, we defined the cohort of beneficiaries in each year with a BH condition. Using the 2014 AHRQ clinical classifications software (CCS), we scanned all claims for a diagnosis of mental health condition or substance use disorder (see Appendix A and Appendix E for additional details). Beneficiaries with any claim flagged using this methodology were considered part of the BH population in the year of the diagnosis.

**Metric Definitions: Inclusion and Exclusion Criteria**

Each metric has inclusion and exclusion criteria specified by the measure steward. If not already part of the metric specification, we imposed on all metrics (except for total and LTSS/non-LTSS spending) the requirement that a claim was only counted if the beneficiary had been continuously enrolled in Medicaid for at least 30 days preceding the claim date. As stated in our evaluation plan, this criteria eliminates events which might precipitate Medicaid enrollment and confound the effect of the demonstration.

**Costs**

Data on costs come from the payment fields in the Medicaid claims data. We only tabulated costs to Medicaid and Medicaid HMOs incurred via direct payment for services. Payments made by Medicare or from any other source are not included. Capitation payments, which include costs for the organization and procurement of services, are also excluded from totals. Costs for hospital use only reflect facility charges and do not include any physician or lab charges associated with hospitalization or outpatient visits. All costs were inflation adjusted and expressed in year 2012 purchasing power using the Consumer Price Index for medical care from Table 1A (Crawford, Church, and Rippy 2013, 164; Crawford and Church 2014, 165; Crawford, Church, and Akin 2015, 165).

Costs for LTSS were collected from both FFS and encounter claims for beneficiaries included in the LTC population (as defined above) for the time of their LTC assignment (which may be monthly or annual depending on analysis). Facility costs were counted from NF FFS claims across the entire study period, and NF encounter claims with a specific custodial revenue code were counted after July 1, 2014. Costs for community-based LTSS were counted on claims having LTSS

service codes as described in the MLTSS Service Dictionary (DMAHS 2014a) and enumerated in the spreadsheet of uniform billing codes shared with us by DMAHS.[77,78]

**Reporting Criteria**

For Metrics 1-4 and 8-11, which are population-based rates, denominators and estimates are not shown when the denominator for IP hospitalizations or ED visits is less than 50. For the remaining metrics (5-7), denominators and estimates are suppressed when denominators are less than 30.

**Analytic Approach**

In Section A we calculated and present mostly annual estimates to examine time trends in utilization and spending-related metrics over the period 2011-2014. Specific metrics include annual rates of inpatient hospitalizations and ED visits, rates of avoidable/preventable hospitalizations and ED visits, readmission rates, rates of follow up and ambulatory visits after hospitalization. We also examine categories of spending including that associated with hospital encounters, avoidable/preventable hospitalizations and LTSS-related spending among the nursing facility residents, and community based long term care individuals receiving home and community-based services.

In addition to annual estimates, for examining changes in the share of spending by the LTSS-eligible population between HCBS and NF, we examined monthly estimates of overall spending, LTSS spending, and non-LTSS spending identifying the component related to avoidable/preventable hospital use.

In our discussion of descriptive findings we will focus on the 2014 annual estimates to examine the effect of the MLTSS program on LTSS-eligible beneficiaries or the overall managed care population. The subgroups of interest in regard to Research Questions 1 and 2 will be the overall group of managed care beneficiaries and the HCBS population that shifted to managed care on July 2014.

It is important to note that for descriptive analyses, observed variation for the metrics between two points in time might sometimes be the result of outliers in the data, small sample sizes within certain subpopulations, or changes in characteristics of the beneficiary population.

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[77] An earlier version of this spreadsheet is included on the DMAHS website among its MLTSS Resources for Consumers, Providers, and Stakeholders.
http://www.nj.gov/humanservices/dmahs/home/MLTSS_Code_Crosswalk_Old_to_New.pdf.

[78] Medical day care and personal care assistance were both State plan long-term care services that remained unchanged under MLTSS and so were not included in the service code crosswalk spreadsheet. However, we did include costs for these services in our LTSS spending tabulations across the study period.

In Section B, we report findings from multivariate regression analysis conducted to isolate and identify the effect of the managed care expansion policy on the stated outcomes (after adjusting for patient, provider and area-level characteristics). We primarily utilize two statistical techniques, namely Segmented Regression Analysis (SRA) (Wagner et al. 2002) and Difference-in-Differences (DD) estimation (Chakravarty et al. 2015; Ashenfelter and Card 1985) to determine any statistically significant effect of these policies on outcomes. Each statistical technique is distinctively suited to answer one of the two research questions under Hypothesis 1. The SRA is utilized to examine Research Question 1a and the DD is utilized to examine Research Question 1b.

For examining the effect of the MLTSS program on the overall managed care population we utilize the SRA. Such a model assumes that the policy effect leads to a change in level, and also a change in the existing time trend of the metric measuring quality or any other relevant outcome of interest. For our analysis examining the effect of the MLTSS policy on the overall managed care population, we utilize the model described in equation (1)

$$Y_{it} = \beta_0 + \beta_1(time)_t + \beta_2(waiver\ post)_t + \beta_3(waiver\ time)_t + \beta_4(expansion\ post)_t) + +\beta_5(expansion\ time)_t + \beta_6(MLTSS\ post)_t + \beta_7(MLTSS\ time)_t + \gamma X_{\ it} + \varepsilon_{it} \quad (1)$$

Here, $Y_{it}$ reflects the outcome related to the $i^{th}$ managed care enrollee at time *t*. On the right hand side of the equation, time is a continuous variable indicating time in months (or in some cases calendar quarters) from the start of the study period. The variables *waiver*, *expansion* and *MLTSS* are indicator (0/1) variables for the period subsequent to these policy changes. The variables *waiver time*, *expansion time* and *MLTSS time*, are continuous variables equaling the number of months (or quarters) after the corresponding policy change. Coefficient $\beta_0$ estimates the baseline level of the outcome at the first time period, and coefficient $\beta_1$ indicates the baseline trend, i.e., the change in the outcome that occurs prior to the first policy change. Coefficients $\beta_2$, $\beta_4$ and $\beta_6$ estimate the level changes after each of the policy changes i.e., start of the waiver, the Medicaid expansion, and the MLTSS implementation in October 2012, January 2014 and July 2014 respectively. Similarly $\beta_3$, $\beta_5$, and $\beta_7$ estimate the change in trend in the outcome after each of these changes. The specification detailed above, while examining the change in outcome due to the MLTSS program, is able to identify changes in outcomes that may have occurred due to the waiver implementation or the Medicaid expansion and isolate those effects from that of MLTSS implementation.

In this model, the specific effect of the MLTSS program on the overall managed care population is given by the magnitude of $\beta_6$ that gives the change in level and $\beta_7$ that gives the change in trend after the MLTSS implementation and we further test whether these values are statistically significant. Accordingly in our results section, we report the magnitudes of these two coefficients and their joint statistical significance. Lack of significance will indicate that the effect of the MLTSS implementation while not necessarily zero in magnitude is not statistically credible. For interpretability purposes, we further compare predicted values of outcomes post-MLTSS with counterfactual values (that simulate a scenario where the MLTSS implementation did not occur by setting the MLTSS variables to zero in our regression analysis). The line graphs are reported for each of outcomes in the results section. We will see that each line graph bifurcates into two after June 2014 one providing the values with MLTSS implementation and the other for the counterfactual scenario without MLTSS implementation.

While examining these effects we adjust for patient characteristics that are represented by the variable $X_{it}$. We incorporate hospital fixed effects (to account for time-invariant differences across hospitals) for inpatient quality-based measures and zip code fixed effects (to account for time-invariant measures across geographic locations) for measures reflecting ambulatory care. $\varepsilon_{it}$ is the random error term utilized in such regression analysis and that governs the statistical distribution of the outcome variable.

For examining the effect of the MLTSS implementation on the community-based population receiving HCBS services, which was also the population primarily impacted by the change in the short run,[79] we utilize the DD regression model. We define a comparison group to this population comprised of individuals who are not NF residents and are categorically eligible for Medicaid (i.e. Aged, Blind, or Disabled). The DD estimation process examines changes in outcome for the HCBS population from the pre- to the post-MLTSS implementation period and compares this change to the comparison group. Such an estimation strategy is able to identify changes in outcomes that are due to program impact and distinct from secular trends. It accounts for the effect of unobserved factors, as long as their impact on one of the groups relative to the other do not change over time. Equation (2) illustrates the general DD specification.

$$Y_{it} = \beta_0 + \beta_1(HCBS)_i + \beta_2(post\ MLTSS)_t + \beta_3(HCBS_i * post\ MLTSS_t) + \gamma X_{\ it} + \varepsilon_{it} \qquad (2)$$

The variable $Y_{it}$ represents the utilization or cost-based outcomes enumerated in Table A for the $i^{th}$ patient at time t. Post MLTSS is an indicator (0/1) variable that identifies the period starting July 2014. HCBS indicates if the individual was LTSS-eligible (due to requiring a NF level of care)

[79] Existing NF residents continue to have their services covered by the FFS system until they experience specific triggers related to acute care events. New NF residents will be under MLTSS.

and living in the community receiving HCBS services. In this model, $\beta_3$ is the DD estimate measuring the program impact. $X_{it}$ is a vector of other control variables relating to the patient, and $\varepsilon_{it}$ represents the random error term.

THE DD approach assumes that there are no unmeasured factors due to which the outcomes would change relatively between the intervention and comparison groups. If this assumption is not fulfilled and the two groups have differential trends, the effect size includes this difference over time. Accordingly, we test to see whether there existed significant differences in trends between the HCBS and comparison group prior to MLTSS implementation. If this difference is in the same direction of the DD estimate, and of comparable magnitude, that would imply that the DD model may be overestimating the effect.

As before, we incorporate hospital fixed effects for inpatient quality-based measures and zip code fixed effects for measures reflecting ambulatory care. We also include indicator variables to distinguish the pre-implementation period into pre-waiver, post-waiver, and post Medicaid expansion periods.

In our findings section we first report the unadjusted DD estimate. This is based on the difference between the pre-post change in the HCBS population and the pre-post change in the comparison group. We follow this with the adjusted difference that estimates the policy effect after accounting for patient and provider or geographical characteristics. This corresponds to the coefficient of the regression interaction term between HCBS and post-MLTSS. The magnitude of this interaction term is reported along with its statistical significance. In the footnote to the table, we note if the pre-trends between the HCBS and comparison group are significantly different.

For index-event based metrics, (Metrics 5-7) the vector of patient characteristics includes individual-level control variables such as beneficiary elderly status (age 65 and older), sex, and health status. For the non-readmission metrics in this group (*Follow-up after Hospitalization for Mental Illness* and *Ambulatory Visit 14 Days after Discharge*), the measure of health status used was a categorization of the diagnosis-based Chronic Illness and Disability Payment System (CDPS) risk score that measures disease diagnoses and burden of illness with higher values indicating greater disease burden. For readmission metrics we used the full set of risk-adjustment variables that are defined by the 2014 CMS methodology related to Risk Standardized Readmission Rates (QualityNet 2016). Appendix F lists all the risk-adjustment variables for each of the readmission outcomes.

When modeling population-based metrics (Metrics 1-4, and 8) at the person-quarter level, the vector of patient control variables includes beneficiary sex, elderly status (age 65 and older), and

number of days enrolled in Medicaid during the quarter. We also account for any change in disease diagnoses and burden of illness over time within the analytic population by adjusting for the CDPS risk score category for each individual.

Our estimation procedures were conducted using STATA MP 14 or SAS Enterprise Guide 7.11 software.

# Results

**Section A**

In this descriptive analysis section, we examine our quality measures for the overall group of Medicaid beneficiaries and specific subgroups related to eligibility or place of service.

These findings will document differences across subgroups, and also differences across time. We will highlight notable differences in estimates over the years. Our primary focus would be on any substantive changes in these estimates during 2014, the year when the MLTSS implementation took place compared to the previous years. We will also highlight specific subgroups of beneficiaries where these estimates are disproportionately high. While that does not directly relate to our first order objective of examining changes in outcomes over time to identify the policy effect, documenting specific populations where spending is high or quality of care is low informs policy formulation and identifies follow up areas for our final evaluation report, an year after this interim report.

Table 3A.1 reports the percentage of NJ Medicaid beneficiaries who were MC enrollees at some point during the calendar year. While the NF residents remained FFS until the implementation of MLTSS in July 2014, mandatory enrollment into an MCO for acute care services became effective for the HCBS population (existing and new entrants) in late 2011. This is reflected in the higher percentage of managed care enrollment in this population in 2012 (95%) compared to the previous year. Among NJ beneficiaries overall and among managed care enrollees those enrolled in NJ Family care accounted for the greatest share. This was followed by those in the ABD category for 2011-2013. In 2014 there is an increase in the share of the General Assistance (GA) category that included the Medicaid expansion population from that year.

It is also important to note that the residual 'other' category comprising all other eligibility categories accounted for less than half percentage point of the overall Medicaid population. Because of its small base, we will not consider this category while making comparisons in metrics between different eligibility categories.

Table 3A.2-3A.9 report rates of avoidable inpatient hospitalizations and primary care avoidable/preventable ED visits per 10,000 population. Rates of hospitalizations per 10,000 population are reported for all Medicaid beneficiaries, the managed care population, for the LTC population, and beneficiaries with a behavioral health condition.

In 2014, avoidable inpatient hospitalization rates were the highest among the long-term care population with a behavioral health (BH) condition, especially those with a BH condition receiving HCBS (744 per 10,000 beneficiaries; Table 3A.3). However, this rate decreased from 2013 to 2014. High rates are also observed in the ABD population (367; Table 3A.2), the long term care population especially those receiving HCBS services in the community (581) and among all beneficiaries with BH conditions (352; Table 3A.2).

The GA and the ABD population in managed care had the highest rates of avoidable ED utilization. Avoidable ED rates among the LTC population were much lower, roughly half the overall Medicaid rate (Tables 3A.4 and 3A.5).

Figure 3A.1 examines the trend in avoidable hospitalizations for the overall population of Medicaid managed care beneficiaries and the HCBS population. We see that rates in 2014 were the lowest among the four years. However, this may be driven by the decreasing trend in the rates of such utilization that started in 2012 and thus, may not be attributable to the 2014 MLTSS policy effect.

Tables 3A.6-3A.7 document rates of specific types of preventable hospitalizations including those relating to diabetes, COPD/asthma, hypertension, heart failure, dehydration, bacterial pneumonia and urinary tract infection.

Tables 3A.8-3A.9 report rates of pediatric avoidable hospitalizations. These are substantially lower than the rates among adults, with the pediatric rate equaling one-eighth of the adult rate for all Medicaid beneficiaries and Medicaid managed care beneficiaries. For the LTC population, the pediatric rate of avoidable inpatient hospitalizations was one-seventh the rate among adults.

Tables 3A.10-3A.11 report inpatient and ED utilization rates per 10,000 beneficiaries. In 2014, the ABD group had the highest rates of inpatient and ED utilization among the different eligibility groups (except for the 'other' category). The long term care population had a substantially higher rate of inpatient utilization compared to the overall Medicaid rate (2,770 versus 797 per 10,000 beneficiaries), but had a slightly lower rate of ED utilization compared to Medicaid beneficiaries overall (3,381 versus 4,961 per 10,000 beneficiaries).

Figure 3A.2 exhibits the trends in these rates for the overall managed care population and separately, the HCBS population. We see a sharp decrease in ED visit rates from 4,942 visits per 10,000 population in 2013 to 4,170 per 10,000 population in 2014 for the HCBS population.

Tables 3A.12-3A.14 report annual levels of total spending per person, and also avoidable and overall hospital spending per person for the years 2011-2014. The ABD eligibility group enrolled in managed care has the highest per-person avoidable spending ($238) and also overall hospital spending ($1481) in 2014. Also among managed care enrollees, the ABD category also has the highest overall per-person spending, $16,246 per beneficiary in 2014.

Figure 3A.3 examines trends in different categories of hospital and overall spending over 2011-2014 among all Medicaid beneficiaries. We find that total spending per beneficiary decreased sharply from $5,744 in 2013 to $5,164 in 2014. This was brought about by an equivalent decrease in non-hospital spending. Hospital-based spending per beneficiary remained at the same level from 2011-2014.

Table 3A.15 examines avoidable hospital costs by LTC beneficiaries in NF and in the community receiving HCBS services. Avoidable inpatient costs were higher than avoidable ED costs, per person. Around three quarters of total avoidable costs among the LTC population was incurred by NF residents. NF residents on average had higher avoidable costs per person in 2011 than the HCBS population ($193 vs. $145), but the difference was almost non-existent in 2014 ($130 vs. $129) largely due to a steeper decline in avoidable costs per person for the NF population.

Tables 3A.16 reports 30-day hospital-wide all-cause readmission rates as well as 30-day all-cause readmission rates after an index hospitalization for heart failure (HF), pneumonia (PN), and acute myocardial infarction (AMI) for Medicaid beneficiaries overall, for long term care eligible beneficiaries, and those with a behavioral health condition. Heart failure readmission rates were the highest among all readmission rates for every category and year except for the LTC population in 2014. In every category of readmission, and every year, beneficiaries with a BH condition had a higher readmission rate compared to those who were LTC-eligible and also Medicaid beneficiaries overall.

Tables 3A.17-3A.24 report these readmission rates for the different Medicaid eligibility groups and separately for NF residents and the beneficiaries receiving HCBS services among the LTC population. Figures 3A.4-3A.7 report trends in each type of readmission for the overall managed care population and the LTC HCBS population. We compare the change in readmission rates from 2013 to 2014 to the underlying trend between 2012 and 2013. For the overall managed care population, we find an improvement in quality reflected through AMI readmission rates. For the

HCBS population hospital-wide and HF readmission rates exhibited an improvement, but PN and AMI readmissions indicated worsening care.

Tables 3A.25-26 report rates of follow-up visit during the seven and thirty-day period following a mental illness hospitalization for beneficiaries in different Medicaid eligibility categories and LTC beneficiaries. Separate estimates for this metric were not generated for beneficiaries in nursing facilities since these beneficiaries may have follow-up care provided within the facility itself. For Medicaid beneficiaries overall, after declines over 2011-2013, rates of follow-up seven days and thirty days after discharge from a mental illness hospitalization start to pick up again in 2014. Tables 3A.27-28 report rates of ambulatory visit within 14 days of hospital discharge for these same beneficiary categories. Recognizing that ambulatory visit rates may vary depending on where the patient was discharged, rates of ambulatory visits are distinguished based on whether the patient was discharged to home, to a rehabilitation facility, or to another facility.

Figure 3A.8 exhibits rates of these two types of follow-up for all managed care beneficiaries, overall, and additionally for the LTC HCBS population. The noticeable trend is a decrease in ambulatory rate visits for HCBS population over the period 2011-2014. Specifically, the visit rate for patients discharged to home, decreased from 20% in 2013 to 13% in 2014. A decline over this period is also seen for the managed care population overall.

Table 3A.29 examines three quality metrics for a cohort of beneficiaries enrolled under one of the §1915(c) HCBS waivers in January 2014. Improvements in hospital-wide 30-day readmission rates are seen for CRPD waiver enrollees between 2013 and 2014, but not for those in the TBI or GO waivers. While declines in the rate of avoidable inpatient hospitalizations is evident between 2013 and 2014 for those in CRPD and GO, those in the TBI waiver again demonstrate a worsening of quality between 2013 and 2014, as do those in the ACCAP waiver. Qualifying index hospitalizations for mental illness are rare in these small cohorts, so trends in follow-up care cannot be examined through 2014.

Tables 3A.30 shows the total and per person LTSS, non-LTSS, and total spending for the LTC population. Total spending is higher for the NF population compared to the HCBS population and this is largely driven by their high LTSS spending. The share of LTSS spending has shifted slightly more towards the HCBS population over 2011-2014, but that same shift is not seen for non-LTSS spending.

Figure 3A.9 shows the proportion of total Medicaid spending on the LTC population attributable to the HCBS and NF populations on a monthly basis over the study period. Here we observe a slight increase in the proportion of HCBS spending from January 2011 to December 2014, but

that shift predominantly occurs prior to the MLTSS policy initiation in July 2014. A temporary increase in the NF share of spending is seen at the point of MLTSS implementation which subsequently erodes again to an increasing HCBS proportion.

Figure 3A.10 shows the amount (in millions of dollars) of total spending for the NF and HCBS populations. While spending on the NF population clearly makes up the largest proportion of total spending, overall spending has declined over the study period mostly as a result of declines in the magnitude of spending for the NF population, but again that decline is evident prior to the MLTSS policy initiation.

Figure 3A.11 shows the components of total spending by month over the study period for the NF and HCBS populations. Most of this spending is accounted for by NF LTSS (77.6% in December 2014). HCBS LTSS spending accounted for 11.1%. We see a slight decrease in the NF LTSS share and a slight increase in the HCBS LTSS share over the period 2011-2014. Spending related to avoidable hospitalizations accounted for less than1% of overall spending.

**Table 3A.1: New Jersey Medicaid population total enrollment and percentage in managed care, 2011–2014**

| | 2011 | | 2012 | | 2013 | | 2014 | |
|---|---|---|---|---|---|---|---|---|
| | **Total** | **% MC** | **Total** | **% MC** | **Total** | **% MC** | **Total** | **% MC** |
| **All Medicaid Beneficiaries** | 1,569,730 | 86% | 1,581,262 | 88% | 1,592,727 | 89% | 1,954,216 | 90% |
| Aged/Blind/Disabled | 319,150 | 80% | 327,344 | 86% | 332,339 | 89% | 331,784 | 91% |
| NJ FamilyCare | 1,120,576 | 95% | 1,138,332 | 95% | 1,153,344 | 95% | 1,246,307 | 94% |
| General Assistance | 88,495 | 8% | 76,637 | 6% | 67,955 | 6% | 335,282 | 78% |
| Children's Service | 34,519 | 66% | 31,709 | 71% | 31,959 | 71% | 33,672 | 68% |
| Other | 6,990 | 3% | 7,240 | 3% | 7,130 | 2% | 7,171 | 21% |
| **Long-Term Care Beneficiaries** | 49,912 | 37% | 49,534 | 53% | 49,337 | 63% | 47,721 | 69% |
| Nursing Facility | 37,009 | 20% | 36,011 | 38% | 35,384 | 50% | 34,373 | 58% |
| HCBS | 12,903 | 85% | 13,523 | 95% | 13,953 | 95% | 13,348 | 99% |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: MC=Managed Care; HCBS=Home and Community-Based Services.

**Table 3A.2: Rates of avoidable inpatient hospitalizations per 10,000 adults by Medicaid eligibility category and among adults with a behavioral health condition**

| | 2011 | | 2012 | 2013 | 2014 | |
|---|---|---|---|---|---|---|
| | Population (N) | Rate | Rate | Rate | Population (N) | Rate |
| **Medicaid Overall** | 786,549 | 229 | 228 | 196 | 1,111,300 | 145 |
| Aged/Blind/Disabled | 293,507 | 530 | 521 | 439 | 304,909 | 367 |
| NJ FamilyCare | 391,159 | 53 | 46 | 41 | 459,258 | 42 |
| General Assistance | 88,489 | 41 | 32 | 25 | 335,274 | 89 |
| Children's Services | 6,424 | 23 | 19 | 63 | 4,705 | 26 |
| Other | 6,970 | 10 | 22 | 17 | 7,154 | 38 |
| **Managed Care** | 602,394 | 256 | 264 | 225 | 958,785 | 160 |
| Aged/Blind/Disabled | 231,027 | 566 | 565 | 471 | 276,360 | 387 |
| NJ FamilyCare | 360,855 | 57 | 50 | 44 | 416,400 | 45 |
| General Assistance | 6,861 | 363 | 339 | 296 | 261,384 | 104 |
| Children's Services | 3,446 | 38 | 27 | 92 | 3,157 | 38 |
| Other | 205 | 195 | 369 | 679 | 1,484 | 162 |

| | 2011 | | 2012 | 2013 | 2014 | |
|---|---|---|---|---|---|---|
| **Medicaid Overall** | Population (N) | Rate | Rate | Rate | Population (N) | Rate |
| Behavioral Health Condition | 237,715 | 553 | 510 | 440 | 321,604 | 352 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: Rates are calculated per 10,000 adults age 18 and above.

**Table 3A.3: Rates of avoidable inpatient hospitalizations per 10,000 adults among LTC-eligible populations overall and with a behavioral health condition**

| | 2011 | | 2012 | 2013 | 2014 | |
|---|---|---|---|---|---|---|
| | **Population (N)** | **Rate** | **Rate** | **Rate** | **Population (N)** | **Rate** |
| **Long-Term Care Population** | 49,654 | 625 | 591 | 495 | 47,435 | 422 |
| Nursing Facility | 36,850 | 535 | 461 | 388 | 34,217 | 361 |
| HCBS | 12,804 | 886 | 938 | 767 | 13,218 | 581 |

| | 2011 | | 2012 | 2013 | 2014 | |
|---|---|---|---|---|---|---|
| **With a Behavioral Health Condition** | **Population (N)** | **Rate** | **Rate** | **Rate** | **Population (N)** | **Rate** |
| **Long-Term Care Population** | 33,923 | 800 | 730 | 594 | 32,013 | 518 |
| Nursing Facility | 26,510 | 696 | 594 | 484 | 25,173 | 456 |
| HCBS | 7,413 | 1,170 | 1,174 | 966 | 6,840 | 744 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: Rates are calculated per 10,000 adults age 18 and above.

**Table 3A.4: Rates of avoidable emergency department visits per 10,000 population by Medicaid eligibility category**

| | 2011 | | 2012 | 2013 | 2014 | |
|---|---|---|---|---|---|---|
| | Population (N) | Rate | Rate | Rate | Population (N) | Rate |
| **Medicaid Overall** | 1,569,730 | 2,643 | 2,717 | 2,659 | 1,954,216 | 2,637 |
| Aged/Blind/Disabled | 319,150 | 3,308 | 3,334 | 3,146 | 331,784 | 2,973 |
| NJ FamilyCare | 1,120,576 | 2,677 | 2,745 | 2,703 | 1,246,307 | 2,658 |
| General Assistance | 88,495 | 458 | 387 | 313 | 335,282 | 2,388 |
| Children's Services | 34,519 | 1,482 | 1,544 | 1,527 | 33,672 | 1,436 |
| Other | 6,990 | 180 | 172 | 170 | 7,171 | 850 |
| **Managed Care** | 1,347,033 | 2,995 | 3,032 | 2,936 | 1,759,459 | 2,869 |
| Aged/Blind/Disabled | 255,504 | 3,819 | 3,691 | 3,418 | 302,743 | 3,178 |
| NJ FamilyCare | 1,061,569 | 2,803 | 2,871 | 2,818 | 1,170,882 | 2,801 |
| General Assistance | 6,863 | 4,838 | 4,702 | 4,344 | 261,391 | 2,878 |
| Children's Services | 22,889 | 2,144 | 2,127 | 2,143 | 22,955 | 2,076 |
| Other | 208 | 4,603 | 3,841 | 6,439 | 1,488 | 3,817 |

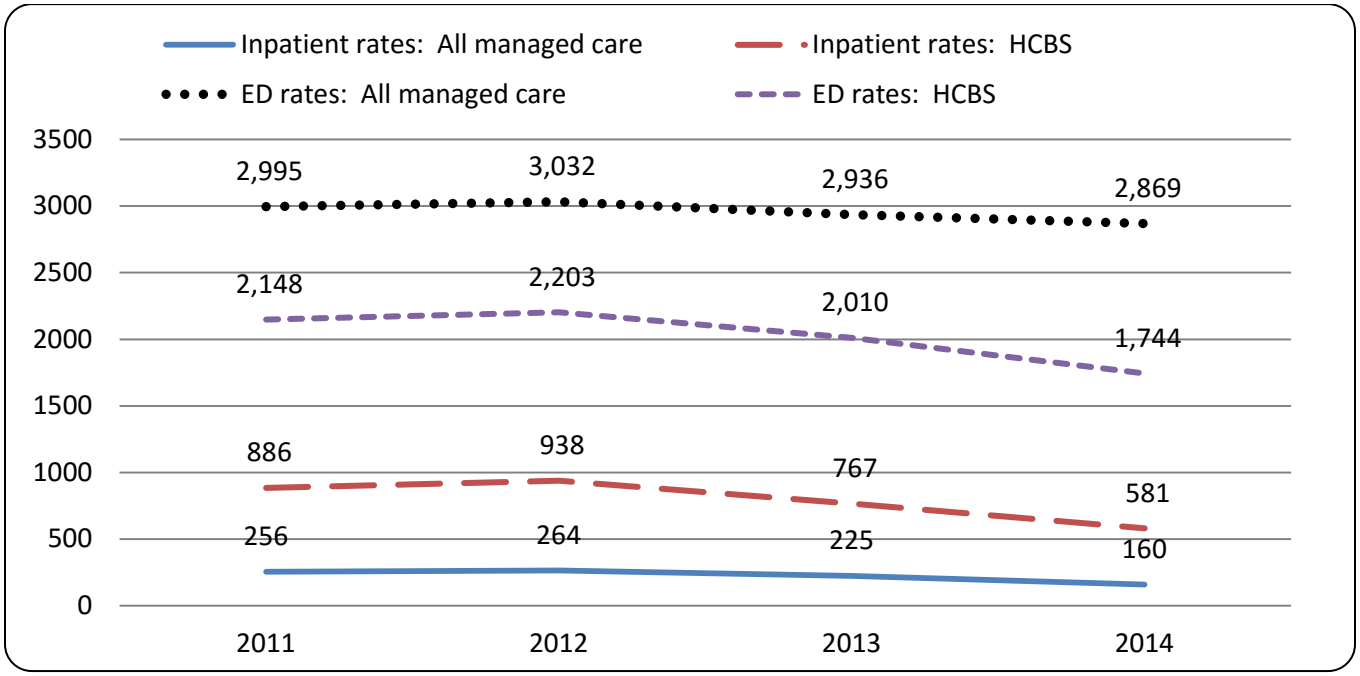
Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.

**Table 3A.5: Rates of avoidable emergency department visits per 10,000 population among LTC-eligible populations**

| | 2011 | | 2012 | 2013 | 2014 | |
|---|---|---|---|---|---|---|
| | Population (N) | Rate | Rate | Rate | Population (N) | Rate |
| **Long-Term Care Population** | 49,912 | 1,395 | 1,319 | 1,245 | 47,721 | 1,134 |
| Nursing Facility | 37,009 | 1,133 | 987 | 943 | 34,373 | 898 |
| HCBS | 12,903 | 2,148 | 2,203 | 2,010 | 13,348 | 1,744 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services.

**Figure 3A.1: Rates of avoidable hospital utilization per 10,000 beneficiaries for the Medicaid managed care and HCBS populations**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services.

**Table 3A.6: Rates of avoidable inpatient hospitalization components per 10,000 adults for Medicaid overall, Medicaid managed care overall, and adults with a behavioral health condition**

| | PQI 90: Overall | | | | PQI 91: Acute | | | | PQI 92: Chronic | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| **Medicaid Overall** | 229 | 228 | 196 | 145 | 73 | 71 | 59 | 42 | 156 | 157 | 136 | 103 |
| Behavioral Health Condition | 553 | 510 | 440 | 352 | 180 | 163 | 133 | 102 | 373 | 347 | 308 | 250 |
| **Managed Care Overall** | 256 | 264 | 225 | 160 | 77 | 79 | 66 | 45 | 179 | 186 | 159 | 115 |

| | Diabetes Composite[a] | | | | COPD/Asthma Composite[b] | | | | PQI 07: Hypertension | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| **Medicaid Overall** | 35 | 37 | 32 | 27 | 68 | 66 | 59 | 42 | 8 | 8 | 7 | 6 |
| Behavioral Health Condition | 84 | 84 | 75 | 67 | 177 | 159 | 143 | 114 | 17 | 16 | 14 | 14 |
| **Managed Care Overall** | 40 | 43 | 37 | 30 | 79 | 78 | 70 | 47 | 9 | 9 | 8 | 7 |

| | PQI 08: Heart Failure | | | | PQI 10: Dehydration | | | | PQI 11: Bacterial Pneumonia | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| **Medicaid Overall** | 42 | 44 | 36 | 26 | 16 | 13 | 10 | 7 | 32 | 31 | 27 | 18 |
| Behavioral Health Condition | 89 | 82 | 70 | 51 | 38 | 30 | 23 | 18 | 77 | 72 | 61 | 45 |
| **Managed Care Overall** | 47 | 51 | 42 | 29 | 16 | 14 | 11 | 8 | 34 | 35 | 31 | 20 |

| | PQI 12: UT Infection | | | | PQI 13: Angina | | | |
|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| **Medicaid Overall** | 26 | 27 | 22 | 16 | 3 | 3 | 2 | 2 |
| Behavioral Health Condition | 64 | 61 | 49 | 38 | 6 | 5 | 5 | 4 |
| **Managed Care Overall** | 27 | 30 | 24 | 17 | 3 | 4 | 2 | 2 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: PQI=Prevention Quality Indicator; UT=Urinary Tract.
Rates are calculated per 10,000 adults age 18 and above.
[a]PQI 01, 03, 14, or 16.
[b]PQI 05 or 15.

**Table 3A.7: Rates of avoidable inpatient hospitalization components per 10,000 adults among LTC-eligible populations overall and with a behavioral health condition**

| | PQI 90: Overall | | | | PQI 91: Acute | | | | PQI 92: Chronic | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| **Long-Term Care Population** | 625 | 591 | 495 | 422 | 296 | 277 | 226 | 199 | 329 | 314 | 269 | 223 |
| Nursing Facility | 535 | 461 | 388 | 361 | 281 | 249 | 202 | 189 | 254 | 212 | 187 | 172 |
| HCBS Population | 886 | 938 | 767 | 581 | 341 | 350 | 289 | 225 | 544 | 589 | 477 | 356 |

| | Diabetes Composite[a] | | | | COPD/Asthma Composite[b] | | | | PQI 07: Hypertension | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| **Long-Term Care Population** | 78 | 77 | 65 | 54 | 127 | 113 | 103 | 85 | 10 | 11 | 10 | 7 |
| Nursing Facility | 71 | 65 | 55 | 55 | 91 | 69 | 57 | 53 | 3 | 5 | 7 | 5 |
| HCBS Population | 96 | 110 | 90 | 49 | 230 | 231 | 219 | 166 | 30 | 25 | 19 | 11 |

| | PQI 08: Heart Failure | | | | PQI 10: Dehydration | | | | PQI 11: Bacterial Pneumonia | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| **Long-Term Care Population** | 111 | 111 | 89 | 77 | 65 | 43 | 35 | 33 | 102 | 105 | 87 | 72 |
| Nursing Facility | 87 | 72 | 66 | 58 | 58 | 40 | 32 | 31 | 96 | 98 | 76 | 69 |
| HCBS Population | 180 | 215 | 146 | 126 | 84 | 53 | 44 | 38 | 119 | 121 | 114 | 79 |

| | PQI 12: UT Infection | | | | PQI 13: Angina | | | |
|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| **Long Term Care Population** | 130 | 128 | 105 | 94 | 4 | 3 | 2 | 1 |
| Nursing Facility | 127 | 111 | 94 | 88 | 2 | 1 | 2 | 0 |
| HCBS Population | 138 | 175 | 132 | 109 | 9 | 7 | 3 | 4 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: PQI=Prevention Quality Indicator; UT=Urinary Tract.
Rates are calculated per 10,000 adults age 18 and above.
[a]PQI 01, 03, 14, or 16.
[b]PQI 05 or 15.

**Table 3A.7: Rates of avoidable inpatient hospitalization components per 10,000 adults among LTC-eligible populations overall and with a behavioral health condition (continued)**

| With a Behavioral Health Condition | PQI 90: Overall | | | | PQI 91: Acute | | | | PQI 92: Chronic | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| **Long-Term Care Population** | 800 | 730 | 594 | 518 | 394 | 357 | 284 | 255 | 406 | 372 | 310 | 263 |
| Nursing Facility | 696 | 594 | 484 | 456 | 370 | 321 | 257 | 244 | 327 | 273 | 230 | 212 |
| HCBS Population | 1,170 | 1,174 | 966 | 744 | 479 | 477 | 384 | 295 | 691 | 697 | 582 | 449 |

| With a Behavioral Health Condition | Diabetes Composite[a] | | | | COPD/Asthma Composite[b] | | | | PQI 07: Hypertension | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| **Long-Term Care Population** | 97 | 94 | 79 | 64 | 166 | 142 | 123 | 104 | 12 | 11 | 11 | 6 |
| Nursing Facility | 92 | 84 | 68 | 67 | 120 | 88 | 72 | 69 | 4 | 7 | 9 | 4 |
| HCBS Population | 113 | 126 | 115 | 56 | 329 | 317 | 295 | 234 | 39 | 25 | 20 | 13 |

| With a Behavioral Health Condition | PQI 08: Heart Failure | | | | PQI 10: Dehydration | | | | PQI 11: Bacterial Pneumonia | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| **Long-Term Care Population** | 127 | 123 | 94 | 87 | 87 | 57 | 44 | 43 | 133 | 135 | 106 | 88 |
| Nursing Facility | 108 | 92 | 79 | 72 | 76 | 51 | 42 | 41 | 126 | 126 | 95 | 89 |
| HCBS Population | 196 | 222 | 147 | 142 | 124 | 75 | 54 | 54 | 161 | 165 | 142 | 83 |

| With a Behavioral Health Condition | PQI 12: UT Infection | | | | PQI 13: Angina | | | |
|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| **Long Term Care Population** | 174 | 165 | 134 | 124 | 5 | 3 | 3 | 1 |
| Nursing Facility | 168 | 143 | 118 | 114 | 3 | 2 | 2 | 0 |
| HCBS Population | 194 | 237 | 189 | 158 | 13 | 8 | 5 | 4 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: PQI=Prevention Quality Indicator; UT=Urinary Tract.
Rates are calculated per 10,000 adults age 18 and above.
[a]PQI 01, 03, 14, or 16.
[b]PQI 05 or 15.

**Table 3A.8: Rates of avoidable pediatric hospitalizations per 10,000 children by Medicaid eligibility category**

| | 2011 | | 2012 | 2013 | 2014 | |
|---|---|---|---|---|---|---|
| | Population (N) | Rate | Rate | Rate | Population (N) | Rate |
| **Medicaid Overall** | 479,503 | 24 | 24 | 23 | 539,136 | 19 |
| Aged/Blind/Disabled | 20,985 | 73 | 79 | 78 | 22,178 | 76 |
| NJ FamilyCare | 435,687 | 22 | 22 | 21 | 493,307 | 17 |
| General Assistance | * | * | * | * | * | * |
| Children's Services | 22,809 | 16 | 35 | 33 | 23,630 | 20 |
| Other | * | * | * | * | * | * |
| **Managed Care** | 456,961 | 25 | 25 | 24 | 514,326 | 20 |
| Aged/Blind/Disabled | 20,289 | 75 | 79 | 79 | 21,929 | 76 |
| NJ FamilyCare | 422,039 | 23 | 22 | 21 | 477,398 | 18 |
| General Assistance | * | * | -- | * | * | * |
| Children's Services | 14,629 | 25 | 34 | 33 | 14,991 | 13 |
| Other | * | * | * | * | * | * |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: Rates calculated per 10,000 children ages 6 to 17.
*Estimate suppressed due to insufficient sample size.
--population denominator equals 0.

**Table 3A.9: Rates of avoidable pediatric hospitalizations per 10,000 children among LTC-eligible populations**

| | 2011 | | 2012 | 2013 | 2014 | |
|---|---|---|---|---|---|---|
| | Population (N) | Rate | Rate | Rate | Population (N) | Rate |
| **Long-Term Care Population** | 152 | 329 | 190 | 179 | 173 | 58 |
| Nursing Facility | 102 | 294 | 288 | 92 | 99 | 101 |
| HCBS | 50 | 400 | 0 | 339 | 74 | 0 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS= Home and Community-Based Services.
Rates calculated per 10,000 children ages 6 to 17.

**Table 3A.10: Rates of inpatient and emergency department use per 10,000 population by Medicaid eligibility category**

| | Inpatient Utilization Rate | | | | Emergency Department Visit Rate | | | |
|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| **Medicaid Overall** | 1,028 | 1,018 | 898 | 797 | 4,931 | 5,070 | 4,950 | 4,961 |
| Aged/Blind/Disabled | 2,742 | 2,741 | 2,339 | 2,025 | 7,050 | 7,058 | 6,715 | 6,412 |
| NJ FamilyCare | 620 | 594 | 542 | 501 | 4,719 | 4,858 | 4,762 | 4,688 |
| General Assistance | 348 | 287 | 224 | 746 | 892 | 777 | 619 | 4,760 |
| Children's Services | 340 | 363 | 322 | 270 | 3,502 | 3,637 | 3,643 | 3,487 |
| Other | 259 | 280 | 175 | 349 | 402 | 337 | 290 | 1,526 |
| **Managed Care** | 1,032 | 1,051 | 930 | 827 | 5,537 | 5,627 | 5,442 | 5,377 |
| Aged/Blind/Disabled | 2,797 | 2,857 | 2,429 | 2,077 | 7,947 | 7,690 | 7,207 | 6,782 |
| NJ FamilyCare | 604 | 578 | 529 | 498 | 4,942 | 5,082 | 4,963 | 4,942 |
| General Assistance | 3,287 | 3,243 | 2,868 | 887 | 9,308 | 9,419 | 8,417 | 5,722 |
| Children's Services | 484 | 496 | 450 | 388 | 5,062 | 5,010 | 5,094 | 5,029 |
| Other | 4,760 | 5,023 | 5,122 | 1,405 | 10,096 | 7,149 | 11,159 | 6,808 |

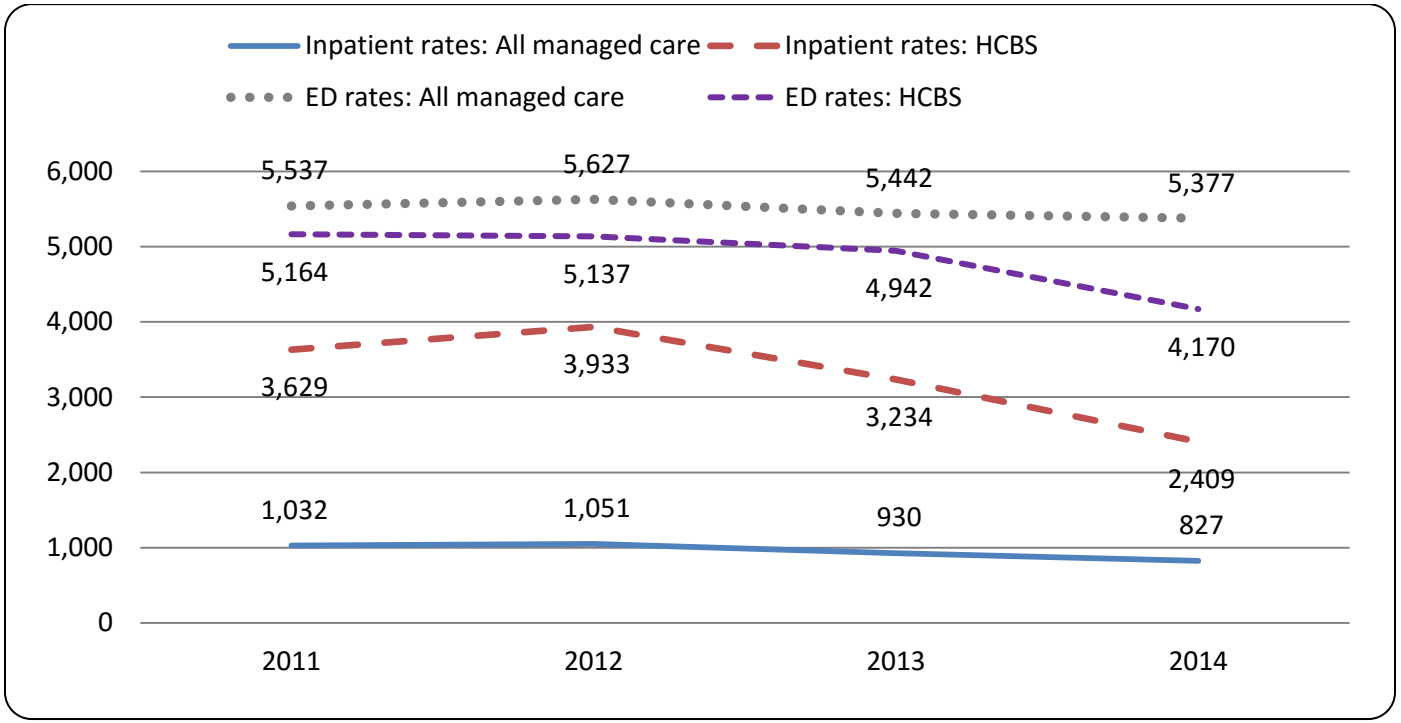
Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.

**Table 3A.11: Rates of inpatient and emergency department use per 10,000 population among LTC-eligible populations**

| | Inpatient Utilization Rate | | | | Emergency Department Visit Rate | | | |
|---|---|---|---|---|---|---|---|---|
| | **2011** | **2012** | **2013** | **2014** | **2011** | **2012** | **2013** | **2014** |
| **Long-Term Care Population** | 3,703 | 3,555 | 3,126 | 2,770 | 3,915 | 3,696 | 3,548 | 3,381 |
| Nursing Facility | 3,729 | 3,413 | 3,084 | 2,911 | 3,480 | 3,155 | 2,998 | 3,075 |
| HCBS | 3,629 | 3,933 | 3,234 | 2,409 | 5,164 | 5,137 | 4,942 | 4,170 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services.

**Figure 3A.2: Rates of inpatient and emergency department use per 10,000 beneficiaries for the Medicaid managed care and HCBS populations**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services; ED=Emergency Department.

**Table 3A.12: Costs per person associated with avoidable hospital use by Medicaid eligibility category**

| | Per Person Avoidable Inpatient Costs | | | | Per Person Avoidable ED Costs | | | | Per Person All Avoidable Costs (IP+ED) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| **Medicaid Overall** | $ 47 | $ 46 | $ 41 | $ 42 | $ 65 | $ 69 | $ 72 | $ 81 | $ 112 | $ 115 | $ 113 | $ 123 |
| Aged/Blind/Disabled | $ 178 | $ 176 | $ 154 | $ 147 | $ 68 | $ 65 | $ 66 | $ 77 | $ 245 | $ 241 | $ 220 | $ 223 |
| NJ FamilyCare | $ 12 | $ 11 | $ 11 | $ 11 | $ 69 | $ 75 | $ 78 | $ 85 | $ 82 | $ 87 | $ 89 | $ 96 |
| General Assistance | $ 29 | $ 26 | $ 20 | $ 57 | $ 14 | $ 12 | $ 10 | $ 77 | $ 43 | $ 38 | $ 31 | $ 134 |
| Children's Services | $ 6 | $ 5 | $ 12 | $ 4 | $ 38 | $ 43 | $ 44 | $ 46 | $ 44 | $ 47 | $ 56 | $ 50 |
| Other | $ 11 | $ 14 | $ 10 | $ 24 | $ 6 | $ 6 | $ 6 | $ 27 | $ 17 | $ 21 | $ 16 | $ 51 |
| **Managed Care** | $ 49 | $ 49 | $ 44 | $ 45 | $ 74 | $ 77 | $ 79 | $ 88 | $ 122 | $ 126 | $ 123 | $ 133 |
| Aged/Blind/Disabled | $ 194 | $ 189 | $ 164 | $ 155 | $ 79 | $ 72 | $ 72 | $ 82 | $ 273 | $ 261 | $ 236 | $ 238 |
| NJ FamilyCare | $ 13 | $ 12 | $ 11 | $ 12 | $ 73 | $ 79 | $ 81 | $ 89 | $ 86 | $ 91 | $ 92 | $ 101 |
| General Assistance | $ 239 | $ 263 | $ 241 | $ 66 | $ 146 | $ 145 | $ 139 | $ 94 | $ 385 | $ 407 | $ 380 | $ 160 |
| Children's Services | $ 9 | $ 7 | $ 17 | $ 7 | $ 55 | $ 59 | $ 62 | $ 67 | $ 64 | $ 65 | $ 79 | $ 73 |
| Other | $ 127 | $ 127 | $ 404 | $ 100 | $ 145 | $ 122 | $ 228 | $ 122 | $ 271 | $ 249 | $ 632 | $ 222 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: IP=Inpatient; ED=Emergency Department.
Avoidable hospital costs are tabulated for all ages.
All costs are in 2012 dollars.

**Table 3A.13: Costs per person associated with overall hospital use by Medicaid eligibility category**

| | Per Person Inpatient Costs | | | | Per Person ED Costs | | | | Per Person All Hospital Costs | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| **Medicaid Overall** | $ 547 | $ 549 | $ 513 | $ 515 | $ 121 | $ 127 | $ 132 | $ 152 | $ 668 | $ 676 | $ 645 | $ 668 |
| Aged/Blind/Disabled | $1,342 | $1,349 | $1,261 | $1,247 | $ 145 | $ 138 | $ 141 | $ 163 | $1,488 | $1,486 | $1,402 | $1,410 |
| NJ FamilyCare | $ 349 | $ 346 | $ 323 | $ 312 | $ 122 | $ 133 | $ 138 | $ 150 | $ 472 | $ 478 | $ 461 | $ 462 |
| General Assistance | $ 316 | $ 270 | $ 229 | $ 581 | $ 28 | $ 25 | $ 20 | $ 157 | $ 344 | $ 295 | $ 249 | $ 737 |
| Children's Services | $ 260 | $ 308 | $ 251 | $ 215 | $ 91 | $ 98 | $ 105 | $ 111 | $ 351 | $ 406 | $ 355 | $ 326 |
| Other | $ 364 | $ 286 | $ 198 | $ 367 | $ 15 | $ 13 | $ 10 | $ 48 | $ 379 | $ 299 | $ 208 | $ 415 |
| **Managed Care** | $ 568 | $ 577 | $ 539 | $ 544 | $ 136 | $ 141 | $ 146 | $ 166 | $ 704 | $ 718 | $ 684 | $ 710 |
| Aged/Blind/Disabled | $1,438 | $1,426 | $1,323 | $1,307 | $ 165 | $ 149 | $ 151 | $ 174 | $1,603 | $1,574 | $1,474 | $1,481 |
| NJ FamilyCare | $ 349 | $ 347 | $ 324 | $ 319 | $ 128 | $ 139 | $ 144 | $ 158 | $ 478 | $ 485 | $ 467 | $ 477 |
| General Assistance | $2,538 | $2,933 | $2,675 | $ 688 | $ 283 | $ 292 | $ 272 | $ 189 | $2,820 | $3,225 | $2,947 | $ 877 |
| Children's Services | $ 349 | $ 424 | $ 347 | $ 313 | $ 130 | $ 135 | $ 146 | $ 160 | $ 479 | $ 559 | $ 493 | $ 473 |
| Other | $6,438 | $4,679 | $4,943 | $ 1,435 | $ 334 | $ 236 | $ 393 | $ 214 | $6,772 | $4,915 | $5,336 | $1,649 |

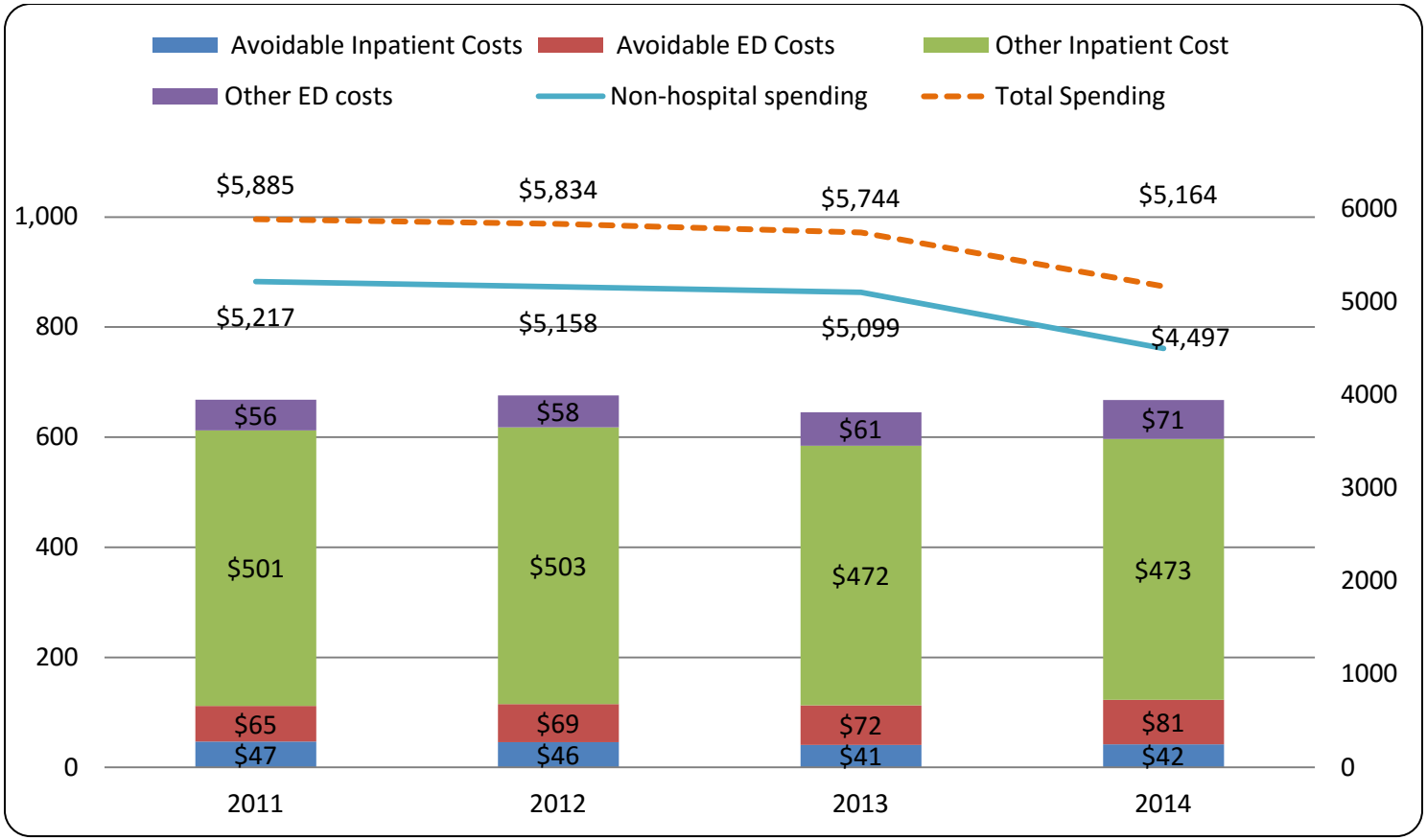
Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: ED=Emergency Department.
Costs are tabulated for all ages.
All costs are in 2012 dollars.

**Table 3A:14: Total costs per person by Medicaid eligibility category**

| | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|
| **Medicaid Overall** | $ 5,885 | $ 5,834 | $ 5,744 | $ 5,164 |
| Aged/Blind/Disabled | $ 19,503 | $ 19,007 | $ 18,637 | $ 18,213 |
| NJ FamilyCare | $ 2,253 | $ 2,272 | $ 2,224 | $ 2,241 |
| General Assistance | $ 2,680 | $ 2,560 | $ 2,601 | $ 3,050 |
| Children's Services | $ 7,039 | $ 6,660 | $ 6,450 | $ 6,124 |
| Other | $ 1,254 | $ 1,322 | $ 960 | $ 3,872 |
| **Managed Care** | $ 5,048 | $ 5,260 | $ 5,300 | $ 5,007 |
| Aged/Blind/Disabled | $ 15,865 | $ 16,038 | $ 16,207 | $ 16,246 |
| NJ FamilyCare | $ 2,300 | $ 2,326 | $ 2,273 | $ 2,323 |
| General Assistance | $ 10,341 | $ 11,292 | $ 10,754 | $ 3,607 |
| Children's Services | $ 9,985 | $ 9,065 | $ 8,952 | $ 8,800 |
| Other | $ 23,677 | $ 25,940 | $ 21,681 | $ 17,565 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Costs are tabulated for all ages.
All costs are in 2012 dollars.

**Figure 3A.3: Trends in avoidable and overall hospital costs and total spending for the Medicaid population overall**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: ED=Emergency Department.
Costs are tabulated for all ages.
All costs are in 2012 dollars.

**Table 3A.15: Total and per person costs associated with avoidable hospital use among LTC-eligible populations**

| | Total Avoidable Inpatient (IP) Costs | | | | | | | | Per Person Avoidable Inpatient Costs | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | | 2012 | | 2013 | | 2014 | | 2011 | 2012 | 2013 | 2014 |
| **Long-Term Care Pop.** | $7,879,992 | 100% | $6,534,098 | 100% | $5,781,438 | 100% | $5,290,153 | 100% | $158 | $132 | $117 | $111 |
| Nursing Facility | $6,382,956 | 81% | $4,836,681 | 74% | $4,078,996 | 71% | $3,862,378 | 73% | $172 | $134 | $115 | $112 |
| HCBS | $1,497,036 | 19% | $1,697,418 | 26% | $1,702,442 | 29% | $1,427,775 | 27% | $116 | $126 | $122 | $107 |

| | Total Avoidable Emergency Department (ED) Costs | | | | | | | | Per Person Avoidable ED Costs | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | | 2012 | | 2013 | | 2014 | | 2011 | 2012 | 2013 | 2014 |
| **Long-Term Care Pop.** | $1,118,722 | 100% | $ 925,985 | 100% | $ 893,851 | 100% | $ 923,407 | 100% | $ 22 | $ 19 | $ 18 | $ 19 |
| Nursing Facility | $ 750,243 | 67% | $ 683,925 | 74% | $ 639,611 | 72% | $ 622,896 | 67% | $ 20 | $ 19 | $ 18 | $ 18 |
| HCBS | $ 368,479 | 33% | $ 242,061 | 26% | $ 254,240 | 28% | $ 300,510 | 33% | $ 29 | $ 18 | $ 18 | $ 23 |

| | Total Avoidable Hospital Costs (Inpatient + ED) | | | | | | | | Per Person Total Avoidable Hospital Costs | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | | 2012 | | 2013 | | 2014 | | 2011 | 2012 | 2013 | 2014 |
| **Long-Term Care Pop.** | $8,998,714 | 100% | $7,460,084 | 100% | $6,675,289 | 100% | $6,213,559 | 100% | $180 | $151 | $135 | $130 |
| Nursing Facility | $7,133,200 | 79% | $5,520,605 | 74% | $4,718,607 | 71% | $4,485,274 | 72% | $193 | $153 | $133 | $130 |
| HCBS | $1,865,515 | 21% | $1,939,478 | 74% | $1,956,682 | 29% | $1,728,285 | 28% | $145 | $143 | $140 | $129 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services; ED=Emergency Department.
All costs are in 2012 dollars.

**Table 3A.16: Thirty-day readmission rates among groups of Medicaid beneficiaries**

| | 2012 | | | 2013 | | | 2014 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Medicaid Overall | Long-Term Care | Behavioral Health | Medicaid Overall | Long-Term Care | Behavioral Health | Medicaid Overall | Long-Term Care | Behavioral Health |
| **Hospital-Wide** | 12.7% | 10.9% | 15.9% | 11.7% | 9.6% | 14.9% | 11.4% | 11.8% | 14.5% |
| **Heart Failure** | 18.7% | 11.0% | 23.5% | 15.6% | 11.7% | 19.7% | 15.3% | 6.1% | 18.7% |
| **AMI** | 11.4% | 10.2% | 12.0% | 11.7% | 6.8% | 14.1% | 9.4% | 5.8% | 11.4% |
| **Pneumonia** | 11.3% | 8.8% | 12.3% | 10.2% | 6.9% | 11.5% | 10.4% | 9.9% | 11.9% |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: AMI=Acute Myocardial Infarction.

**Table 3A.17: Hospital-wide 30-day readmission rates by Medicaid eligibility category**

| | 2012 | 2013 | 2014 |
|---|---|---|---|
| **Medicaid Overall** | 12.7% | 11.7% | 11.4% |
| Aged/Blind/Disabled | 15.0% | 13.7% | 13.8% |
| NJ FamilyCare | 6.0% | 6.3% | 5.6% |
| General Assistance | 17.3% | 17.5% | 14.0% |
| Children's Services | 9.6% | 13.4% | 13.9% |
| Other | 27.8% | 18.0% | 10.2% |
| **Managed Care** | 12.9% | 11.9% | 11.6% |
| Aged/Blind/Disabled | 15.6% | 14.2% | 14.2% |
| NJ FamilyCare | 6.0% | 6.2% | 5.6% |
| General Assistance | 15.0% | 17.1% | 14.0% |
| Children's Services | 9.8% | 13.5% | 14.2% |
| Other | 24.6% | 19.0% | 8.3% |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.

Notes: Readmission rates are calculated for adults ages 18 and above.

**Table 3A.18: Hospital-wide 30-day readmission rates among LTC-eligible populations**

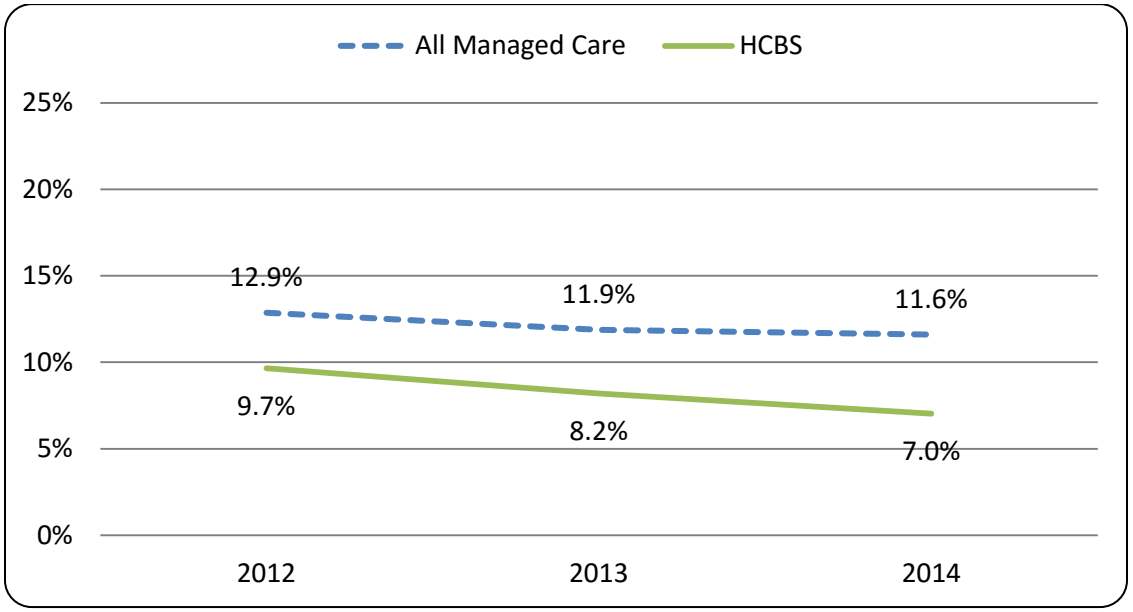
| | 2012 | 2013 | 2014 |
|---|---|---|---|
| **Long-Term Care Population** | 10.9% | 9.6% | 8.6% |
| Nursing Facility | 11.4% | 10.2% | 9.0% |
| HCBS | 9.7% | 8.2% | 7.0% |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.

Notes: HCBS=Home and Community-Based Services.

Readmission rates are calculated for adults ages 18 and above.

**Figure 3A.4: Trends in hospital-wide readmission rates among the Medicaid managed care and HCBS populations**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.

Notes: HCBS=Home and Community-Based Services.

Readmission rates are calculated for adults ages 18 and above.

**Table 3A.19: Heart failure 30-day readmission rates by Medicaid eligibility category**

| | 2012 | 2013 | 2014 |
|---|---|---|---|
| **Medicaid Overall** | 18.7% | 15.6% | 15.3% |
| Aged/Blind/Disabled | 18.8% | 15.3% | 15.0% |
| NJ FamilyCare | 15.2% | 21.8% | 16.2% |
| General Assistance | * | * | 21.6% |
| Children's Services | -- | -- | -- |
| Other | * | -- | * |
| **Managed Care** | 19.2% | 15.8% | 15.7% |
| Aged/Blind/Disabled | 19.4% | 15.7% | 15.4% |
| NJ FamilyCare | 15.2% | 20.4% | 16.2% |
| General Assistance | * | * | 21.6% |
| Children's Services | -- | -- | -- |
| Other | * | -- | * |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.

Notes: Readmission rates are calculated for adults ages 18 and above.

*Estimate suppressed due to insufficient sample size.

--No qualifying index admissions in this category.

**Table 3A.20: Heart failure 30-day readmission rates among LTC-eligible populations**

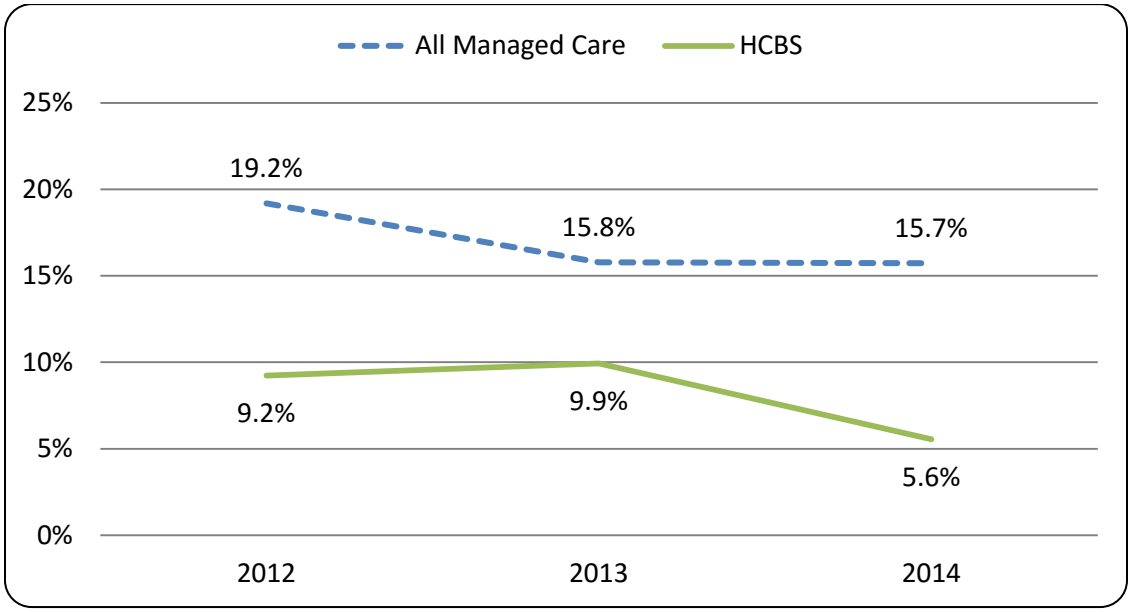
| | 2012 | 2013 | 2014 |
|---|---|---|---|
| **Long-Term Care Population** | 11.0% | 11.7% | 6.1% |
| Nursing Facility | 12.2% | 12.6% | 6.3% |
| HCBS | 9.2% | 9.9% | 5.6% |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.

Notes: HCBS=Home and Community-Based Services.

Readmission rates are calculated for adults ages 18 and above.

**Figure 3A.5: Trends in heart failure readmission rates among the Medicaid managed care and HCBS populations**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.

Notes: HCBS=Home and Community-Based Services.

Readmission rates are calculated for adults ages 18 and above.

**Table 3A.21: Acute myocardial infarction 30-day readmission rates by Medicaid eligibility category**

| | 2012 | 2013 | 2014 |
|---|---|---|---|
| **Medicaid Overall** | 11.4% | 11.7% | 9.4% |
| Aged/Blind/Disabled | 11.5% | 11.0% | 10.8% |
| NJ FamilyCare | 9.9% | 16.3% | 3.9% |
| General Assistance | * | * | 3.4% |
| Children's Services | -- | -- | -- |
| Other | -- | -- | * |
| **Managed Care** | 11.3% | 12.0% | 9.5% |
| Aged/Blind/Disabled | 11.5% | 11.3% | 11.1% |
| NJ FamilyCare | 9.9% | 16.3% | 3.9% |
| General Assistance | * | * | 3.4% |
| Children's Services | -- | -- | -- |
| Other | -- | -- | * |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.

Notes: Readmission rates are calculated for adults ages 18 and above.

*Estimate suppressed due to insufficient sample size.

--No qualifying index admissions in this category.

**Table 3A.22: Acute myocardial infarction 30-day readmission rates among LTC-eligible populations**

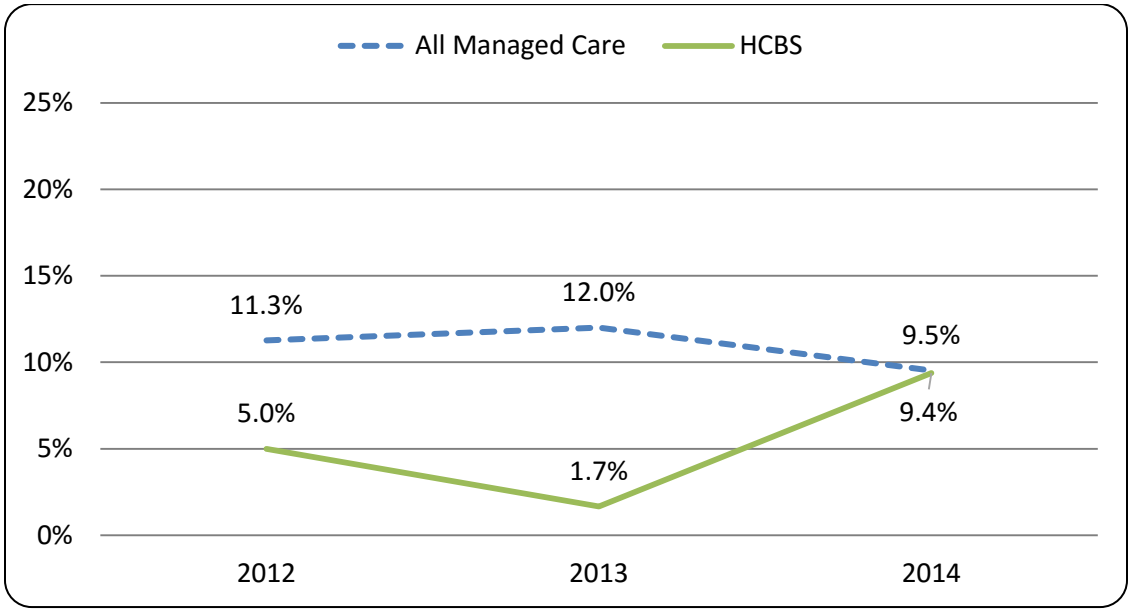
| | 2012 | 2013 | 2014 |
|---|---|---|---|
| **Long-Term Care Population** | 10.2% | 6.8% | 5.8% |
| Nursing Facility | 12.8% | 10.2% | 4.5% |
| HCBS | 5.0% | 1.7% | 9.4% |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.

Notes: HCBS=Home and Community-Based Services.

Readmission rates are calculated for adults ages 18 and above.

**Figure 3A.6: Trends in acute myocardial infarction readmission rates among the Medicaid managed care and HCBS populations**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.

Notes: HCBS=Home and Community-Based Services.

Readmission rates are calculated for adults ages 18 and above.

**Table 3A.23: Pneumonia 30-day readmission rates by Medicaid eligibility category**

| | 2012 | 2013 | 2014 |
|---|---|---|---|
| **Medicaid Overall** | 11.3% | 10.2% | 10.4% |
| Aged/Blind/Disabled | 11.8% | 10.4% | 10.4% |
| NJ FamilyCare | 5.1% | 7.1% | 8.2% |
| General Assistance | * | * | 14.9% |
| Children's Services | * | -- | * |
| Other | * | * | * |
| **Managed Care** | 11.9% | 10.5% | 10.7% |
| Aged/Blind/Disabled | 12.6% | 10.8% | 10.8% |
| NJ FamilyCare | 5.1% | 7.1% | 8.2% |
| General Assistance | * | * | 14.9% |
| Children's Services | * | -- | * |
| Other | * | * | * |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.

Notes: Readmission rates are calculated for adults ages 18 and above.

*Estimate suppressed due to insufficient sample size.

--No qualifying index admissions in this category.

**Table 3A.24: Pneumonia 30-day readmission rates among LTC-eligible populations**

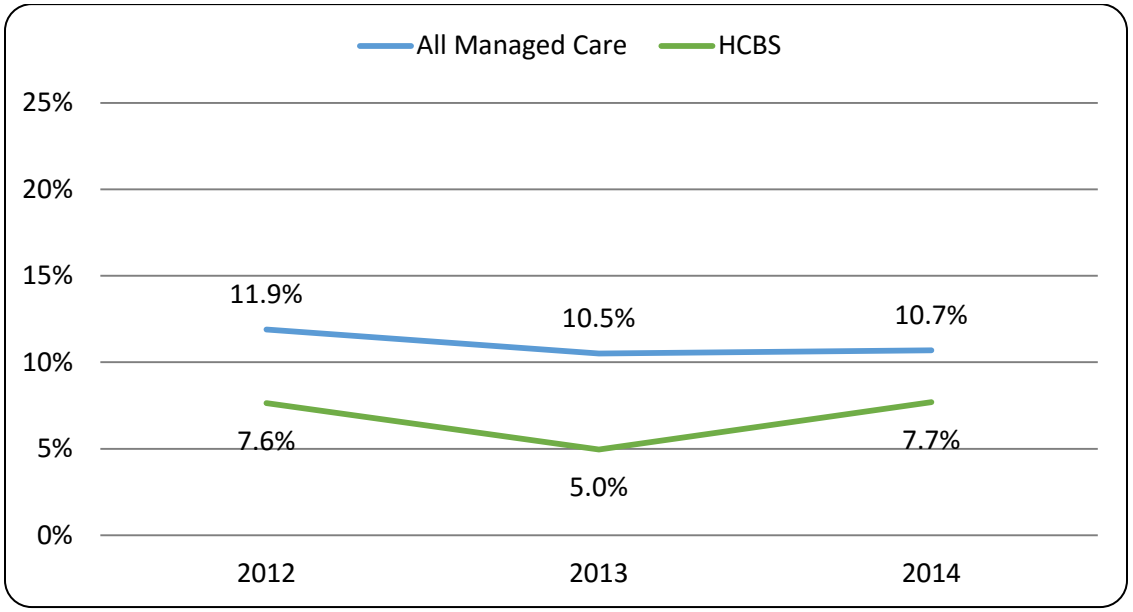
| | 2012 | 2013 | 2014 |
|---|---|---|---|
| **Long-Term Care Population** | 8.8% | 6.9% | 9.9% |
| Nursing Facility | 9.1% | 7.5% | 10.5% |
| HCBS | 7.6% | 5.0% | 7.7% |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.

Notes: HCBS=Home and Community-Based Services.

Readmission rates are calculated for adults ages 18 and above.

**Figure 3A.7: Trends in pneumonia readmission rates among the Medicaid managed care and HCBS populations**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services.
Readmission rates are calculated for adults ages 18 and above.

**Table 3A.25: Follow-up after hospitalization for mental illness by Medicaid eligibility category**

| | 7-Day Follow-up | | | | 30-Day Follow-up | | | |
|---|---|---|---|---|---|---|---|---|
| | **2011** | **2012** | **2013** | **2014** | **2011** | **2012** | **2013** | **2014** |
| **Medicaid Overall** | 16.7% | 15.8% | 15.0% | 16.3% | 28.2% | 27.5% | 26.1% | 27.8% |
| Aged/Blind/Disabled | 15.8% | 14.7% | 14.0% | 14.7% | 27.5% | 26.4% | 24.9% | 26.7% |
| NJ FamilyCare | 19.1% | 18.8% | 17.5% | 20.5% | 30.8% | 30.6% | 29.4% | 34.1% |
| General Assistance | 11.6% | 16.1% | 6.0% | 14.7% | 19.7% | 24.1% | 14.7% | 23.1% |
| Children's Services | 15.7% | 12.5% | 12.8% | 15.7% | 26.2% | 25.3% | 22.9% | 26.5% |
| Other | * | * | * | * | * | * | * | * |
| **Managed Care** | 15.3% | 16.1% | 15.0% | 16.5% | 28.6% | 27.9% | 26.2% | 28.1% |
| Aged/Blind/Disabled | 15.7% | 15.0% | 14.0% | 14.8% | 27.6% | 26.7% | 24.8% | 26.7% |
| NJ FamilyCare | 19.2% | 18.9% | 17.5% | 20.5% | 30.9% | 30.8% | 29.4% | 34.3% |
| General Assistance | 15.7% | 18.2% | 8.1% | 15.2% | 25.6% | 27.3% | 17.6% | 23.7% |
| Children's Services | 15.3% | 12.7% | 12.5% | 15.8% | 25.8% | 25.5% | 22.7% | 26.2% |
| Other | * | * | * | * | * | * | * | * |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: Follow-up after hospitalization for mental illness is calculated for the population ages 6 and older.
*Estimate suppressed due to insufficient sample size.

**Table 3A.26: Follow-up after hospitalization for mental illness among LTC-eligible populations**

| | 7-Day Follow-up | | | | 30-Day Follow-up | | | |
|---|---|---|---|---|---|---|---|---|
| | **2011** | **2012** | **2013** | **2014** | **2011** | **2012** | **2013** | **2014** |
| **Long-Term Care Population** | | | | | | | | |
| HCBS | 18.8% | 8.7% | 6.4% | * | 21.9% | 21.7% | 12.8% | * |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: Follow-up after hospitalization for mental illness is calculated for the population ages 6 and older.
Estimates not calculated for the nursing facility population since follow-up visits must occur in the community to meet metric specifications.
*Estimate suppressed due to insufficient sample size.

**Table 3A.27: Ambulatory visit within 14 days of discharge by Medicaid eligibility category**

| | All Discharges | | | | Discharged Home | | | |
|---|---|---|---|---|---|---|---|---|
| | **2011** | **2012** | **2013** | **2014** | **2011** | **2012** | **2013** | **2014** |
| **Medicaid Overall** | 33.0% | 34.2% | 33.1% | 30.1% | 38.5% | 39.5% | 38.2% | 33.7% |
| Aged/Blind/Disabled | 25.0% | 26.4% | 24.7% | 22.0% | 31.5% | 32.8% | 30.7% | 27.3% |
| NJ FamilyCare | 50.2% | 49.9% | 49.3% | 46.5% | 50.6% | 50.3% | 49.7% | 47.0% |
| General Assistance | 23.5% | 23.2% | 21.7% | 26.1% | 24.5% | 24.8% | 24.3% | 26.6% |
| Children's Services | 27.8% | 35.6% | 37.4% | 33.7% | 28.7% | 36.5% | 37.7% | 34.2% |
| Other | 12.3% | 12.2% | 27.0% | 7.9% | 14.3% | 13.8% | 29.4% | 25.9% |
| **Managed Care** | 36.6% | 36.7% | 34.8% | 31.5% | 40.0% | 40.6% | 39.0% | 34.7% |
| Aged/Blind/Disabled | 28.8% | 29.2% | 26.5% | 23.3% | 33.0% | 33.9% | 31.5% | 27.9% |
| NJ FamilyCare | 50.6% | 50.3% | 49.6% | 47.0% | 51.0% | 50.7% | 50.0% | 47.5% |
| General Assistance | 27.8% | 29.9% | 25.5% | 27.8% | 29.2% | 32.3% | 28.7% | 28.4% |
| Children's Services | 28.1% | 35.6% | 37.7% | 34.2% | 29.0% | 36.5% | 38.1% | 34.7% |
| Other | 17.6% | 20.0% | 34.6% | 25.3% | 20.0% | 24.2% | * | 25.6% |

| | Discharged to Facility-based Rehabilitation | | | | Discharged to Other Facility | | | |
|---|---|---|---|---|---|---|---|---|
| | **2011** | **2012** | **2013** | **2014** | **2011** | **2012** | **2013** | **2014** |
| **Medicaid Overall** | 5.2% | 5.1% | 5.4% | 5.0% | 11.7% | 16.8% | 14.2% | 15.5% |
| Aged/Blind/Disabled | 5.1% | 5.0% | 5.4% | 4.6% | 8.0% | 14.6% | 11.1% | 11.9% |
| NJ FamilyCare | 12.5% | 16.7% | 16.1% | 9.8% | 34.9% | 33.8% | 32.2% | 28.9% |
| General Assistance | 11.5% | 8.5% | 0.0% | 12.1% | * | * | * | 20.6% |
| Children's Services | * | -- | * | * | * | * | * | 0.0% |
| Other | * | * | * | * | * | * | * | 33.3% |
| **Managed Care** | 6.1% | 5.8% | 5.9% | 5.0% | 17.1% | 20.4% | 15.9% | 17.1% |
| Aged/Blind/Disabled | 5.9% | 5.6% | 5.8% | 4.6% | 12.2% | 18.1% | 12.5% | 13.5% |
| NJ FamilyCare | 12.8% | 16.9% | 16.7% | 9.1% | 35.1% | 33.8% | 32.4% | 29.1% |
| General Assistance | 13.3% | 11.5% | 0.0% | 12.7% | * | * | * | 20.8% |
| Children's Services | 0.0% | -- | * | * | * | * | * | * |
| Other | 0.0% | * | * | * | * | -- | * | * |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: Only one hospitalization per person is randomly chosen in each year to be an index hospitalization.
*Estimate suppressed due to insufficient sample size.
--No qualifying index admissions in this category.

**Table 3A.28: Ambulatory visit within 14 days of discharge among LTC-eligible populations**

| | All Discharges | | | | Discharged Home | | | |
|---|---|---|---|---|---|---|---|---|
| | **2011** | **2012** | **2013** | **2014** | **2011** | **2012** | **2013** | **2014** |
| **Long-Term Care Population** | | | | | | | | |
| HCBS | 17.9% | 19.4% | 15.7% | 9.7% | 23.6% | 24.2% | 19.8% | 12.9% |

| | Discharged to Facility-based Rehabilitation | | | | Discharged to Other Facility | | | |
|---|---|---|---|---|---|---|---|---|
| | **2011** | **2012** | **2013** | **2014** | **2011** | **2012** | **2013** | **2014** |
| **Long-Term Care Population** | | | | | | | | |
| HCBS | 4.9% | 4.9% | 4.5% | 2.2% | 9.6% | 14.4% | 6.5% | 1.0% |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: Only one hospitalization per person is randomly chosen in each year to be an index hospitalization.
Estimates not calculated for the nursing facility population since follow-up visits must occur in the community to meet metric specifications.

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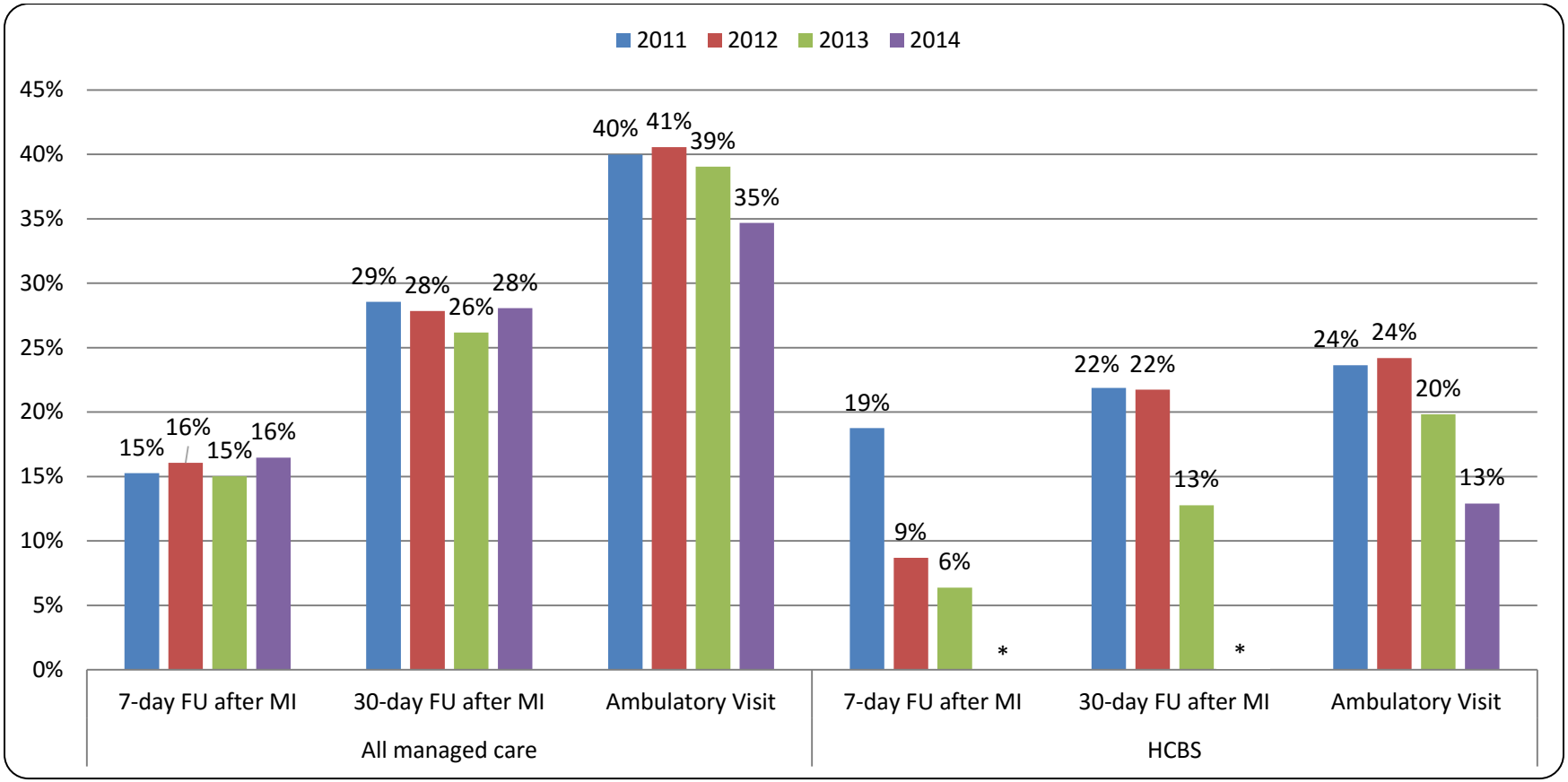
**Figure 3A.8: Rates of follow-up and ambulatory visits after hospitalization among the Medicaid managed care and HCBS populations**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services; FU=Follow-up; MI=Mental Illness.
*Estimate suppressed due to insufficient sample size.

**Table 3A.29: Selected quality metrics for a cohort of HCBS beneficiaries by pre-MLTSS §1915(c) waiver program**

| | Hospital-Wide 30-Day Readmission Rate | | | Avoidable Hospitalizations (per 10,000 beneficiaries) | | | | Follow-up After Hospitalization for Mental Illness | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 7-day | | | | 30-Day | | | |
| | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| **1915(c) Enrollees** | 9.1% | 6.9% | 7.4% | 738 | 788 | 686 | 609 | 18.4% | 11.1% | 4.4% | * | 26.3% | 27.8% | 11.1% | * |
| CRPD | 15.9% | 15.9% | 2.4% | 526 | 358 | 479 | 208 | -- | -- | -- | -- | -- | -- | -- | -- |
| ACCAP | 13.3% | 6.7% | * | 387 | 449 | 179 | 298 | -- | * | * | -- | -- | * | * | -- |
| TBI | 4.9% | 8.1% | 16.0% | 135 | 132 | 225 | 257 | * | * | * | -- | * | * | * | -- |
| GO | 8.9% | 6.6% | 7.3% | 777 | 830 | 713 | 636 | 16.7% | 10.0% | 4.9% | * | 25.0% | 23.3% | 12.2% | * |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services.
*Estimate suppressed due to insufficient sample size.
-- No qualifying index admissions in this category.

**Table 3A.30: Total and per person costs of LTSS and non-LTSS services among LTC-eligible populations**

| LTSS Costs (in millions of dollars) | | | | | | | | | LTSS Costs Per LTC Person | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | | 2012 | | 2013 | | 2014 | | 2011 | 2012 | 2013 | 2014 |
| **Long-Term Care Pop.** | $2,011.7 | 100% | $1,927.1 | 100% | $1,899.7 | 100% | $1,839.4 | 100% | $ 54,356 | $ 53,514 | $ 53,688 | $ 53,512 |
| Nursing Facility | $1,805.0 | 90% | $1,707.4 | 89% | $1,672.3 | 88% | $1,627.7 | 88% | $139,894 | $126,257 | $119,854 | $121,940 |
| HCBS | $ 206.6 | 10% | $ 219.7 | 11% | $ 227.4 | 12% | $ 211.7 | 12% | $ 16,012 | $ 16,247 | $ 16,296 | $ 15,860 |

| Non-LTSS Costs (in millions of dollars) | | | | | | | | | Non-LTSS Costs Per LTC Person | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | | 2012 | | 2013 | | 2014 | | 2011 | 2012 | 2013 | 2014 |
| **Long-Term Care Pop.** | $ 253.1 | 100% | $ 253.1 | 100% | $ 249.4 | 100% | $ 244.2 | 100% | $ 6,839 | $ 6,956 | $ 7,048 | $ 7,105 |
| Nursing Facility | $ 171.5 | 68% | $ 171.5 | 68% | $ 159.0 | 64% | $ 167.8 | 69% | $ 13,290 | $ 11,948 | $ 11,394 | $ 12,571 |
| HCBS | $ 81.6 | 32% | $ 81.6 | 32% | $ 90.4 | 36% | $ 76.4 | 31% | $ 6,327 | $ 6,574 | $ 6,479 | $ 5,726 |

| Total Costs (in millions of dollars) | | | | | | | | | Total Costs per LTC Person | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | | 2012 | | 2013 | | 2014 | | 2011 | 2012 | 2013 | 2014 |
| **Long-Term Care Pop.** | $2,264.8 | 100% | $2,177.6 | 100% | $2,149.1 | 100% | $2,083.6 | 100% | $ 61,195 | $ 60,469 | $ 60,736 | $ 60,617 |
| Nursing Facility | $1,976.5 | 87% | $1,869.0 | 86% | $1,831.3 | 85% | $1,795.4 | 86% | $153,184 | $138,205 | $131,249 | $134,511 |
| HCBS | $ 288.2 | 13% | $ 308.6 | 14% | $ 317.8 | 15% | $ 288.1 | 14% | $ 22,339 | $ 22,821 | $ 22,775 | $ 21,587 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: LTSS=Long-term services and supports; LTC=Long-term care; HCBS=Home and Community-Based Services.
All costs are in 2012 dollars.

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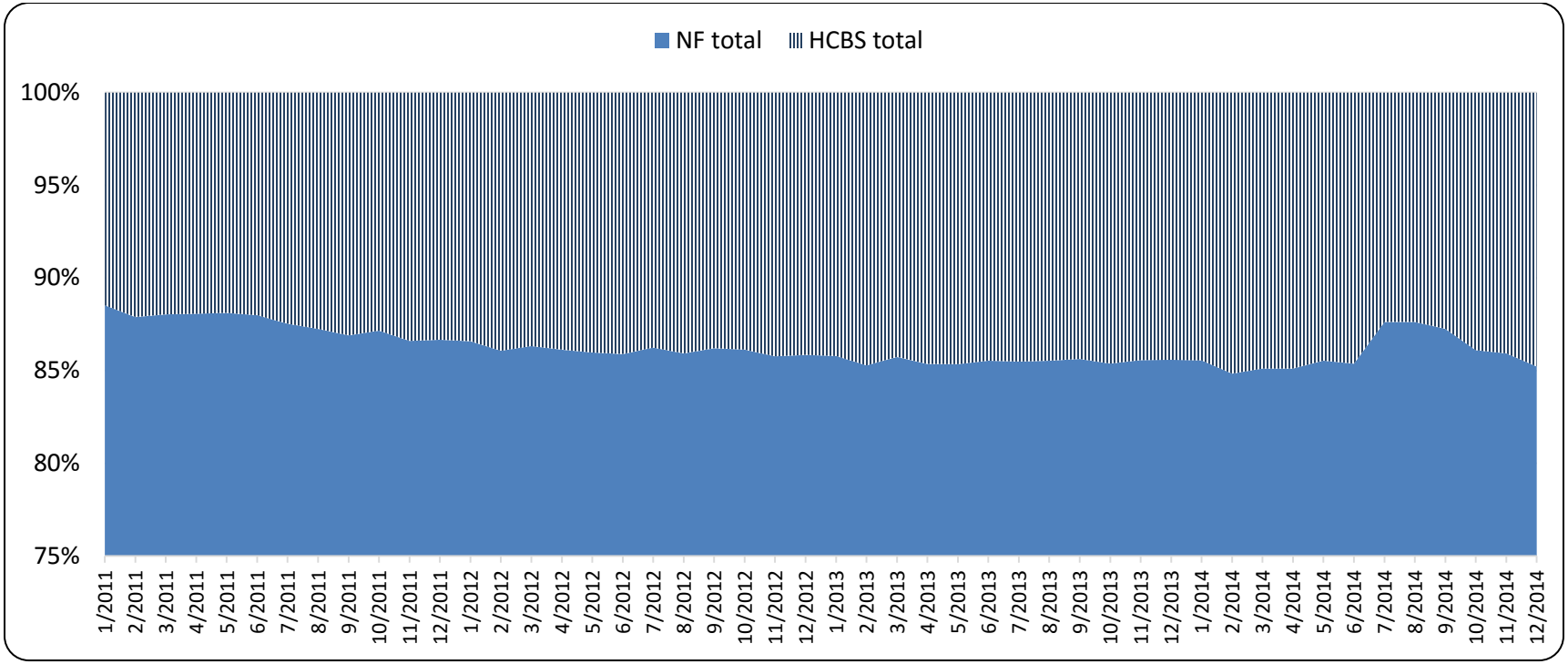
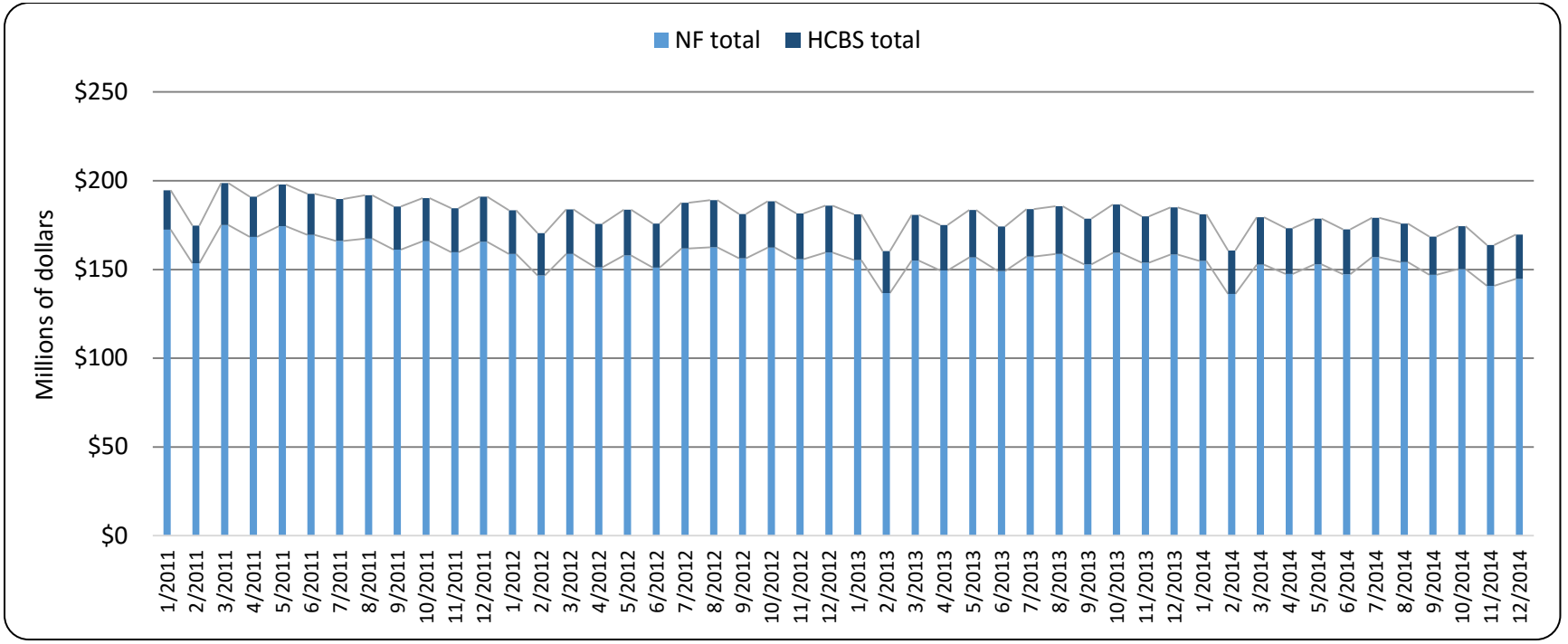
**Figure 3A.9: Share of total LTC costs for the nursing facility and HCBS populations**



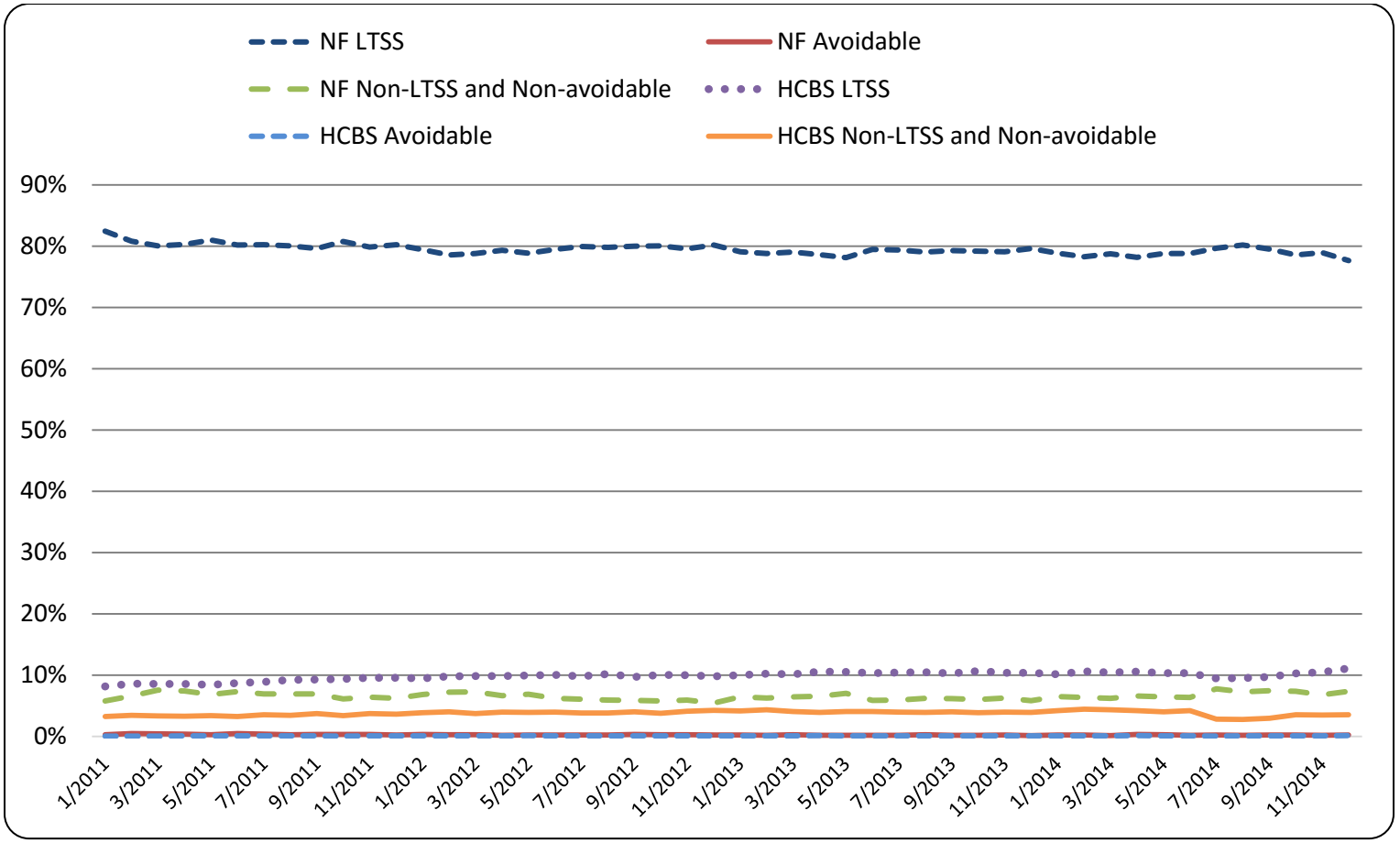

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: NF=Nursing Facility; HCBS=Home and Community-Based Services.
Vertical axis begins at 75%.

**Figure 3A.10: Total costs for the nursing facility and HCBS populations**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: NF=Nursing Facility; HCBS=Home and Community-Based Services.
All costs are in 2012 dollars.

**Figure 3A.11: Shares of different components of costs for the NF and HCBS populations**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.
Notes: NF=Nursing Facility; HCBS=Home and Community-Based Services; LTSS=Long-Term Services and Supports.
All costs are in 2012 dollars.

**Section B**

*Avoidable Inpatient Hospitalizations, ED Visit Rates, and Associated Costs:* Table 3B.1 reports the Segmented Regression Analysis-based effect of the MLTSS program on the overall managed care population reflected in potential changes in rates of avoidable inpatient hospitalizations and ED visits among the universe of managed care enrollees. While there is a statistically significant drop in such avoidable events immediately following the implementation (reflected in a drop in levels), there is an increase in the trend. The magnitude of all these changes are less than one-tenth of a percentage point, but the percentage change over baseline differs for avoidable inpatient and avoidable ED visits. The average probability of a managed care beneficiary having any avoidable inpatient visit in any one quarter of 2012 was 0.0031 (0.31%). The change in this probability due to MLTSS is -0.00028 (-0.028 percentage point), as shown by the *MLTSS post* coefficient in Table 3B.1. Thus, the change from baseline in this probability due to MLTSS is the quotient of these: -0.00028/0.0031 which yields a decline of 9% in the per beneficiary per quarter probability of avoidable IP hospitalization. The analogous calculation for avoidable ED visits indicates a 15% decline in the number of avoidable ED visits per beneficiary per quarter from baseline.

Figures 3B.1 and 3B.2 provide graphical interpretations of the effects reported in Table 3B.1 by line graphs denoting probability of avoidable hospitalization based on the regression modeling. In the post-implementation period spanning July-December 2014, the solid line graph gives the values taking into account the MLTSS implementation, and the dotted line graph gives counterfactual values without MLTSS implementation. The difference between the two line graphs gives the effect of the MLTSS program. Specifically, if at any point of time the dotted line is above the solid line (implying that the counterfactual value is higher than the MLTSS-based value) this reflects a decrease in avoidable utilizations signifying a positive effect on ambulatory/primary care-related quality. It is important to note that this difference may change over the post-implementation period.

Table 3B.2 provides the unadjusted DD estimate based on the observed rates of avoidable events for the HCBS population and the comparison group in the pre- and post-MLTSS period which are also reported in Figures 3B.3 and 3B.4. Table 3B.3 reports the adjusted effects based on the DD estimation comparing changes over time in the HCBS population compared to the comparison group. Based on this estimate, the MLTSS implementation decreased the probability of an avoidable inpatient hospitalization over a quarter by 0.2 percentage point, but increased the number of avoidable ED visits per person over a quarter by 0.6 percentage point. Both effects are statistically significant. There was a statistically significant difference in avoidable ED visit trends between HCBS and the comparison group prior to MLTSS, but this was around one-tenth the magnitude of the DD-estimated effect size and does not necessitate modification of our inference of the policy effect.

Translating the estimated effect size into percentage changes over baseline, we divide the regression coefficient reflecting the change in the probability of an avoidable inpatient admission (-0.0019) by the baseline probability (0.0245) to arrive at an 8% decline from baseline in the probability of an HCBS beneficiary having any avoidable inpatient visit in a quarter due to MLTSS. For ED visits, a baseline number of visit per beneficiary per quarter of 0.063 in the HCBS population means the MLTSS impact was a nearly 10% increase (0.006/0.063) in the number of avoidable ED visit per HCBS beneficiary per quarter.

Table 3B.4, and Figures 3B.5 and 3B.6 report per person, per quarter costs associated with avoidable inpatient hospitalizations or ED visits for the HCBS and comparison groups for the pre- and post-MLTSS periods. Table 3B.4 further reports the ratio of ratios (ROR) of these costs where a magnitude greater than one reflects a positive association between the policy and avoidable costs. Table 3B.5 reports a similar ROR estimate that is calculated using a gamma regression with a log link that adjusts for patient and area level characteristics. We find that the MLTSS policy increases avoidable IP costs but decreases avoidable ED costs in the HCBS population.

*Hospital Readmissions:* Table 3B.6 reports the SRA-based effect of the MLTSS program on the overall managed care population reflected in potential changes in readmission rates among the universe of managed care enrollees. The coefficients corresponding to the variable *MLTSS post* give the change in the *level* of readmission likelihood immediately after the MLTSS implementation, and we find a decrease in this for all types of readmissions. The change in trend given by the coefficients corresponding to *MLTSS time* are less than 1 percentage point in absolute magnitude and may be positive or negative. We assess the joint statistical significant of these effects and find that there is a significant negative effect ($p<0.1$) on hospital-wide readmissions. This can be interpreted as an improvement in readmission related quality for the Medicaid managed care population as a whole.

As explained above, Figures 3B.7-3B.10 compare the MLTSS rates to the counterfactual rate.

Table 3B.7 provides the unadjusted DD estimate capturing the effect of the MLTSS implementation on the HCBS population that is based on the observed readmission rates for the HCBS and comparison population in the pre- and post-MLTSS implementation period (See Figures 3B.11-3B.14). While these estimates do not take into account the differing beneficiary and provider characteristics that are important to account for while examining the policy effect, they are informative since in addition to providing a starting estimate, they further demonstrate the way DD estimates are computed. Taking the case of pneumonia readmissions, the unadjusted DD estimate is the change in readmission rate for the HCBS population from pre to post-MLTSS

implementation period less the change for the comparison group over the same period. The difference in these two differences reflects the unadjusted policy effect, in this case a 10.7 percentage point increase in readmissions following hospitalization for pneumonia among the HCBS population. Table 3B.8 reports the adjusted effects that take into account differences in patient and provider characteristics. These may be different from the unadjusted estimates and are relevant for estimating the true policy effect. For pneumonia readmissions, the effect size increases slightly (compared to the unadjusted estimate) to 0.113. This should be interpreted as an 11.3 percentage point increase in pneumonia readmission rates among the HCBS population due to the MLTSS implementation. This effect is statistically significant at the 10% significance level. Heart failure and AMI readmissions increased by 5.6 and 5.1 percentage points, respectively, but these effects were not statistically significant. Hospital-wide readmission rates among the HCBS population decreased by less than 1 percentage point as a result of the policy, but this was not statistically significant.

Table 3B.9 shows the SRA-based effect of the MLTSS policy on hospital-wide readmissions among Medicaid managed care beneficiaries with a behavioral health condition. The 1.3% decline in the probability of readmission for this population is statistically significant at the 10% level. There was no significant effect of MLTSS on the trend. The combined effect of both the level and trend changes was also not significant. Figure 3B.15 depicts the probability of readmission for a managed care beneficiary with a behavioral health condition with the MLTSS effect and alongside, the calculated counterfactual.

Table 3B.10 provides the unadjusted DD estimate based on the observed rates of hospital-wide readmission for the HCBS population with a behavioral health condition and the comparison group in the pre- and post-MLTSS periods. Figure 3B.16 shows these rates graphically. The unadjusted difference in the differences is a 1.3 percentage point decline in the readmission rate among the HCBS population with a BH condition in the post-MLTSS period. Table 3B.11 reports the adjusted effects based on the DD estimation comparing changes over time of hospital-wide readmissions for the HCBS population with a BH condition compared to that in the comparison group. Based on these estimates, the MLTSS implementation decreased the hospital-wide readmission rate among the HCBS population with a BH condition by 0.2 percentage points. The effect is not statistically significant.

*Follow-up after Hospitalization for Mental Illness:* Table 3B.12 reports the SRA-based effect of the MLTSS program on the overall managed care population reflected in potential changes in follow-up after hospitalizations for mental illness among the universe of managed care enrollees. Residents of nursing facilities or intermediate care facilities were excluded in the regression model since follow-up care provided in the facility might not be captured in claims data. There

are decreases in level and also the trend in follow up rates within 30 days of hospitalization as indicated by the coefficients of *MLTSS post* and *MLTSS time*. Each of these decreases amount to approximately a 1 percentage point decrease in the rate of follow up among managed care beneficiaries. This is also reflected in Figure 3B.17 where the rates after MLTSS are lower than the calculated counterfactual rates.

Table 3B.13 provides the unadjusted DD estimate based on the observed rates of follow up for the HCBS population and the comparison group in the pre- and post-MLTSS period which are also reported in Figures 3B.18 and 3B.19. Table 3B.14 reports the adjusted effects based on the DD estimation comparing changes over time in the HCBS population compared to that in the comparison group. Residents of intermediate care facilities were excluded from the comparison population in the regression model since follow-up care provided in the facility might not be captured in claims data. Based on these estimates, the MLTSS implementation increased the follow up rate within 7 and 30 days of a mental illness hospitalization by 17 and 9 percentage points respectively. Neither effect is statistically significant and due to small numbers of HCBS beneficiaries with a qualifying mental illness index hospitalization in the post-MLTSS period, there are statistical issues with the reliability of these results.

*Ambulatory Visit after Hospitalization:* Table 3B.15 reports the SRA-based effect of the MLTSS program on the overall managed care population reflected in potential changes in ambulatory visit rates after discharge home from hospitalization among the universe of managed care enrollees. The increases in the level and also the trend of such visits as indicated by the coefficients of *MLTSS post* and *MLTSS time* respectively are positive, less than one percentage point, and neither is statistically significant. Figure 3B.20 demonstrates that the rates based on MLTSS are higher than the calculated counterfactual rates.

Table 3B.16 provides the unadjusted DD estimate based on the observed rates of post-discharge ambulatory visits for the HCBS population and the comparison group in the pre- and post-MLTSS period which are also reported in Figure 3B.21. Table 3B.17 reports the adjusted effects based on the DD estimation comparing changes over time in the HCBS population compared to the comparison group. Residents of intermediate care facilities were excluded from the comparison population in the regression model since follow-up care provided in the facility might not be captured in claims data. Based on this estimate, the MLTSS implementation decreased the probability of an ambulatory visit 14 days following discharge from a medical hospitalization by 5.5 percentage points and this effect is statistically significant. There was a statistically significant difference in visit trends between HCBS and the comparison group prior to MLTSS, but this was around one-fiftieth the magnitude of the DD-estimated effect size and does not modify the policy effect.

**Table 3B.1: MLTSS impact on avoidable hospitalizations and ED visits among the Medicaid managed care population**

| **MLTSS Impact Estimates** *(n=21,802,509)* | **Avoidable Inpatient Utilization** | **Avoidable ED Utilization** |
|---|---|---|
| mltss_post | -0.00028*** | -0.01197*** |
| | (0.00008) | (0.001) |
| mltss_quarter | 0.00013* | 0.00542*** |
| | (0.00007) | (0.001) |
| mltss_post and mltss_quarter | *** | *** |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.

Notes: ED=Emergency Department.

Person-quarter level segmented regression analysis with zip code fixed effects.

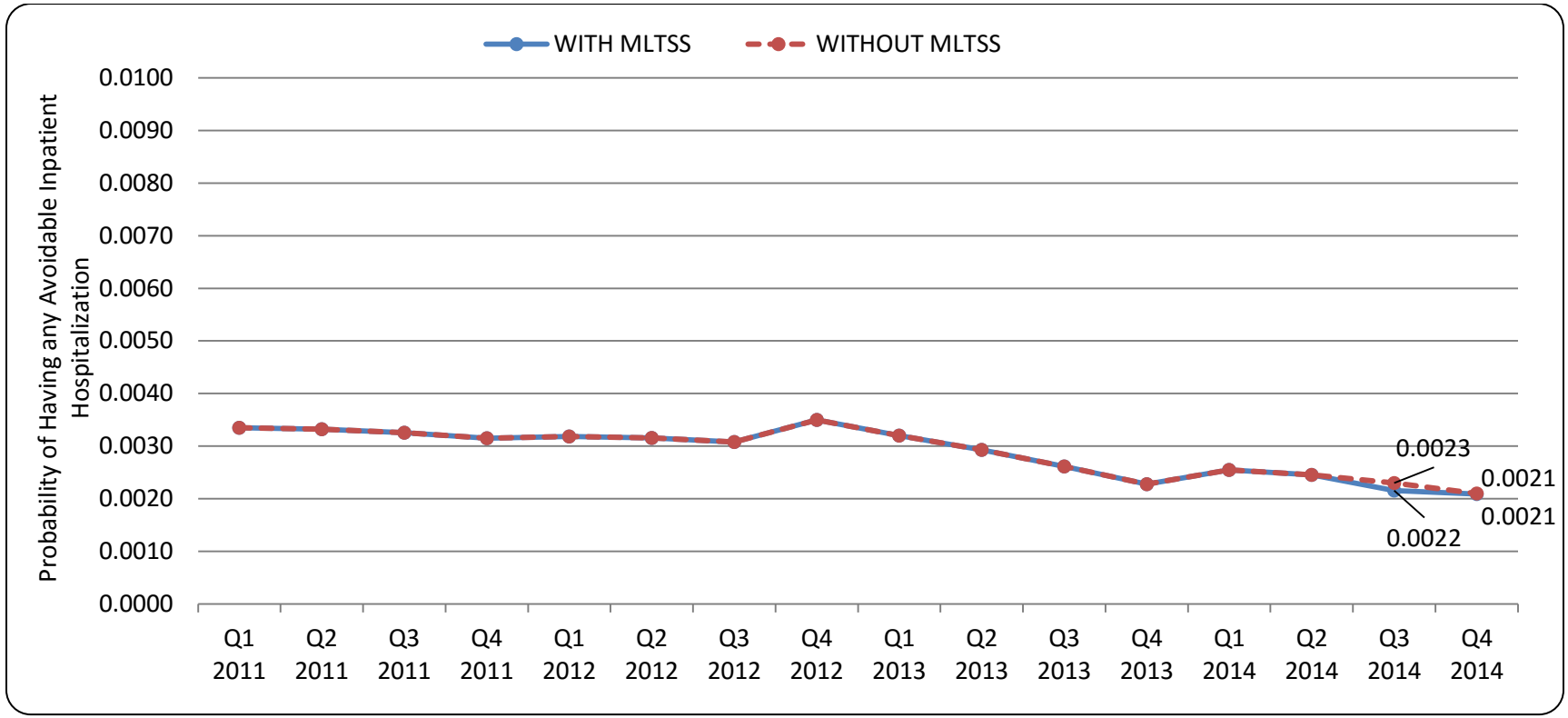
Avoidable inpatient utilization rate denotes the likelihood of at least one avoidable hospitalization by a Medicaid beneficiary during the quarter. Avoidable ED utilization rate denotes the sum total of ED visits by a person during a quarter.

Models adjusted for sex, elderly status, quarterly time trends, waiver initiation, Medicaid expansion, CDPS risk category, and enrollment days per quarter.

Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

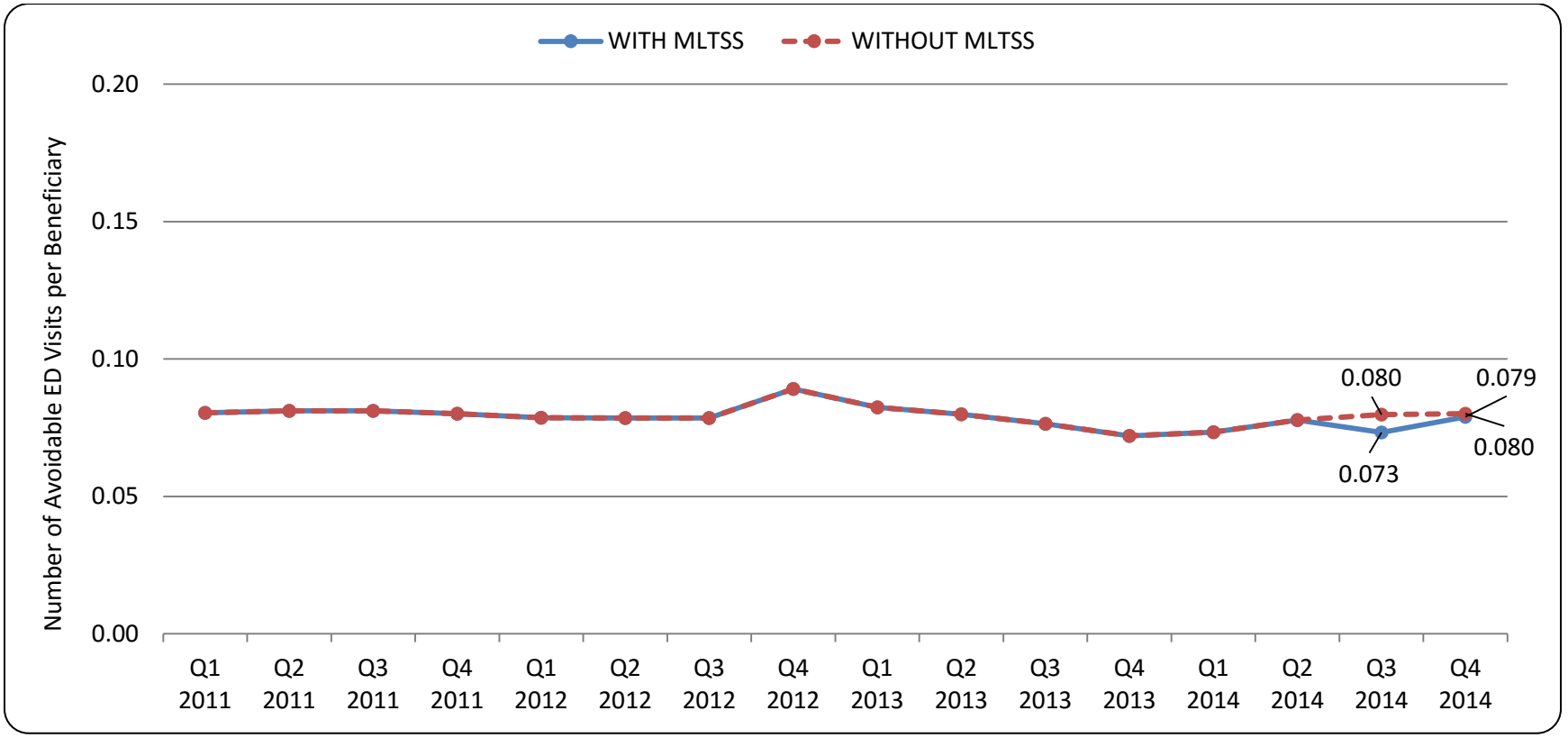
**Figure 3B.1: Regression-based rates of avoidable inpatient hospitalizations with and without MLTSS effect among the Medicaid managed care population**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.

Notes: The vertical axis denotes the numerical probability of hospitalization. This ranges from zero to a maximum of 1 denoting 100% probability. Here, the probability of an avoidable inpatient hospitalization is <1% in every quarter.

**Figure 3B.2: Regression-based rates of avoidable ED visits with and without MLTSS effect among the Medicaid managed care population**



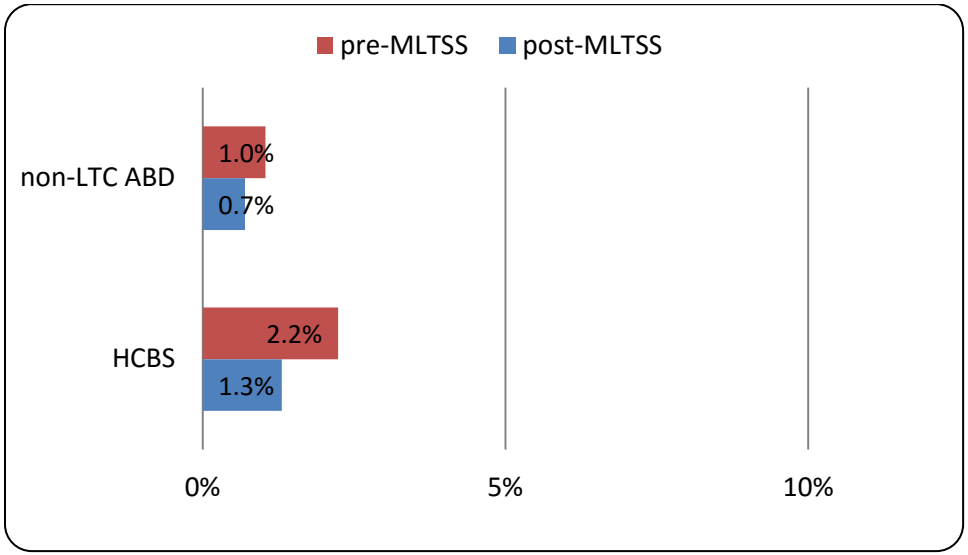

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: ED=Emergency Department.

**Table 3B.2: Unadjusted MLTSS impact on avoidable hospitalizations and ED visit rates among the HCBS population**

| | non-LTC ABD | | HCBS | | Unadjusted Difference in Differences* |
|---|---|---|---|---|---|
| | pre-MLTSS *(a)* | post-MLTSS *(b)* | pre-MLTSS *(c)* | post-MLTSS *(d)* | |
| Average rate of avoidable inpatient hospitalizations per quarter | 1.0% | 0.7% | 2.2% | 1.3% | -0.6 |
| Average number of avoidable ED visits per quarter | 0.10 | 0.08 | 0.06 | 0.05 | -0.0004 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled; ED=Emergency Department.
Avoidable inpatient utilization rate denotes the average likelihood of at least one avoidable hospitalization by a Medicaid beneficiary during the quarter.
Avoidable ED utilization rate denotes the sum total of ED visits by a person during a quarter.
Not adjusted for beneficiary or area characteristics.
*Calculated as [*d*-*c*]-[*b*-*a*]; For avoidable inpatient hospitalizations the unadjusted difference in differences is a percentage point change.

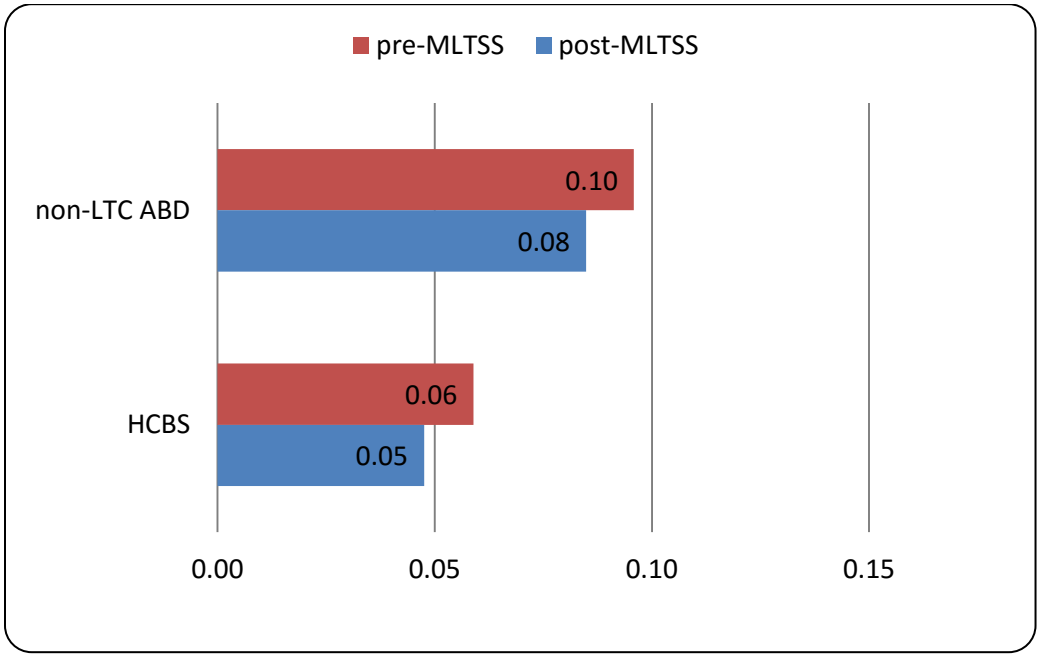
**Figure 3B.3: Percentage experiencing avoidable inpatient hospitalizations over a quarter among HCBS beneficiaries and a comparison population during the pre- and post-MLTSS periods**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.

Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled.

**Figure 3B.4: Avoidable ED visits per beneficiary over a quarter among HCBS beneficiaries and a comparison population during the pre- and post-MLTSS periods**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.

Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled; ED=Emergency Department.

**Table 3B.3: Adjusted MLTSS impact on avoidable inpatient hospitalizations and ED visit rates among the HCBS population**

| **MLTSS Impact Estimates** *(n=4,357,861)* | **Avoidable Inpatient Utilization** | **Avoidable ED Utilization** |
|---|---|---|
| HCBS * Post-MLTSS | -0.00187** | 0.00601*** |
| | (0.00082) | (0.002) |

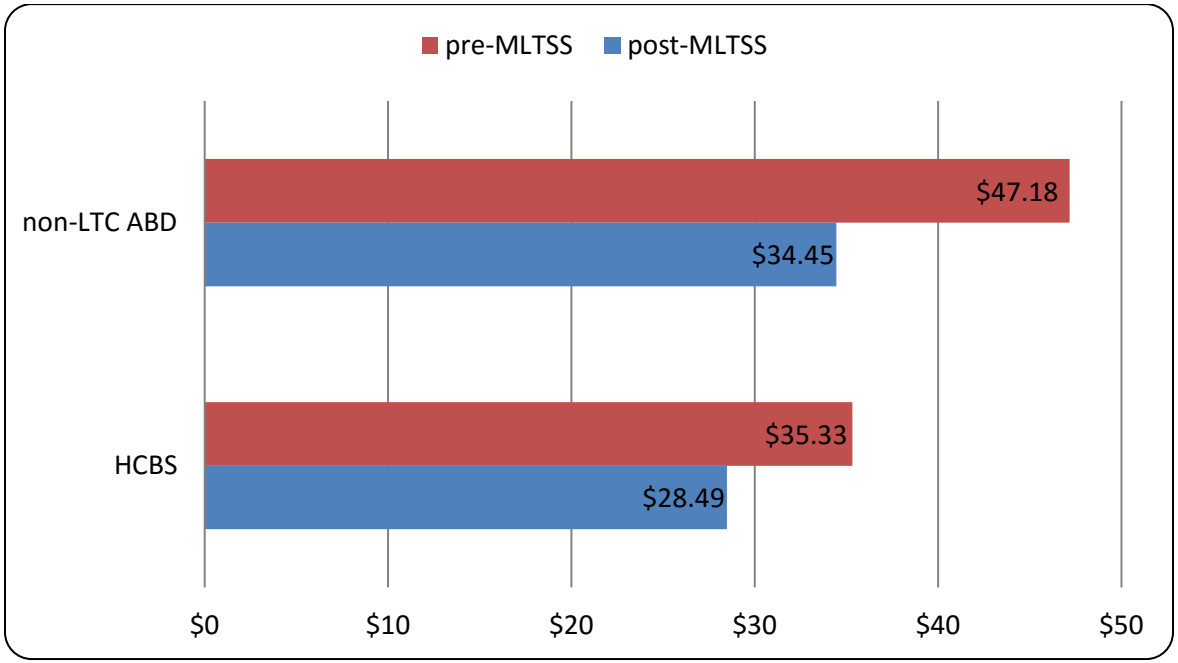
Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: ED=Emergency Department; HCBS=Home and Community-Based Services.
Person-quarter level difference-in-differences regression analysis with zip code fixed effects.
Models adjusted for sex, elderly status, quarterly time trends, waiver initiation, Medicaid expansion, CDPS risk category, and enrollment days per quarter.
Significant difference in pre-trends between HCBS and comparison group equaling 0.0006
Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

**Table 3B.4: Unadjusted MLTSS impact on average per person, per quarter costs related to avoidable inpatient hospitalizations and ED visits among the HCBS population**

| | non-LTC ABD | | HCBS | | Unadjusted Ratio of Ratios* |
|---|---|---|---|---|---|
| | pre-MLTSS *(a)* | post-MLTSS *(b)* | pre-MLTSS *(c)* | post-MLTSS *(d)* | |
| Avoidable inpatient cost | $ 47.18 | $ 34.45 | $ 35.33 | $ 28.49 | 1.10 |
| Avoidable ED cost | $ 20.60 | $ 22.16 | $ 6.32 | $ 5.65 | 0.83 |

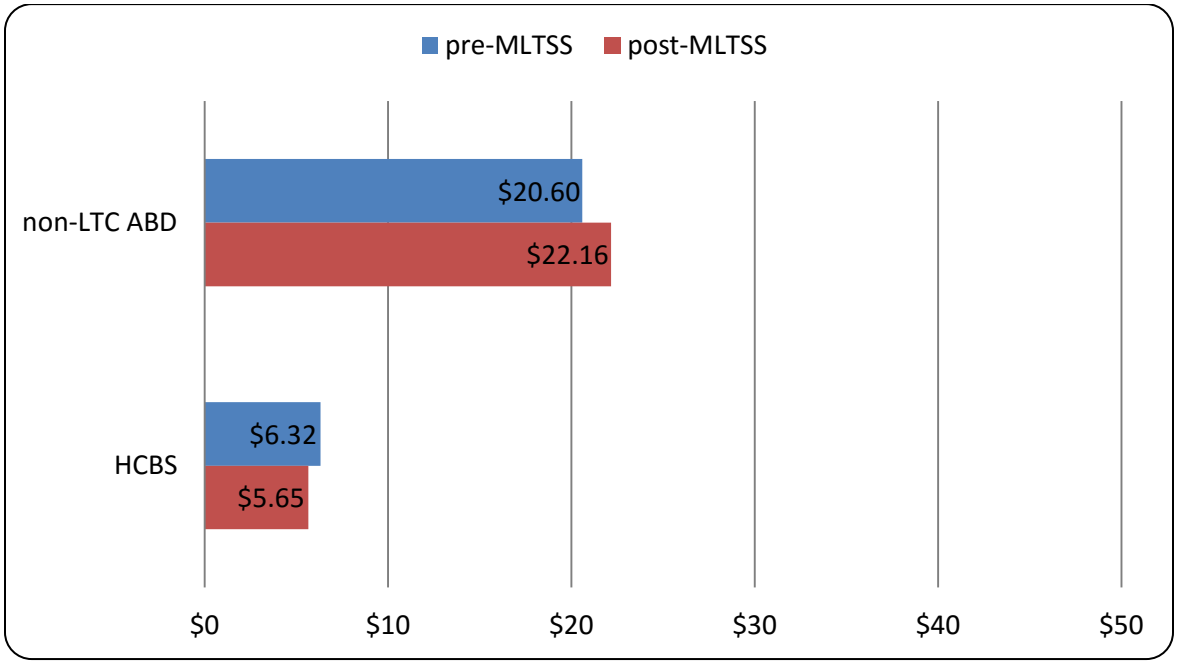
Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: ED=Emergency Department; HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled.
Unadjusted observed costs calculated by dividing total costs relating to a group by the number of person-quarters in the period.
Not adjusted for beneficiary or area characteristics.
*Calculated as [*d/c*]/[*b/a*].

**Figure 3B.5: Per person, per quarter costs due to avoidable inpatient hospitalizations among HCBS beneficiaries and a comparison population during the pre- and post-MLTSS periods**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled.

**Figure 3B.6: Per person, per quarter costs due to avoidable ED visits among HCBS beneficiaries and a comparison population during the pre- and post-MLTSS periods**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.

Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled; ED=Emergency Department.

**Table 3B.5: Adjusted MLTSS impact on avoidable inpatient and avoidable ED costs among the HCBS population**

| **MLTSS Impact Estimates** *(n=4,357,861)* | **Avoidable Inpatient Costs** | **Avoidable ED Costs** |
|---|---|---|
| HCBS * Post-MLTSS | 2.9648*** | 0.79673** |
| | (1.02600) | (0.07048) |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.

Notes: ED=Emergency Department; HCBS=Home and Community-Based Services.

Person-quarter level gamma regression analysis with log link and zip code fixed effects. Table reports the exponentiated coefficient of the interaction term giving the ratio of the two ratios as described in Table 3B.4, but after adjusting for patient and geographic factors.

Models adjusted for sex, elderly status, CDPS risk category, and enrollment days per quarter.

Robust standard errors in parentheses.

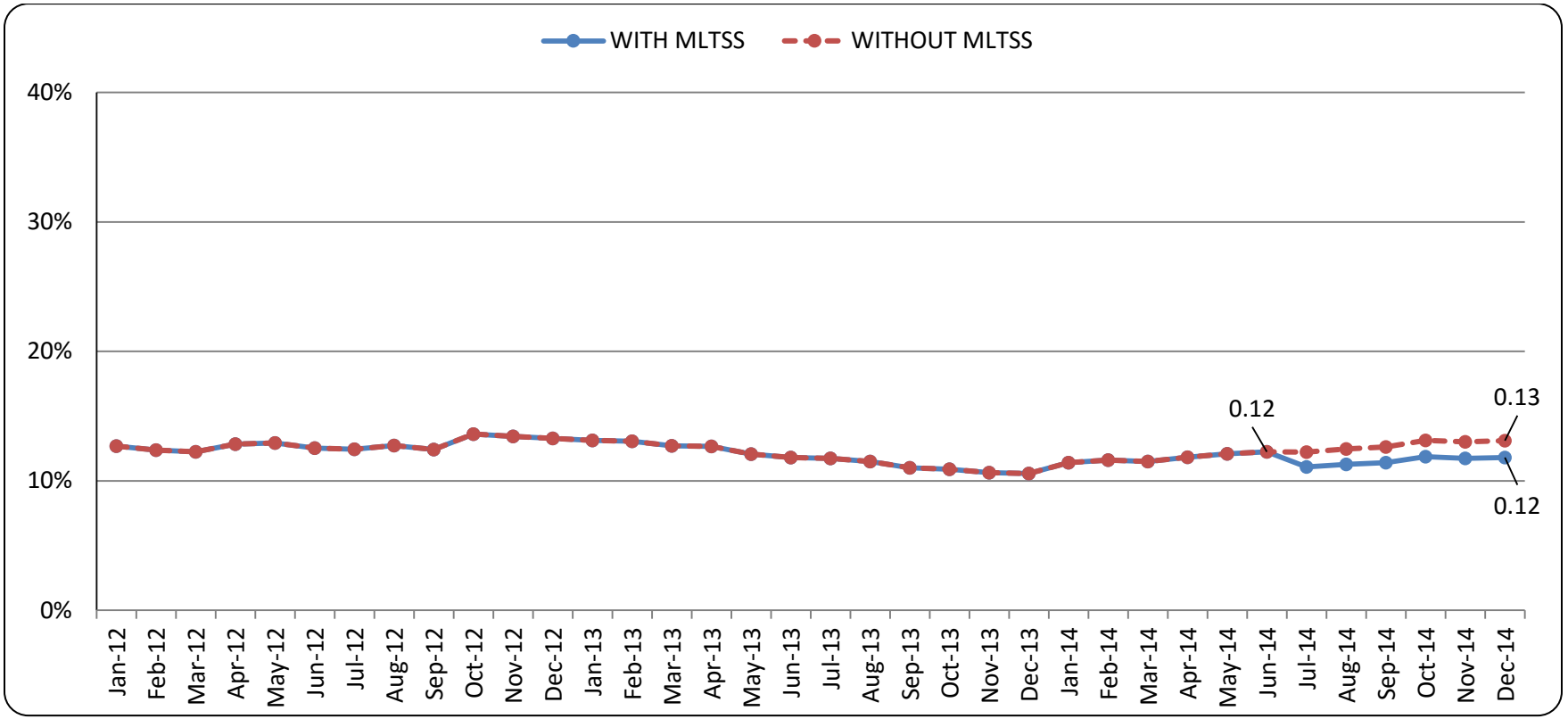
*** p<0.01, ** p<0.05, * p<0.1

**Table 3B.6: MLTSS impact on hospital readmissions among the Medicaid managed care population**

| MLTSS Impact Estimates | Hospital-Wide *(n=212,525)* | Heart Failure *(n=6,691)* | AMI *(n=2,533)* | Pneumonia *(n=6,072)* |
|---|---|---|---|---|
| mltss_post | -0.01125** | -0.04435 | -0.05700 | -0.02689 |
| | (0.005) | (0.031) | (0.048) | (0.041) |
| mltss_time | -0.00029 | 0.00801 | -0.00589 | 0.00427 |
| | (0.001) | (0.009) | (0.011) | (0.008) |
| mltss_post and mltss_time | * | | | |

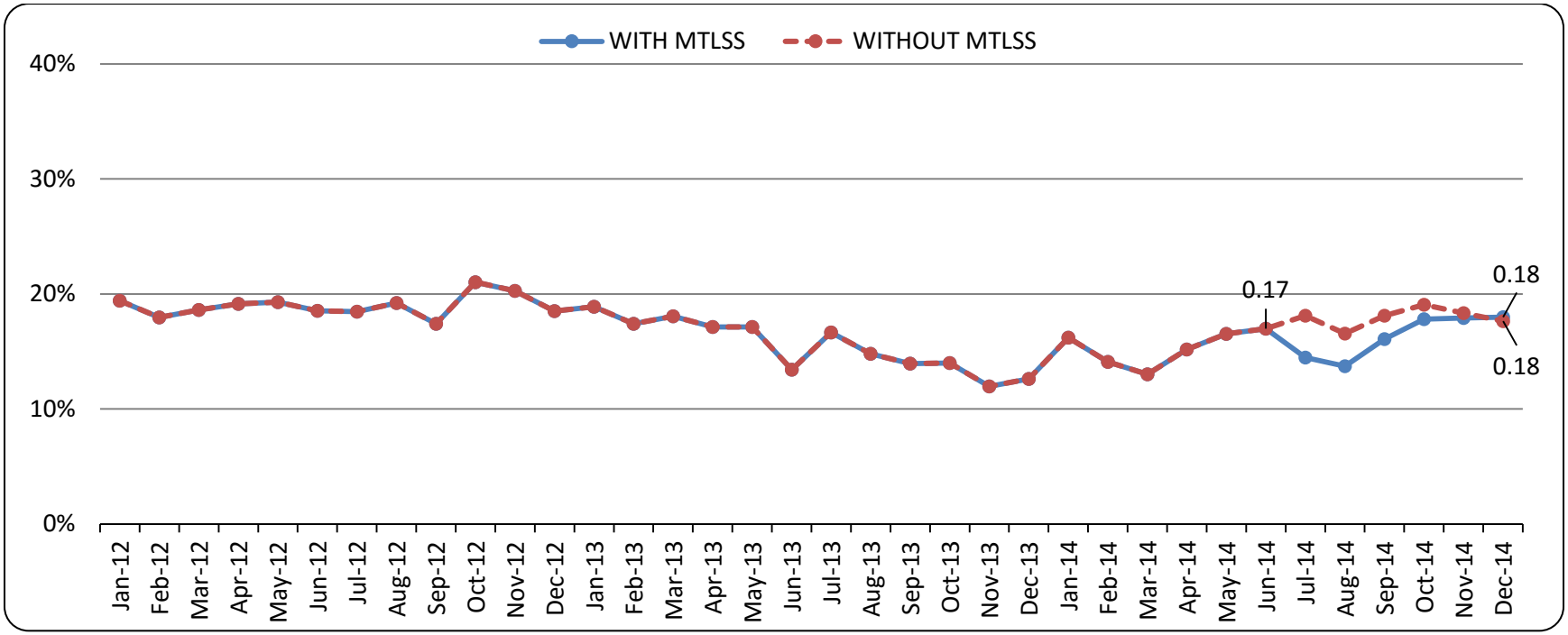
Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: AMI=Acute Myocardial Infarction.
Hospital readmissions for initial index hospitalizations that may be all-cause or related to heart failure, AMI, or pneumonia.
Discharge-level segmented regression analysis with hospital fixed effects.
Models adjusted for sex, elderly status, monthly time trends, waiver initiation, Medicaid expansion, and all condition-specific risk factors listed in Appendix F.
Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

**Figure 3B.7: Regression-based probability of 30-day readmission following all-cause hospitalizations with and without MLTSS effect among the Medicaid managed care population**



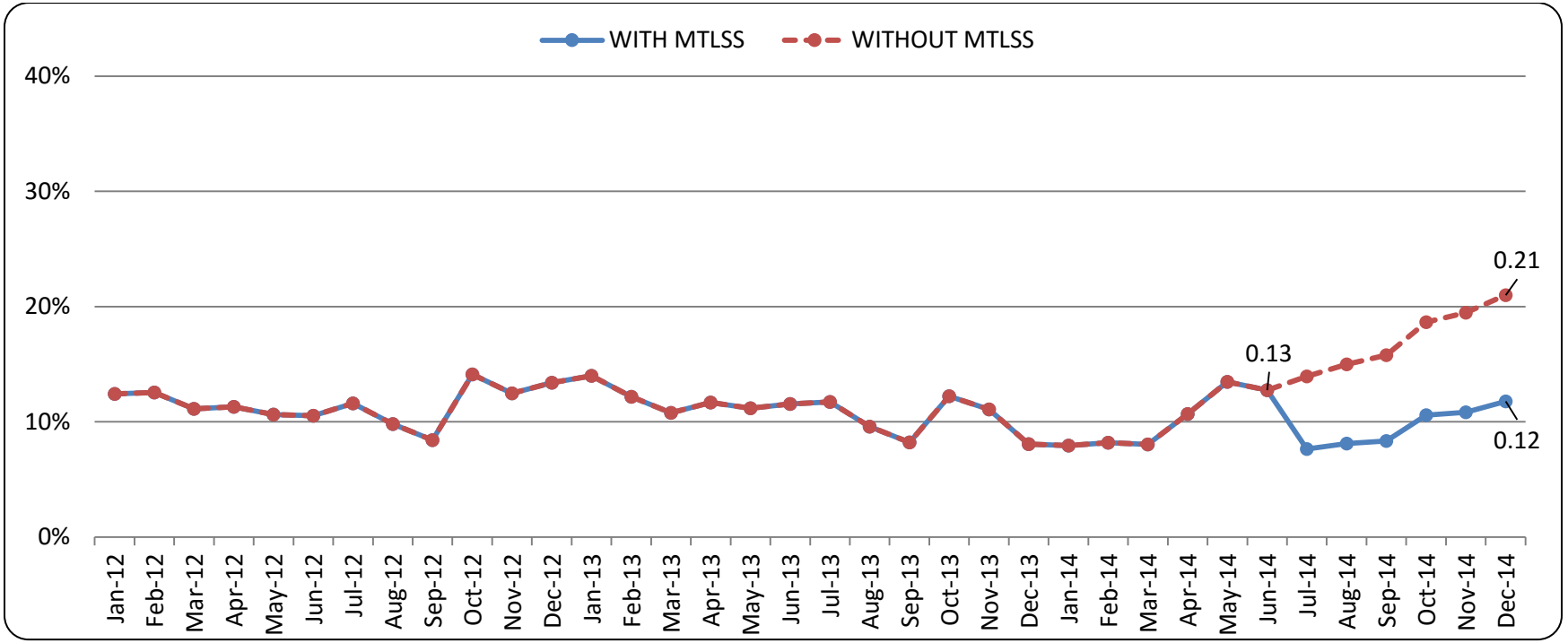

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.

**Figure 3B.8: Regression-based probability of 30-day readmission following heart failure hospitalizations with and without MLTSS effect among the Medicaid managed care population**



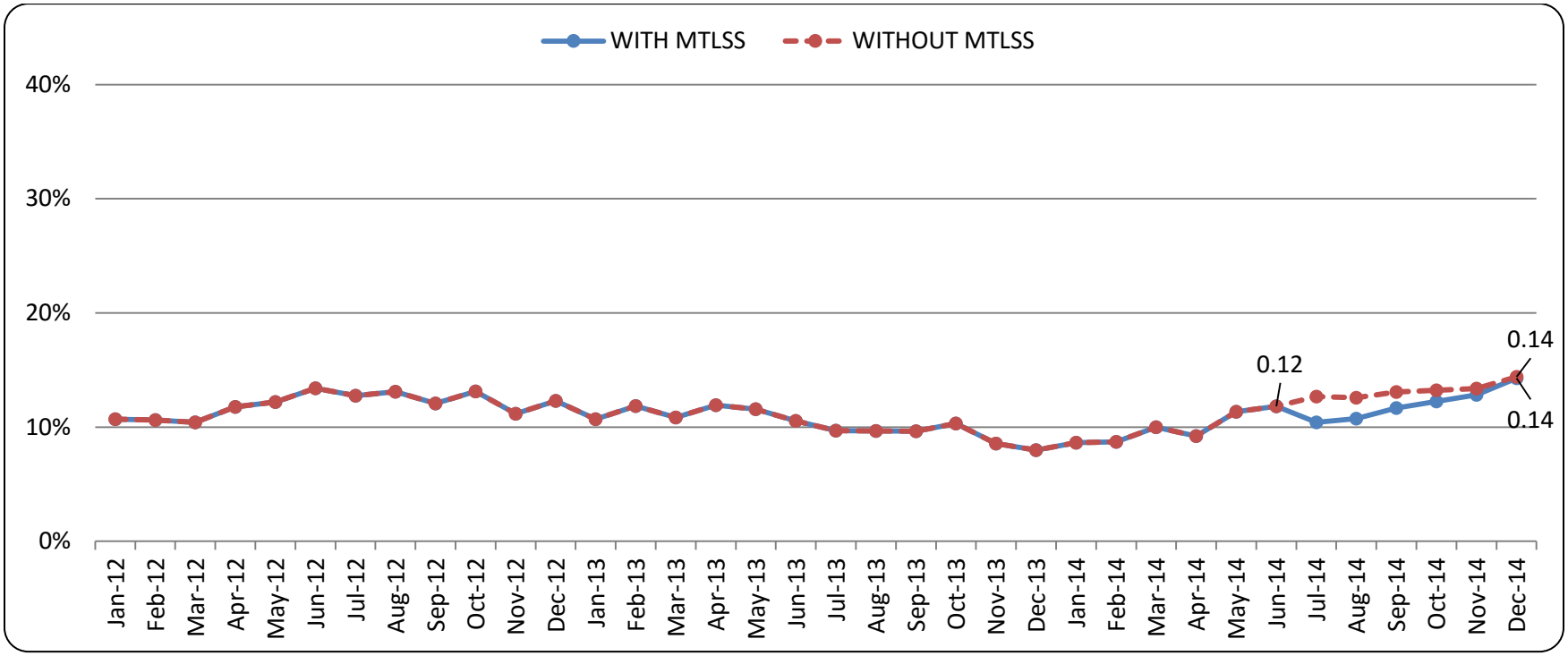

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.

**Figure 3B.9: Regression-based probability of 30-day readmission following acute myocardial infarction hospitalizations with and without MLTSS effect among the Medicaid managed care population**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.

**Figure 3B.10: Regression-based probability of 30-day readmission following pneumonia hospitalizations with and without MLTSS effect among the Medicaid managed care population**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.

**Table 3B.7: Unadjusted MLTSS impact on 30-day hospital readmission rates among the HCBS population**

| | non-LTC ABD | | HCBS | | Unadjusted Difference in Differences* |
|---|---|---|---|---|---|
| | pre-MLTSS | post-MLTSS | pre-MLTSS | post-MLTSS | |
| **Readmission Type** | *(a)* | *(b)* | *(c)* | *(d)* | |
| Hospital-wide | 15.4% | 15.2% | 8.8% | 7.1% | -1.4 |
| Heart failure | 18.3% | 16.9% | 8.7% | 9.5% | 2.2 |
| Acute myocardial infarction | 12.4% | 11.1% | 4.5% | ** | |
| Pneumonia | 12.0% | 11.5% | 5.9% | 16.1% | 10.7 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.

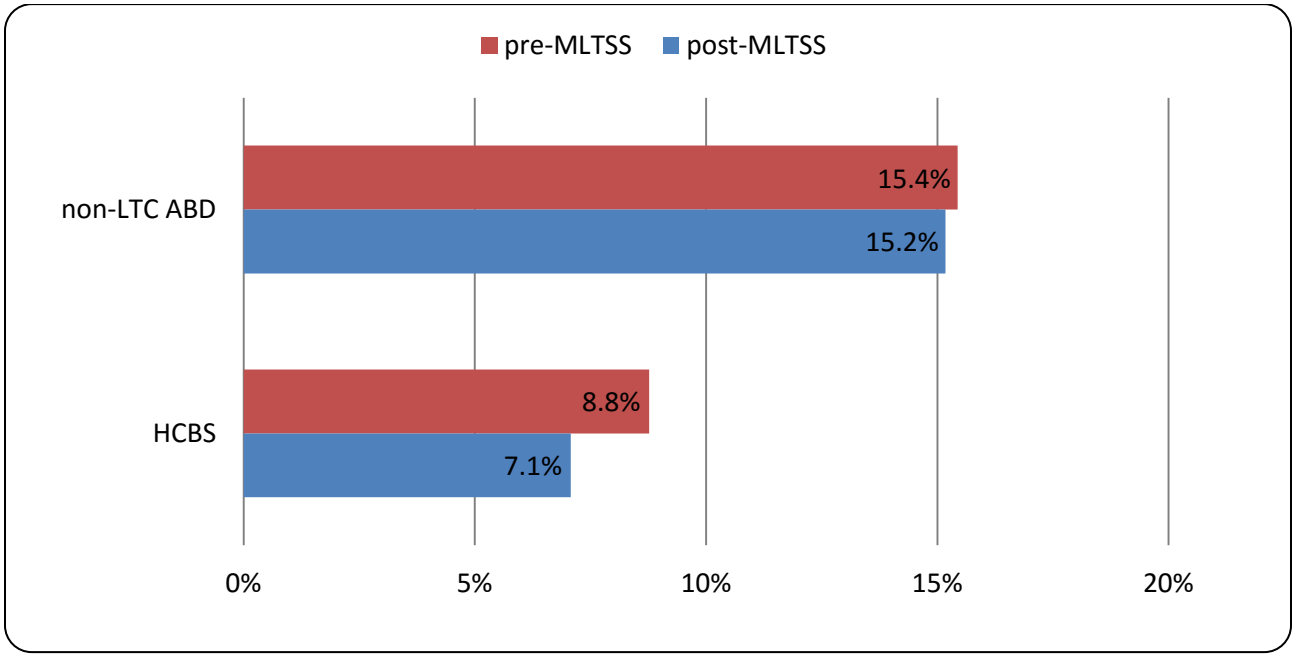
Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled.

Not adjusted for beneficiary or provider characteristics.

*Calculated as [*d*-*c*]-[*b*-*a*]; Units of unadjusted difference in differences is a percentage point change.

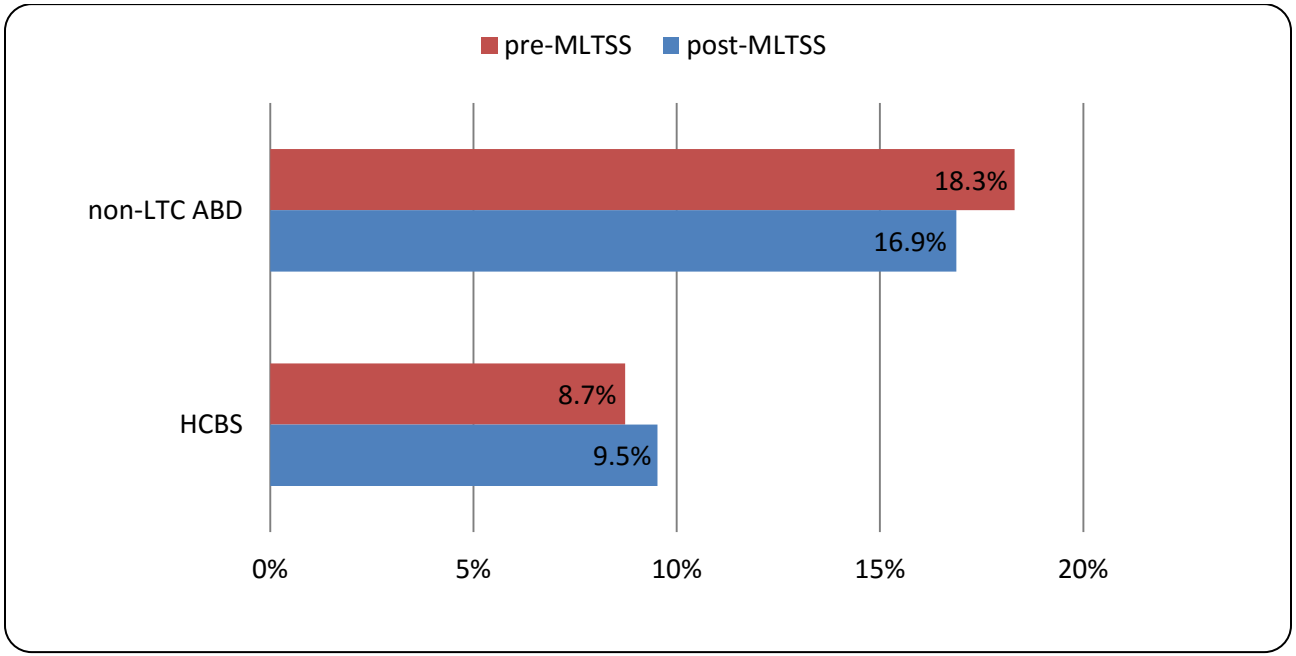
**Estimate suppressed due to insufficient sample size.

**Figure 3B.11: Thirty-day hospital-wide readmission rates among HCBS beneficiaries and a comparison population during the pre- and post-MLTSS periods**



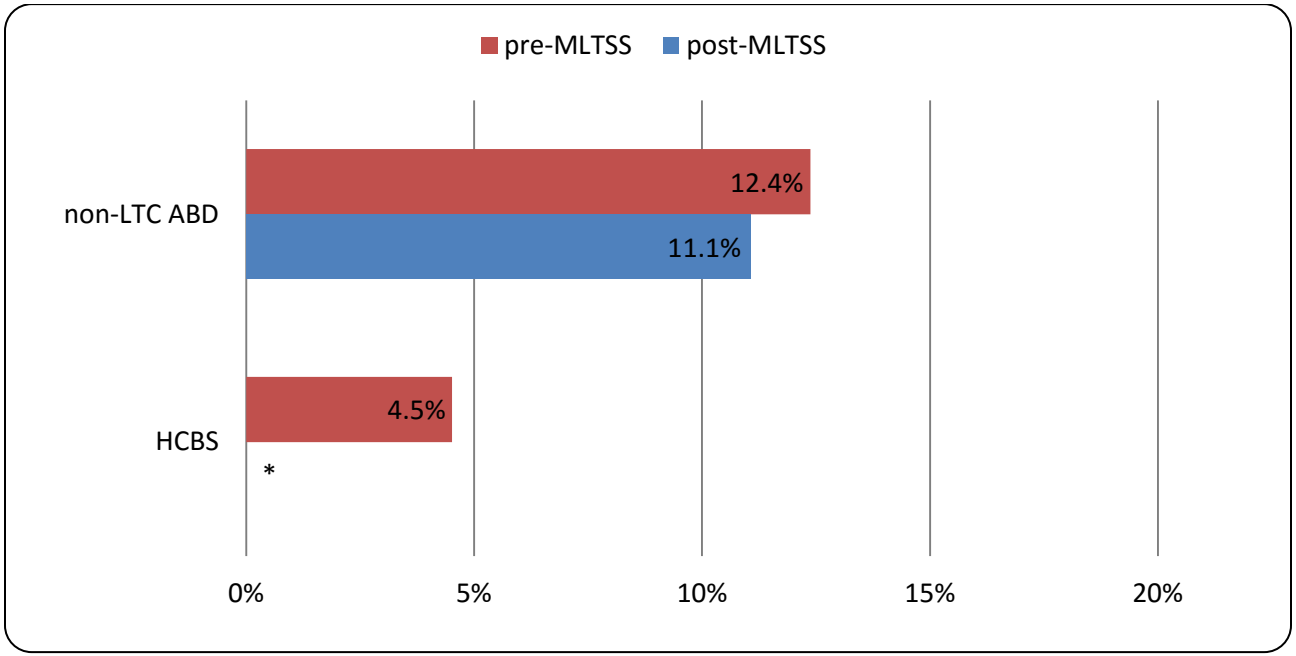

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled.

**Figure 3B.12: Thirty-day heart failure readmission rates among HCBS beneficiaries and a comparison population during the pre- and post-MLTSS periods**



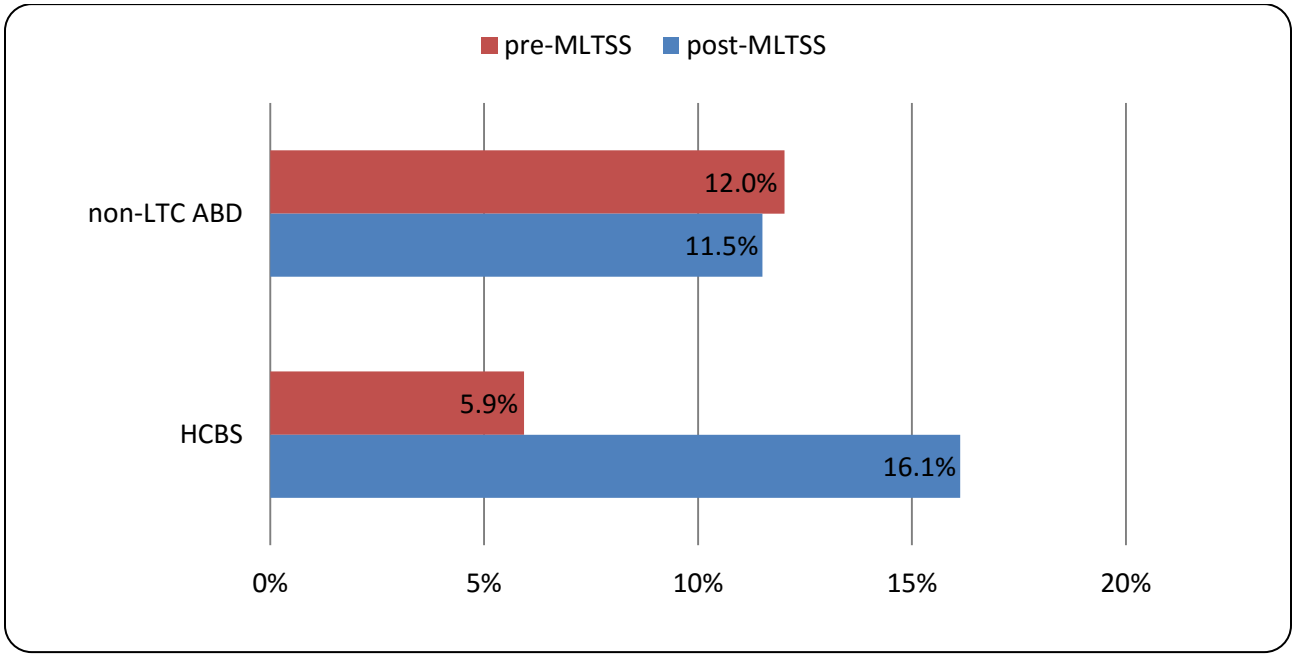

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled.

**Figure 3B.13: Thirty-day AMI readmission rates among HCBS beneficiaries and a comparison population during the pre- and post-MLTSS periods**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: AMI=Acute Myocardial Infarction; HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled.
*Post-MLTSS estimate for the HCBS population suppressed due to insufficient sample size.

**Figure 3B.14: Thirty-day pneumonia readmission rates among HCBS beneficiaries and a comparison population during the pre- and post-MLTSS periods**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled.

**Table 3B.8: Adjusted MLTSS impact on hospital readmission rates among the HCBS population**

| MLTSS Impact Estimates | Hospital-Wide *(n=132,791)* | Heart Failure *(n=5,938)* | AMI *(n=2,011)* | Pneumonia *(n=4,798)* |
|---|---|---|---|---|
| HCBS * Post-MLTSS | -0.00428 | 0.05633 | 0.05124 | 0.11282* |
| | (0.013) | (0.048) | (0.079) | (0.059) |

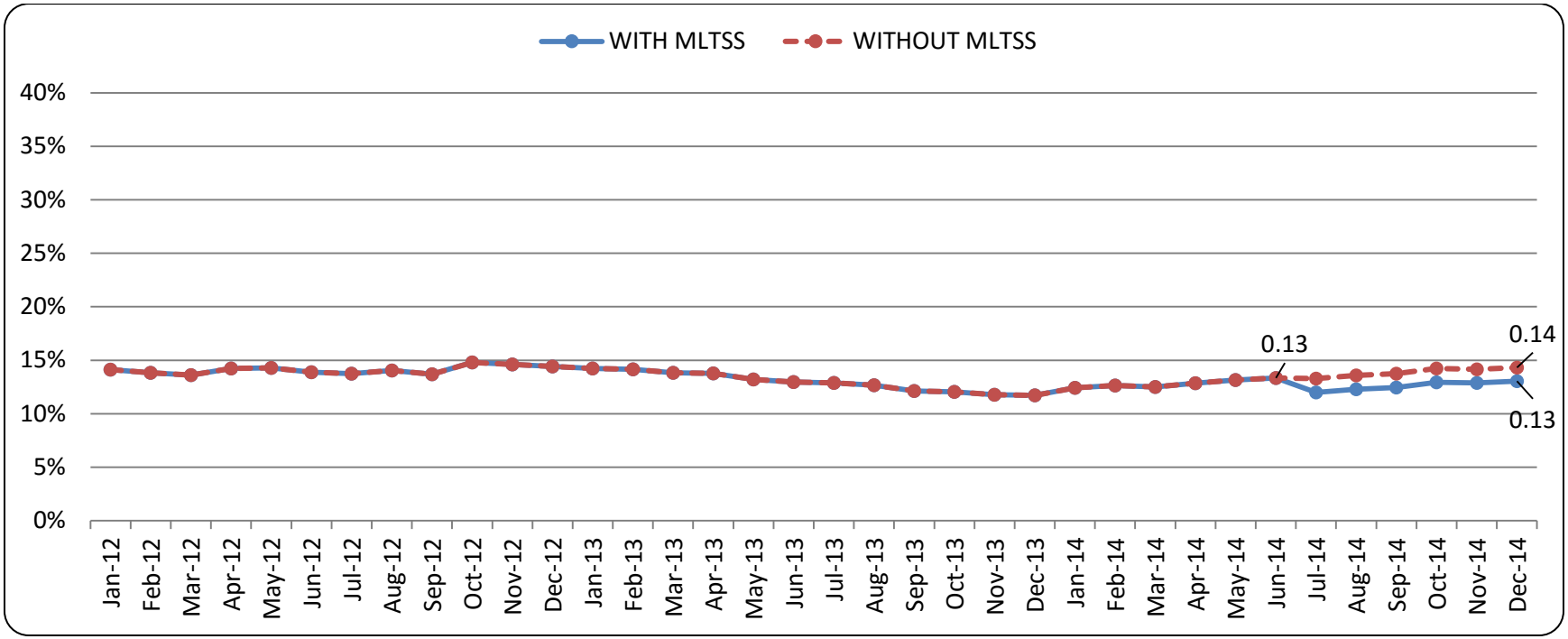
Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: AMI=Acute Myocardial Infarction; HCBS=Home and Community-Based Services.
Hospital readmissions for initial index hospitalizations that may be all-cause or related to heart failure, AMI, or pneumonia.
Discharge level difference-in-differences regression analysis with hospital fixed effects.
Models adjusted for sex, elderly status, monthly time trends, waiver initiation, Medicaid expansion, and all condition-specific risk factors listed in Appendix F.
Shaded estimates are based on small sample sizes that may affect the reliability of these estimates.
Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

**Table 3B.9: MLTSS impact on hospital-wide readmissions among the Medicaid managed care population with a behavioral health condition**

| MLTSS Impact Estimates | Hospital-Wide Readmissions *(n=133,906)* |
|---|---|
| mltss_post | -0.01303* |
| | (0.007) |
| mltss_time | 0.00006 |
| | (0.002) |
| mltss_post and mltss_time | |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Discharge-level segmented regression analysis with hospital fixed effects.
Models adjusted for sex, elderly status, monthly time trends, waiver initiation, Medicaid expansion, and all condition-specific risk factors listed in Appendix F.
Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

**Figure 3B.15: Regression-based probability of 30-day readmission following all-cause hospitalizations with and without MLTSS effect for the Medicaid managed care population with a behavioral health condition**



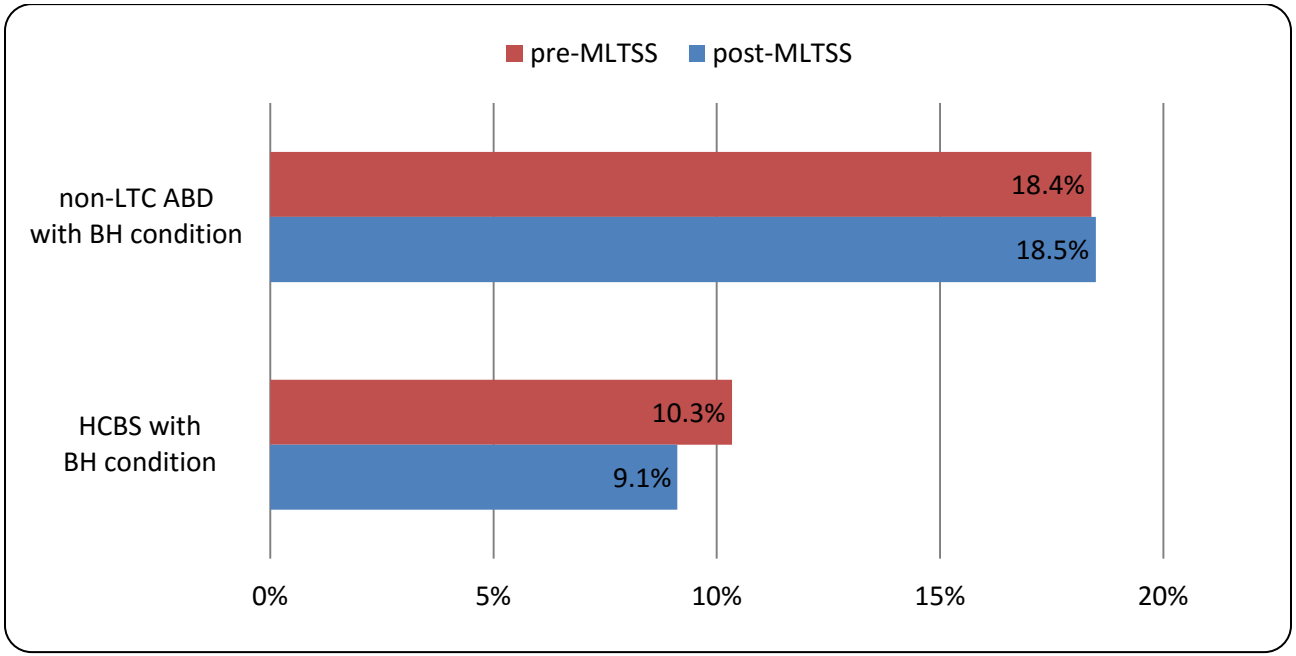

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.

**Table 3B.10: Unadjusted MLTSS impact on 30-day hospital-wide readmission rates among the HCBS population with a behavioral health condition**

| | non-LTC ABD with a BH condition | | HCBS with a BH condition | | Unadjusted Difference in Differences* |
|---|---|---|---|---|---|
| | pre-MLTSS | post-MLTSS | pre-MLTSS | post-MLTSS | |
| | *(a)* | *(b)* | *(c)* | *(d)* | |
| Hospital-wide readmissions | 18.4% | 18.5% | 10.3% | 9.1% | -1.3 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled; BH=Behavioral Health.
Not adjusted for beneficiary or provider characteristics.
*Calculated as [*d*-*c*]-[*b*-*a*]; Units of unadjusted difference in differences is a percentage point change.

**Figure 3B.16: Thirty-day hospital-wide readmission rates among HCBS beneficiaries and a comparison population with a behavioral health condition during the pre- and post-MLTSS periods**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled; BH=Behavioral Health.

**Table 3B.11: Adjusted MLTSS impact on hospital-wide readmission rates among the HCBS population with a behavioral health condition**

| MLTSS Impact Estimate | Hospital-Wide Readmissions *(n=92,273)* |
|---|---|
| HCBS * Post-MLTSS | -0.00203 |
| | (0.019) |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.

Notes: Discharge level difference-in-differences regression analysis with hospital fixed effects.

Models adjusted for sex, elderly status, monthly time trends, waiver initiation, Medicaid expansion, and all condition-specific risk factors listed in Appendix F.

Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

**Table 3B.12: MLTSS impact on follow-up after mental illness hospitalization among the Medicaid managed care population**

| **MLTSS Impact Estimates** *(n=33,557)* | **Follow-up within 7 days** | **Follow-up within 30 days** |
|---|---|---|
| mltss_post | 0.00798 | -0.01467 |
| | (0.016) | (0.021) |
| mltss_time | -0.00690 | -0.01182** |
| | (0.004) | (0.005) |
| mltss_post and mltss_time | | ** |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.

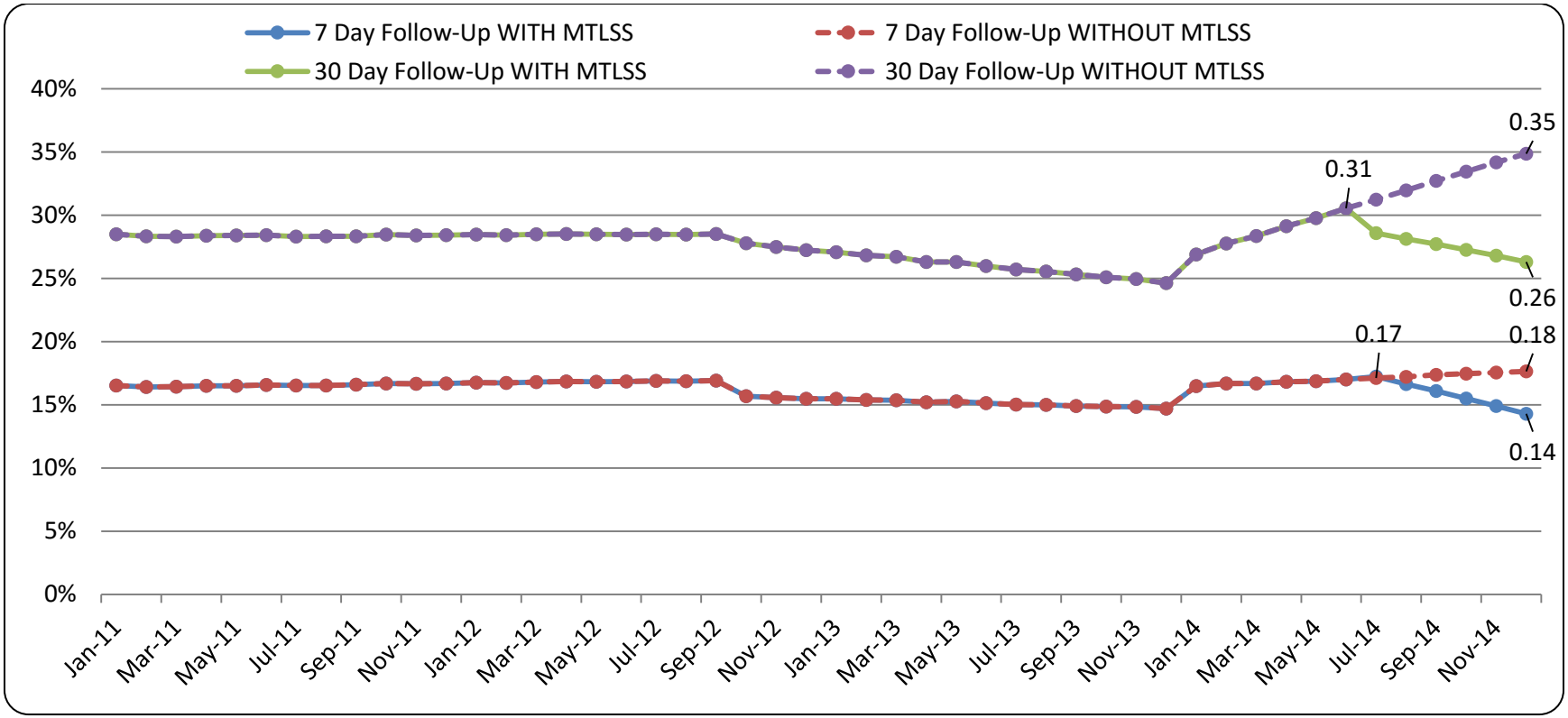
Notes: Discharge-level segmented regression analysis with hospital fixed effects.

Models adjusted for sex, elderly status, monthly time trends, waiver initiation, Medicaid expansion, and CDPS risk score category.

Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

**Figure 3B.17: Regression-based rates of follow-up after mental illness hospitalization with and without MLTSS effect**



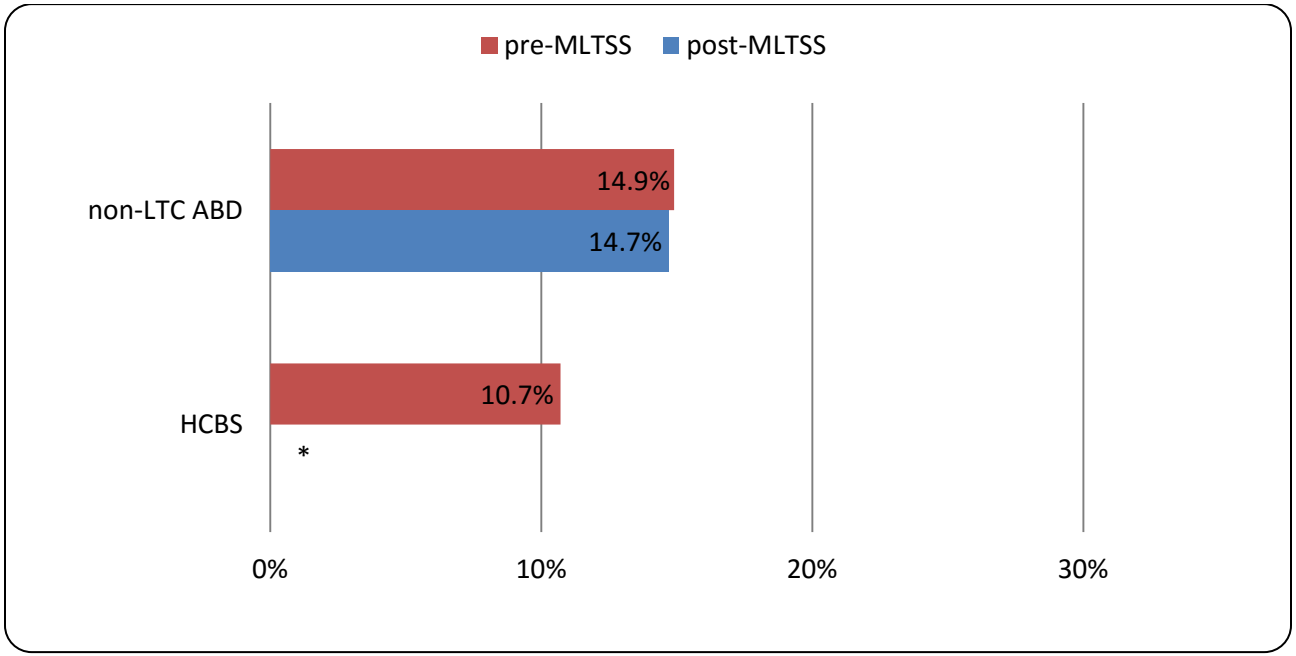

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.

**Table 3B.13: Unadjusted MLTSS impact on follow-up after mental illness hospitalization among the HCBS population**

| | non-LTC ABD | | HCBS | | Unadjusted Difference in Differences* |
|---|---|---|---|---|---|
| | pre-MLTSS *(a)* | post-MLTSS *(b)* | pre-MLTSS *(c)* | post-MLTSS *(d)* | |
| Follow-up within 7 days | 14.9% | 14.7% | 10.7% | ** | ** |
| Follow-up within 30 days | 26.4% | 26.7% | 19.3% | ** | ** |

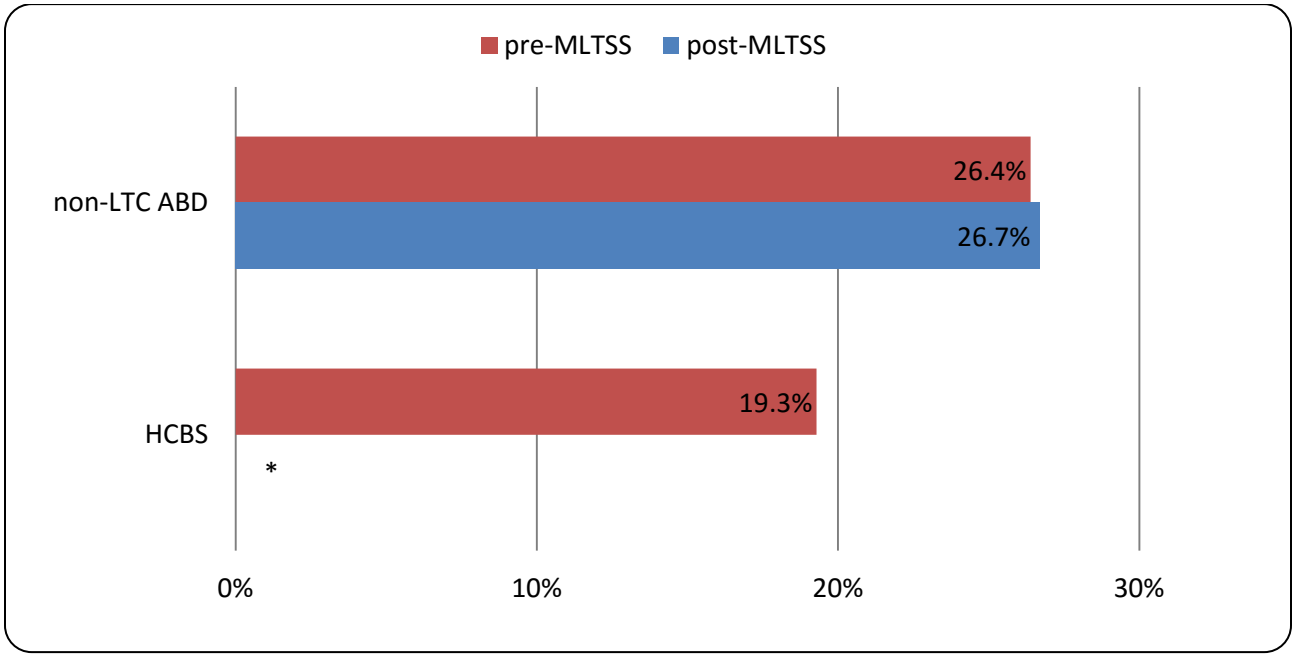
Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled.
Not adjusted for beneficiary and provider characteristics.
*Calculated as [*d*-*c*]-[*b*-*a*]; Units of unadjusted difference in differences is a percentage point change.
**Estimate suppressed due to insufficient sample size.

**Figure 3B.18: Seven-day follow-up after mental illness hospitalization among HCBS beneficiaries and a comparison population during the pre- and post-MLTSS periods**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled
*Post-MLTSS estimate for the HCBS population suppressed due to insufficient sample size.

**Figure 3B.19: Thirty-day follow-up after mental illness hospitalization among HCBS beneficiaries and a comparison population during the pre- and post-MLTSS periods**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled
*Post-MLTSS estimate for the HCBS population suppressed due to insufficient sample size.

**Table 3B.14: Adjusted MLTSS impact on follow-up after mental illness hospitalization among the HCBS population**

| **MLTSS Impact Estimates** *(n=20,044)* | **Follow-up within 7 days** | **Follow-up within 30 days** |
|---|---|---|
| HCBS * Post-MLTSS | 0.16913 | 0.08933 |
| | (0.232) | (0.222) |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.

Notes: HCBS=Home and Community-Based Services.

Discharge level difference-in-differences regression analysis with hospital fixed effects.

Models adjusted for sex, elderly status, monthly time trends, waiver initiation, Medicaid expansion, and CDPS risk score category.

Shaded estimates are based on small sample sizes that may affect the reliability of these estimates.

Robust standard errors in parentheses.

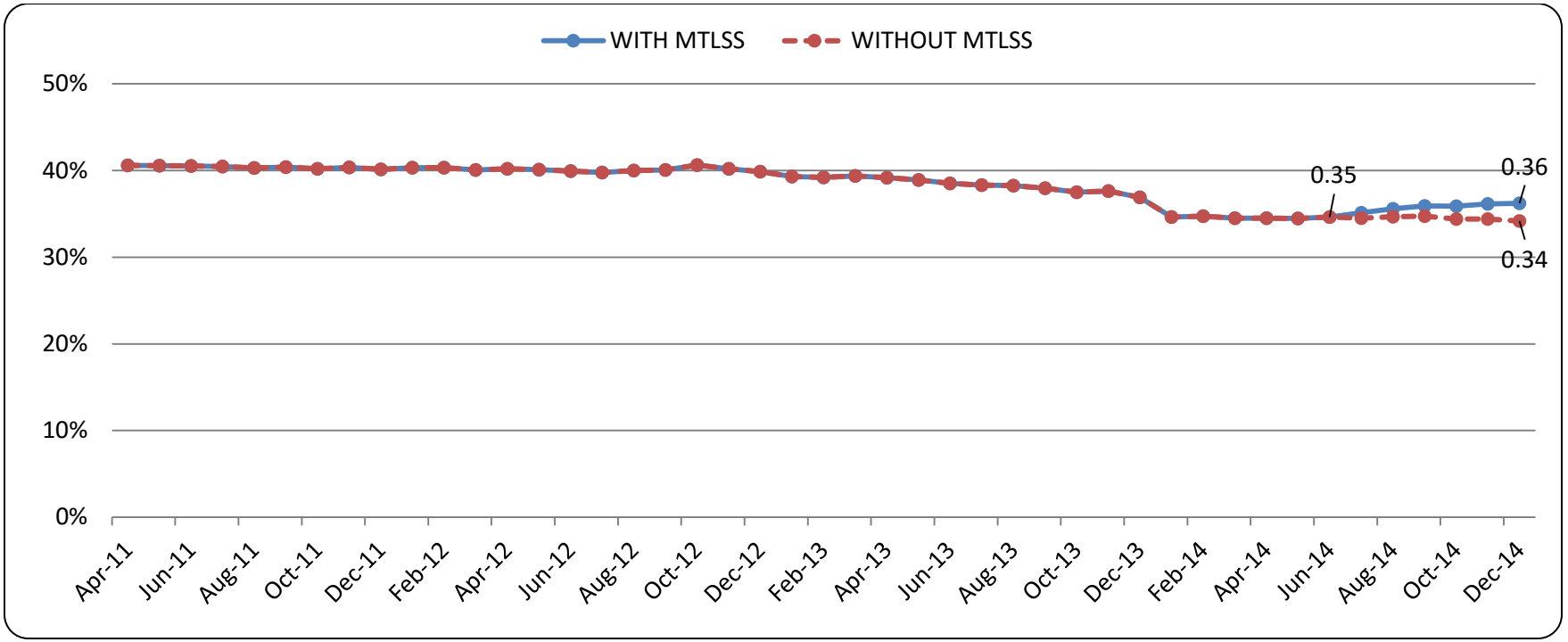
*** p<0.01, ** p<0.05, * p<0.1

**Table 3B.15: MLTSS impact on 14-day ambulatory visit rates after hospitalization among the Medicaid managed care population**

| MLTSS Impact Estimates | Visit 14 Days After Discharge Home *(n=191,313)* |
|---|---|
| mltss_post | 0.00318 |
| | (0.008) |
| mltss_time | 0.00287 |
| | (0.003) |
| mltss_post and mltss_time | |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Discharge-level segmented regression analysis with hospital fixed effects.
Models adjusted for sex, elderly status, monthly time trends, waiver initiation, Medicaid expansion, and CDPS risk score category.
Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

**Figure 3B.20: Regression-based 14-day ambulatory visit rates after hospitalization with and without MLTSS effect**



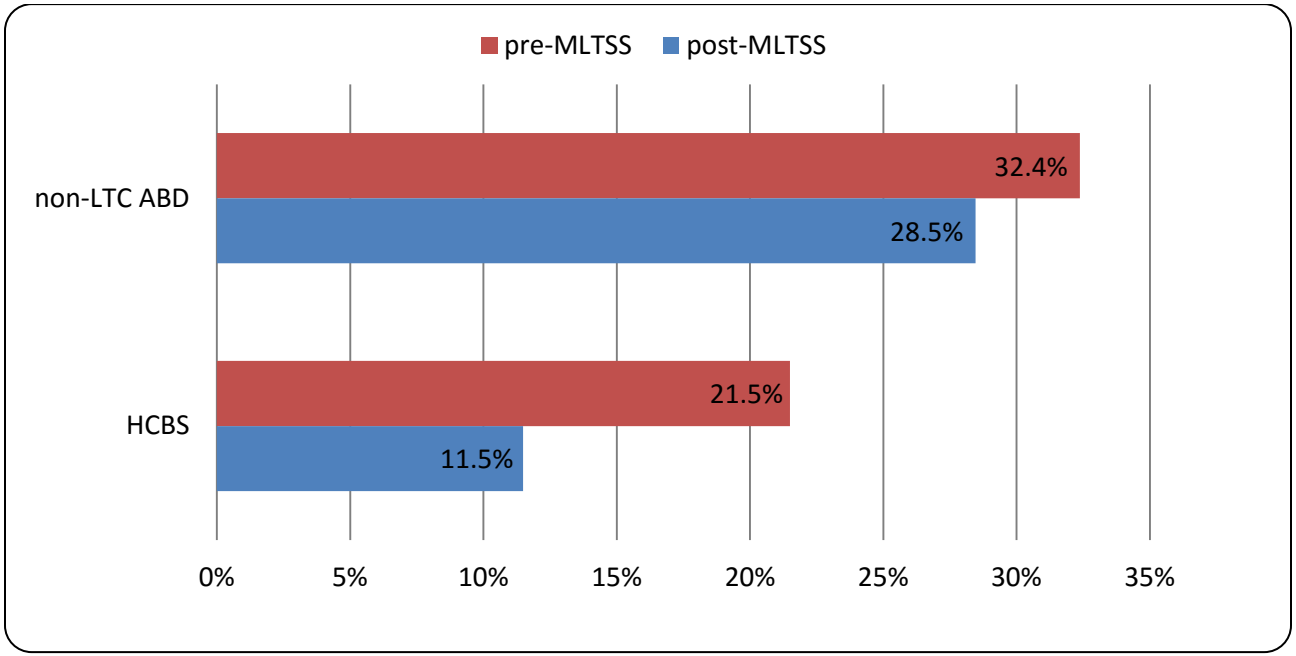

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.

**Table 3B.16: Unadjusted MLTSS impact on 14-day ambulatory visit rates after hospitalization among the HCBS population**

| | non-LTC ABD | | HCBS | | Unadjusted Difference in Differences* |
|---|---|---|---|---|---|
| | pre-MLTSS *(a)* | post-MLTSS *(b)* | pre-MLTSS *(c)* | post-MLTSS *(d)* | |
| **Ambulatory visit 14 days after discharge home** | 32.4% | 28.5% | 21.5% | 11.5% | -6.1 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled.
Not adjusted for beneficiary and provider characteristics.
*Calculated as [*d*-*c*]-[*b*-*a*]; Units of unadjusted difference in differences is a percentage point change.

**Figure 3B.21: Ambulatory visit 14 days after hospitalization among HCBS beneficiaries and a comparison population during the pre- and post-MLTSS periods**




Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled.

**Table 3B.17: Adjusted MLTSS impact on ambulatory visit rates after hospitalization among the HCBS population**

| MLTSS Impact Estimate | Ambulatory Visit 14 Days After Discharge Home *(n=106,169)* |
|---|---|
| HCBS * Post-MLTSS | -0.05495*** |
| | (0.017) |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: HCBS=Home and Community-Based Services.
Discharge level difference-in-differences regression analysis with hospital fixed effects.
Models adjusted for sex, elderly status, monthly time trends, waiver initiation, Medicaid expansion, and CDPS risk score category.
Significant difference in pre-trends between HCBS and comparison group equaling -0.001
Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

# Discussion

In contrast to previous chapters where the data come from secondary sources, here we utilized Medicaid claims to calculate a set of metrics that capture the effect of specific waiver policies. These data are particularly valuable since in addition to calculating these measures, we are able to account for individual, provider, and area characteristics, and time periods while identifying the effect of policies on outcomes. For instance, while examining Research Question 1a, we are able to examine changes in outcomes for the months immediately after implementation of specific policies that allows identification of their effects and in addition account for the changes in beneficiary characteristics that occurs after the Medicaid expansion policy. Similarly, for Research Question 1b, claims-level information allows us to examine changes in outcome for the targeted LTC population before and after policy implementation and further compare these changes to our defined comparison group so that we can control for underlying trends in outcomes not connected to the policy effect.

For identifying the policy effects on the targeted LTC population and also the overall managed care population, we examined a broad range of outcomes for specific groups of Medicaid beneficiaries that relate to distinct aspects of care. Examples include avoidable inpatient hospitalizations and ED visits that arise due to inadequate ambulatory or primary care in the community; hospital readmissions overall and for specific diseases that reflect potentially inadequate inpatient care and lack of care coordination; follow-up after mental illness hospitalizations that examines similar issues specifically for individuals with behavioral health conditions; and ambulatory visit rates that reflect the quality of care transitions. We also construct several spending-related measures to see potential changes in distribution of spending over time and across places-of-care.

**Descriptive Results**

Our descriptive analysis examines mostly annual changes in measures from 2011 to 2014. While these trends may broadly indicate effects on the overall managed care population or the HCBS population, it is important to remember that these are not adjusted for changing beneficiary characteristics (subsequent to the Medicaid expansion) or underlying trends in outcomes unrelated to the policy. The value of these findings lie in outlining the levels of different measures (as opposed to magnitude of changes) for our years of analysis as well as specific eligibility groups. Partitioning our analysis into separate outcomes and distinct groups of Medicaid beneficiaries sheds light on whether the effects vary based on the aspect of care or specific Medicaid beneficiary characteristics which informs the current evaluation initiative as well as future rounds of policy formulation.

Some results also help establish baseline quality of care for individuals with behavioral health conditions prior to potential changes in care delivery for this population. We will highlight a few key findings.

Rates of avoidable inpatient hospitalizations were the highest among the LTC population receiving HCBS services and among them, those with behavioral health conditions. This makes this metric particularly important for examining changes in quality of care in this population. Rates of avoidable inpatient and ED visits were generally lowest in 2014 and this may at least partially be due to a decreasing trend that started in 2012. This highlights the utility of our regression models that account for pre-policy implementation trends.

Unlike avoidable inpatient hospitalizations, hospital readmissions were less prevalent among the HCBS population than among Medicaid managed care beneficiaries overall.

We also found that most of the total spending for Medicaid beneficiaries overall is related to non-hospital spending. Thus, while a decrease in avoidable inpatient hospitalizations and ED visits may signify better community-level care, it may not necessarily impact total spending in these populations. The spending estimates are also useful for examining the distribution of LTC spending across the different categories of spending by NF residents and HCBS beneficiaries. The bulk of spending related to the LTC population across 2011-2014 is accounted for by the NF LTSS spending. Focusing on policies to keep beneficiaries in the community and rebalancing spending is a promising strategy to control costs.

**Adjusted Analysis: Overall Managed Care Population**

For examining the effect of the managed care expansion on the overall managed care population our regression-based statistical analysis examined changes in outcomes since MLTSS implementation, but additionally accounted for underlying trends arising from previous policy changes such as the waiver implementation, and the Medicaid expansion.

Examining avoidable inpatient hospitalizations and avoidable ED visits we found neither exhibited consistent positive nor negative effects. There was an immediate decrease subsequent to MLTSS implementation (corresponding to about a 9% decline over baseline in the likelihood of an avoidable hospitalization in a quarter and a 15% decline over baseline in the number of avoidable ED visits per beneficiary per quarter) and then an increasing trend over the 6 months of implementation. While statistically significant, the absolute value of the rate decrease is very small. Further the increasing trend erodes the decrease in rates immediately after implementation.

For all four categories of hospital readmissions pertaining to the overall group of managed care beneficiaries, our analysis indicates a decrease in a managed care beneficiary's probability of a readmission subsequent to the MLTSS implementation, but only the decline related to hospital-wide readmissions is statistically significant. Hospital-wide readmissions also significantly decreased for those with behavioral health conditions. Overall the readmission effects suggest no worsening of overall managed care quality, in fact some potential improvements may have occurred, not all of which can be statistically verified.

Examination of follow-up after hospitalizations yielded mixed results. There is a statistically significant decrease in 30-day follow up after mental illness hospitalizations post-MLTSS, but a small and non-significant increase in ambulatory visits 14 days after discharge. It is likely that MLTSS effects on continuity of care vary across different patient groups.

Overall, there were no negative effects on access to care for the managed care population during the first six months of MLTSS implementation, but nor were there any definitive positive effects. The decrease in avoidable inpatient hospitalizations and avoidable ED visits immediately after implementation were of very small magnitude, although significant statistically. In terms of quality, efficiency, and coordination of care, decreases in readmission rates suggest improvements, further supported by small increases in ambulatory visits after discharge, though only the drop in hospital-wide readmission rates is significant. In terms of behavioral health quality, we see mixed results. Hospital-wide readmissions improved for individuals with behavioral health conditions, as they did for all managed care beneficiaries, as a result of MLTSS, but mental health-specific follow-up care after a hospitalization for mental illness showed a significant decline. This is the only significant negative impact observed for the entire managed care population coincident with MLTSS implementation.

**Adjusted Analysis: HCBS Population**

We examined the effect of the MLTSS policy on the HCBS population that transitioned to managed care on July 1, 2014. The effects on ambulatory/primary care are ambiguous since results differ based on place of treatment – the likelihood of avoidable hospitalizations per quarter decreased by about 8% and avoidable ED visits increased by about 10% per beneficiary per quarter for the HCBS population. Both these changes were statistically significant. However, the per-person costs related to such hospitalizations moved in the opposite direction. This implies that the avoidable inpatient stays became less likely, but more expensive, and the avoidable ED visits became more likely, but less expensive.

We find a large and marginally significant increase in 30-day readmissions following hospitalization for pneumonia among the HCBS population, and increases in AMI and HF

readmissions which are not statistically significant. This points to potential issues related to care coordination for HCBS beneficiaries hospitalized for pneumonia under MLTSS.

There was a substantial, but not statistically significant, increase in follow-up rates after mental illness hospitalizations, but the reliability of this finding is questionable due to small sample size. There was a statistically significant decrease in the likelihood of ambulatory visit after hospitalization. Based on the trends reported above, trends in these measures were in opposite direction to the overall managed care population.

In summary, access to care and quality of care for the HCBS population showed no definitive positive impacts due to the first six months of MLTSS implementation. The probability of avoidable inpatient hospitalizations declined slightly in magnitude but these hospitalizations also became more expensive. Consistently, metrics relating to post-discharge care following hospitalizations for medical conditions worsened, though most of these results also did not reach conventional levels of statistical significance. In terms of the managed care carve-in of behavioral health for the HCBS population under MLTSS, hospital-wide readmissions among those with a behavioral health condition declined, but the effect was neither substantial nor statistically significant. Follow-up after mental illness hospitalizations did show improvements, but the effects were not statistically significant and the model based on too small of a sample to be reliable. Additional data extending beyond the first six months of the post-MLTSS period will help us determine whether any of these findings persist or strengthen to the point that they can be conclusively considered MLTSS policy effects.

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# Appendix A: Description of Measures

*Inpatient Utilization and Emergency Department Visits:* These measures assess the extent to which individuals receive inpatient hospital treatment or seek ambulatory care in the emergency department because of pregnancy and childbirth, for surgery, or for nonsurgical medical treatment. These measures of service use gather information about the provision of care to individuals and how organizations managing that care use and allocate resources. Use of inpatient and emergency department services is affected by many member characteristics such as age, sex, health, and socioeconomic status.

Our preparation of these metrics considers utilization at any general acute care hospital, inside or outside NJ. The costs associated with all identified inpatient and emergency department visits are also aggregated by beneficiary.

*Ambulatory Care Sensitive (ACS) Inpatient Hospitalizations and Avoidable/Preventable Emergency Department Visits:* We calculate rates of ACS inpatient (IP) hospitalizations and avoidable treat-and-release ED visits that may occur due to inadequate ambulatory/primary care within communities. Avoidable hospitalizations have been widely used in previous research to measure access to primary care, and disparities in health outcomes (Basu, Friedman, and Burstin 2004; Billings et al. 1993; Bindman et al. 1995; Howard et al. 2007). The federal Agency for Healthcare Research and Quality (AHRQ) provides validated programming algorithms to calculate rates of avoidable ACS hospitalizations which are used in this analysis. These are known as the Prevention Quality Indicators (PQI) for adults (ages 18 and above) and Pediatric Quality Indicators for children (ages 6-17). Appendix B gives a list of ACS conditions that constitute a composite index that measures the overall rate of avoidable IP hospitalizations per unit of population. Appendix B also lists the constituents of the two other composite indicators (based on acute and chronic conditions).

We also calculate avoidable treat-and-release ED visits based on the methodology provided by the New York University, Center for Health and Public Service Research (Billings, Parikh, and Mijanovich 2000), which are part of AHRQ's Safety Net Monitoring Toolkit. These comprise three categories of avoidable ED visits that could have been treated in an outpatient primary care setting or could have been prevented with timely access to primary care. Detailed definitions of these classifications are provided with examples in Appendix C.

Our preparation of these metrics considers utilization at any general acute care hospital, inside or outside NJ. The costs associated with all identified avoidable inpatient and emergency department visits are also aggregated by beneficiary.

*Readmissions:* Because hospital readmissions can result from poor quality of care or inadequate transitional care, 30-day readmissions metrics are used to broadly measure the quality of care delivered by hospitals (Benbassat and Taragin 2000; Jencks, Williams, and Coleman 2009). Such 'potentially preventable' readmissions are defined as readmission for any cause within 30 days of the discharge date for the index hospitalization, excluding a specified set of planned readmissions. While readmissions rates have been most heavily utilized to assess quality for the Medicare population, calculating these measures among the Medicaid population has received growing attention (Trudnak et al. 2014). The readmissions metrics we calculate (all-cause, heart failure, pneumonia, and acute myocardial infarction) are endorsed by the National Quality Forum (NQF) and are adapted from the 2014 Centers for Medicare and Medicaid Services methodology available at QualityNet.[80]

We consider index admissions and readmissions at any general acute care hospital, inside or outside NJ. In accordance with specifications for all Centers for Medicare and Medicaid Services (CMS) readmissions metrics, we required that the beneficiary be enrolled for 12 months prior to the index hospitalization (ignoring gaps of 45 days or less) to allow for sufficient claims history for risk-adjustment. Therefore, estimates for year 2011 could not be calculated due to this restriction.

*Follow-up After Hospitalization for Mental Illness:* Following an acute hospitalization for mental illness, it is recommended that patients have an outpatient visit with a mental health practitioner to ensure appropriate and regular follow-up therapy and medication monitoring. This measure is used to assess the percentage of discharges for members hospitalized for the treatment of selected mental health disorders that were followed by a qualifying visit with a mental health practitioner within 7 and 30 days. Our preparation of this measure considers index admissions at any general acute care hospital or short-term psychiatric hospital, inside or outside NJ. This measure is endorsed by the NQF and is part of the Medicaid Adult Core and Child Core Sets of Health Care Quality Measures.

We followed the National Committee of Quality Assurance's specifications for the calculation of this metric (NCQA 2014) with the exception that we identified follow-up visits for hospital discharges through December 31 of the calendar year (instead of through December 1) in order

[80] https://www.qualitynet.org.

to support time series regression analyses and were limited in our ability to identify partial hospitalizations which qualify as a follow-up visit due to the unavailability of the CMS place of service variable in our claims dataset.

Finally, since patients residing in medical facilities, such as a nursing homes, may have follow-up care provided within the facility itself, metrics relating to post-acute ambulatory care cannot be accurately calculated for this population if follow-up services are not billed separately within these facilities. Specifically, some care provided by physicians to NF residents in NJ are included in the facility per diem rate and thus claims are not generated for these services. Therefore, populations in nursing facilities or intermediate care facilities were excluded from the analytic population when conducting regression analyses on this metric.

*Ambulatory Care Visit 14 Days After Discharge:* Motivated by research showing that readmissions and ED visits are less likely to occur if patients are seen by a primary clinician or specialist shortly after discharge, this measure assesses the frequency of clinician follow-up visits within 14 days after patients are discharged from the hospital for medical conditions. It was developed by the Dartmouth Atlas Project for use in the Medicare population. Using their methodology and adapting it for the Medicaid claims data, access to ambulatory care is assessed among all discharges and then separately for discharges home (with or without home health services), to facility-based rehabilitation (SNFs, inpatient rehabilitation facilities, long-term acute care hospitals), and to other facilities (such as an intermediate care facility) (Goodman, Fisher, and Chang 2011).

In our preparation of this measure, we consider discharges from only general acute care hospitals in NJ. Hospitalizations outside NJ could not be included because this measure requires identification of medical discharges from AP-DRG billing codes. Hospitals in other states may use different DRG systems to which our crosswalk would not apply. Also, this measure requires a negative 90-day hospitalization history. Our claims database begins on January 1, 2011 so this negative history could not be established for hospitalizations in the first three months of 2011. Therefore, this metric was only based on April through December in year 2011.

Finally, since patients residing in medical facilities, such as a nursing homes, may have follow-up care provided within the facility itself, metrics relating to post-acute ambulatory care cannot be accurately calculated for this population if follow-up services are not billed separately within these facilities. Specifically, some care provided by physicians to NF residents in NJ are included in the facility per diem rate and thus claims are not generated for these services. Therefore, populations in nursing facilities or intermediate care facilities were excluded from the analytic population when conducting regression analyses on this metric.

*Behavioral Health Comorbidities:* Behavioral health comprises two mutually exclusive categories: problems related to mental health (MH) and substance use disorders/substance abuse (SA). We adapt the Agency for Health Care Research and Quality (AHRQ) Clinical Classification Software (CCS) to identify BH problems among Medicaid beneficiaries. The software uses information from ICD-9-CM diagnosis and procedure codes to classify hospital discharges into a number of clinically meaningful disease categories (HCUP 2014). Mental health conditions include mood disorders; schizophrenia; anxiety disorder; delirium; dementia and substance abuse includes alcohol and substance-related disorders (See Appendix E for details).

# Appendix B: AHRQ Prevention Quality Indicators and Pediatric Quality Indicators – Composites and Constituents

| | |
|---|---|
| **Overall Composite (PQI #90)** | |
| PQI #01 Diabetes Short-Term Complications Admission Rate | PQI #11 Bacterial Pneumonia Admission Rate |
| PQI #03 Diabetes Long-Term Complications Admission Rate | PQI #12 Urinary Tract Infection Admission Rate |
| PQI #05 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate | PQI #13 Angina without Procedure Admission Rate |
| PQI #07 Hypertension Admission Rate | PQI #14 Uncontrolled Diabetes Admission Rate |
| PQI #08 Congestive Heart Failure (CHF) Admission Rate | PQI #15 Asthma in Younger Adults Admission Rate |
| PQI #10 Dehydration Admission Rate | PQI #16 Rate of Lower-Extremity Amputation Among Patients With Diabetes |
| **Acute Composite (PQI #91)** | |
| PQI #10 Dehydration Admission Rate | PQI #12 Urinary Tract Infection Admission Rate |
| PQI #11 Bacterial Pneumonia Admission Rate | |
| **Chronic Composite (PQI #92)** | |
| PQI #01 Diabetes Short-Term Complications Admission Rate | PQI #13 Angina without Procedure Admission Rate |
| PQI #03 Diabetes Long-Term Complications Admission Rate | PQI #14 Uncontrolled Diabetes Admission Rate |
| PQI #05 Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate | PQI #15 Asthma in Younger Adults Admission Rate |
| PQI #07 Hypertension Admission Rate | PQI #16 Rate of Lower-Extremity Amputation Among Patients With Diabetes |
| PQI #08 Congestive Heart Failure (CHF) Admission Rate | |

Source: Prevention Quality Indicators Technical Specifications - Version 5.0, March 2015; http://www.qualityindicators.ahrq.gov/Modules/PQI_TechSpec.aspx.

| **Overall Composite (PDI #90)** |
| --- |
| PDI #14 Asthma Admission Rate |
| PDI #15 Diabetes Short-Term Complications Admission Rate |
| PDI #16 Gastroenteritis Admission Rate |
| PDI #18 Urinary Tract Infection Admission Rate |

Source: Pediatric Quality Indicators Technical Specifications - Version 5.0, March 2015; http://www.qualityindicators.ahrq.gov/modules/PDI_TechSpec.aspx.

# Appendix C: Classification of Emergency Department Visits

| Type Description | Diagnoses |
|---|---|
| **Non-Emergent**: The patient's initial complaint, presenting symptoms, vital signs, medical history, and age indicated that immediate medical care was not required within 12 hours. | Headache, Dental disorder, Types of migraine |
| **Emergent, Primary Care Treatable:** Conditions for which treatment was required within 12 hours, but care could have been provided effectively and safely in a primary care setting. The complaint did not require continuous observation, and no procedures were performed or resources used that are not available in a primary care setting (e.g., CAT scan or certain lab tests) | Acute bronchitis, Painful respiration, etc. |
| **Emergent, ED Care Needed, Preventable/Avoidable:** Emergency department care was required based on the complaint or procedures performed/resources used, but the emergent nature of the condition was potentially preventable/avoidable if timely and effective ambulatory care had been received during the episode of illness | Flare-ups of asthma, diabetes, congestive heart failure, etc. |
| **Emergent, ED Care Needed, Not Preventable/Avoidable:** Emergency department care was required and ambulatory care treatment could not have prevented the condition | Trauma, appendicitis, myocardial infarction |

The first three categories are considered to be avoidable/preventable.
Type descriptions taken from http://wagner.nyu.edu/faculty/billings/nyued-background.php.

# Appendix D: Long-Term Care Assignment Algorithms

*Monthly Assignment:* For every month in which a beneficiary had at least one day of active enrollment as determined by the effective dates of the Program Status Code, assignment to one of the following categories was implemented hierarchically: facility, home and community-based services (HBCS), or other. The rules for assignment were: If at least one claim showed up for a nursing facility (Category of Service=07) in the month or the post-MLTSS Special Program Code (SPC) for facility resident (61,63-67) was effective at least one day in the month, the month was assigned as NF (nursing facility). For the remaining beneficiary-months, if there was ever an active pre-MLTSS SPC in the month indicating the beneficiary was in one of the §1915(c) waiver programs (3,4,6=CRPD, 5=ACCAP, 17=TBI, 32,33=GO) or an active post-MLTSS SPC code in the month indicating home or community-based residence (60=community, 62=assisted living), the month was designated as HCBS. The remaining months fell into the 'Other' category. Any month classified as facility or HCBS was a long-term care month (LTC). Months in the 'Other' category were non-LTC.

*Quarterly Assignment*: For any beneficiary ever having at least one day of active enrollment in the quarter as determined by the effective dates of the Program Status Code, a quarterly assignment to either NF, HCBS, or non-LTC was implemented using the monthly assignment and a majority rule. In cases where there was no majority, assignment was hierarchical based on the order: NF, HCBS, non-LTC.

*Annual Assignment*: For any beneficiary ever having at least one day of active enrollment in the calendar year as determined by the effective dates of the Program Status Code, 'X' was the number of months designated as facility months in the monthly assignment. 'Y' was the number of months designated HCBS. If at least half of the beneficiary's enrolled months during that year had one of these LTC designations then the beneficiary was classified as part of the LTC population for that year. If less than half, then the beneficiary was non-LTC. Within the LTC population, 'X' and 'Y' were compared to make an annual assignment to either the facility or community. If 'X' was greater than or equal to 'Y' then the beneficiary was in the facility population for the entire year. If 'X' was less than 'Y' then the beneficiary was designated as being a LTC HCBS recipient.

# Appendix E: Definition of Mental Health and Substance Abuse

| **Mental Health** | |
|---|---|
| 5.1 | Adjustment disorders [650] |
| 5.2 | Anxiety disorders [651] |
| 5.3 | Attention deficit conduct and disruptive behavior disorders [652] |
| 5.3.1 | Conduct disorder [6521] |
| 5.3.2 | Oppositional defiant disorder [6522] |
| 5.3.3 | Attention deficit disorder and Attention deficit hyperactivity disorder [6523] |
| 5.4 | Delirium dementia and amnestic and other cognitive disorders [653] |
| 5.5 | Developmental disorders [654] |
| 5.5.1 | Communication disorders [6541] |
| 5.5.2 | Developmental disabilities [6542] |
| 5.5.3 | Intellectual disabilities [6543] |
| 5.5.4 | Learning disorders [6544] |
| 5.5.5 | Motor skill disorders [6545] |
| 5.6 | Disorders usually diagnosed in infancy childhood or adolescence [655] |
| 5.6.1 | Elimination disorders [6551] |
| 5.6.2 | Other disorders of infancy childhood or adolescence [6552] |
| 5.6.3 | Pervasive developmental disorders [6553] |
| 5.6.4 | Tic disorders [6554] |
| 5.7 | Impulse control disorders not elsewhere classified [656] |
| 5.8 | Mood disorders [657] |
| 5.8.1 | Bipolar disorders [6571] |
| 5.8.2 | Depressive disorders [6572] |
| 5.9 | Personality disorders [658] |
| 5.10 | Schizophrenia and other psychotic disorders [659] |
| 5.13 | Suicide and intentional self-inflicted injury [662] |
| 5.14.1 | Codes related to mental health disorders [6631] |
| 5.15 | Miscellaneous mental disorders [670] |
| 5.15.1 | Dissociative disorders [6701] |
| 5.15.2 | Eating disorders [6702] |
| 5.15.3 | Factitious disorders [6703] |
| 5.15.4 | Psychogenic disorders [6704] |
| 5.15.5 | Sexual and gender identity disorders [6705] |
| 5.15.6 | Sleep disorders [6706] |
| 5.15.7 | Somatoform disorders [6707] |
| 5.15.8 | Mental disorders due to general medical conditions not elsewhere classified [6708] |
| 5.15.9 | Other miscellaneous mental conditions [6709] |
| **Substance Abuse** | |
| 5.11 | Alcohol-related disorders [660] |
| 5.12 | Substance-related disorders [661] |
| 5.14.2 | Codes related to substance-related disorders [6632] |

Source: AHRQ Clinical Classification Software (CCS). Numbers in the first column denote multi-level CCS diagnostic categories. Numbers in the second column denote single-level categories.

# Appendix F: Risk-Adjustment Variables for Readmissions Metrics

For the 30-day readmission metrics, control variables for health status come from a full year of data prior to the index admission date and encompass clinically relevant comorbidities (not complications) that have strong relationships with readmission for the specific condition being analyzed.

**Heart Failure Readmissions**

| | |
|---|---|
| • Age<br>• Sex<br>• History of Coronary Artery Bypass Graft<br>• History of Percutaneous Transluminal Coronary Angioplasty<br>• Diabetes Mellitus (DM) or DM Complications<br>• Disorders of Fluid/Electrolyte/Acid-Base<br>• Iron Deficiency or Other Unspecified Anemias and Blood Disease<br>• Cardio-Respiratory Failure or Shock<br>• Congestive Heart Failure<br>• Vascular or Circulatory Disease<br>• Chronic obstructive pulmonary disease<br>• Pneumonia<br>• Renal Failure<br>• Other Urinary Tract Disorders<br>• Decubitus Ulcer or Chronic Skin Ulcer<br>• Other Gastrointestinal Disorders<br>• Acute Coronary Syndrome<br>• Valvular or Rheumatic Heart Disease | • Specified Arrhythmias<br>• Asthma<br>• Peptic Ulcer, Hemorrhage, Other Specified Gastrointestinal Disorders<br>• Cancer<br>• Drug/Alcohol Abuse/Dependence/Psychosis<br>• Major Psychiatric Disorders<br>• End-Stage Renal Disease or Dialysis<br>• Severe Hematological Disorders<br>• Nephritis<br>• Liver or Biliary Disease<br>• Metastatic Cancer or Acute Leukemia<br>• Stroke<br>• Dementia or Other Specified Brain Disorders<br>• Coronary Atherosclerosis or Angina<br>• Other or Unspecified Heart Disease<br>• Other Psychiatric Disorders<br>• Fibrosis of Lung or Other Chronic Lung Disorders<br>• Hemiplegia, Paraplegia, Paralysis, Functional Disability<br>• Depression |

**Acute Myocardial Infarction (AMI) Readmissions**

| | |
|---|---|
| • Age<br>• Sex<br>• History of Coronary Artery Bypass Graft<br>• History of Percutaneous Transluminal Coronary Angioplasty | • Vascular or Circulatory Disease<br>• Disorders of Fluid/Electrolyte/Acid-Base Coronary Atherosclerosis<br>• History of infection<br>• Cerebrovascular Disease |

**Acute Myocardial Infarction (AMI) Readmissions (continued)**

| | |
|---|---|
| • Diabetes Mellitus (DM) or DM Complications<br>• Iron Deficiency or Other Unspecified Anemias and Blood Disease<br>• Congestive Heart Failure<br>• Valvular or Rheumatic Heart Disease<br>• Chronic obstructive pulmonary disease<br>• End-Stage Renal Disease or Dialysis<br>• Other Urinary Tract Disorders<br>• Specified Arrhythmias<br>• Pneumonia<br>• Renal Failure | • Metastatic Cancer or Acute Leukemia<br>• Cancer<br>• Decubitus Ulcer or Chronic Skin Ulcer<br>• Dementia or Other Specified Brain Disorders<br>• Angina Pectoris/Old Myocardial Infarction<br>• Stroke<br>• Asthma<br>• Acute Coronary Syndrome<br>• Hemiplegia, Paraplegia, Paralysis, Functional Disability<br>• 'Protein-Calorie Malnutrition;<br>• Anterior Myocardial Infarction<br>• Other Location of Myocardial Infarction |

**Pneumonia Readmissions**

| | |
|---|---|
| • Age<br>• Sex<br>• History of Coronary Artery Bypass Graft<br>• History of Percutaneous Transluminal Coronary Angioplasty<br>• History of infection<br>• Septicemia/Shock<br>• Metastatic Cancer or Acute Leukemia<br>• Lung, Upper Digestive Tract, and Other Severe Cancers<br>• Other Major Cancers<br>• Diabetes Mellitus (DM) or DM Complications<br>• Disorders of Fluid/Electrolyte/Acid-Base<br>• Other Gastrointestinal Disorders<br>• Severe Hematological Disorders<br>• Iron Deficiency or Other Unspecified Anemias and Blood Disease<br>• Dementia or Other Specified Brain Disorders<br>• Drug/Alcohol Abuse/Dependence/Psychosis<br>• Major Psychiatric Disorders<br>• Other Psychiatric Disorders<br>• Hemiplegia, Paraplegia, Paralysis, Functional Disability | • Protein-Calorie Malnutrition<br>• Cardio-Respiratory Failure or Shock<br>• Congestive Heart Failure<br>• Acute Coronary Syndrome<br>• Coronary Atherosclerosis or Angina<br>• Valvular or Rheumatic Heart Disease<br>• Specified Arrhythmias<br>• Stroke<br>• Vascular or Circulatory Disease<br>• Chronic obstructive pulmonary disease<br>• Fibrosis of Lung or Other Chronic Lung Disorders<br>• Asthma<br>• Pneumonia<br>• Pleural Effusion/Pneumothorax<br>• Other Lung Disorders<br>• End-Stage Renal Disease or Dialysis<br>• Renal Failure<br>• Urinary Tract Infection<br>• Other Urinary Tract Disorders<br>• Decubitus Ulcer or Chronic Skin Ulcer<br>• Vertebral fractures<br>• Other Injuries |

**Hospital-Wide Readmissions**

| | |
|---|---|
| • Age<br>• Metastatic cancer/acute leukemia<br>• Severe Cancer<br>• Other Cancers<br>• Severe Hematological Disorders<br>• Coagulation Defects and Other Specified Hematological Disorders<br>• Iron Deficiency or Other Unspecified Anemia and Blood Disease<br>• End-stage Liver Disease<br>• Pancreatic Disease<br>• Dialysis Status<br>• Acute Renal Failure<br>• Transplants<br>• Severe Infection<br>• Other Infectious Diseases and Pneumonias<br>• Septicemia/Shock<br>• Congestive Heart Failure<br>• Polyneuropathy<br>• Congestive Heart Failure<br>• Chronic Atherosclerosis or Angina, Cerebrovascular Disease | • Specified Arrhythmias<br>• Cardio-respiratory Failure or Cardio-respiratory Shock<br>• Chronic Obstructive Pulmonary Disease<br>• Fibrosis of Lung or Other Chronic Lung Disorders<br>• Protein-calorie Malnutrition<br>• Disorders of Fluid, Electrolyte, Acid-Base<br>• Rheumatoid Arthritis and Inflammatory Connective Tissue Disease<br>• Diabetes Mellitus<br>• Decubitus Ulcer or Chronic Skin Ulcer<br>• Hemiplegia, Paraplegia, Paralysis, Functional Disability<br>• Seizure Disorders and Convulsions<br>• Respirator Dependence/Tracheostomy Status<br>• Drug and Alcohol Disorders<br>• Psychiatric Comorbidity<br>• Hip Fracture/Dislocation |

# Chapter 4: Analysis of Medicaid Claims Data to Examine Care Outcomes for Populations of Children and Youth Eligible for Home and Community-Based Services

## Introduction

In this chapter, we present metrics calculated from Medicaid claims and managed care encounter data for the baseline (2011-2012) and early demonstration period (2013-2014) for several populations of children targeted for additional home and community-based services (HCBS) under the Waiver. Specifically, the Waiver authorizes the NJ Division of Children and Families' Children's System of Care (DCF's CSOC)[81] to coordinate new supportive services for children with Autism Spectrum Disorder (ASD), co-occurring intellectual/developmental disabilities and mental illness (ID-DD/MI), and Serious Emotional Disturbance (SED). The Waiver also expands Medicaid eligibility for children with SED.

Our selection, analysis, and presentation of quality metrics in this report is guided by the following evaluation hypothesis and research questions in the waiver Special Terms and Conditions document (CMS 2014) relating to this expansion in targeted home and community-based services.

Hypothesis 2: **"Providing home and community-based services to Medicaid and CHIP beneficiaries and others with serious emotional disturbance, autism spectrum disorder, or intellectual disabilities/developmental disabilities will lead to better care outcomes."**

Research Question 2a: **" What is the impact of providing additional home and community-based services to Medicaid and CHIP beneficiaries with serious emotional disturbance, autism spectrum disorder, or intellectual disabilities/developmental disabilities?"**
Research Question 2b: **"What is the impact of the program to provide a safe, stable, and therapeutically supportive environment for children from age 5 up to age 21 with serious emotional disturbance who have, or who otherwise would be at risk for, institutionalization?"**

[81] By January of 2013, DCF assumed responsibility for all children previously managed by the Division of Developmental Disabilities (DDD).

All metrics in this chapter are calculated for the calendar years of the waiver baseline period, (2011-2012)[82] and the first two years of the demonstration period (2013-2014). All of the services authorized under the Waiver for the DCF populations started being offered during calendar year 2014 or later, limiting the data on the post-implementation period available for this interim report. Our final evaluation report due in 2017, which will include calendar year 2015 in the study period, will compare the levels and trends in these metrics from baseline through the demonstration years and isolate, to the extent allowed by available data, the direct and indirect impacts of the waiver demonstration programs providing targeted home and community-based services to populations of Medicaid youth.

# Background

A brief background on the service packages and target populations for each of the DCF CSOC waiver initiatives is provided here as context for the analytic methods and quantitative findings on quality of care we present in this chapter.

**ASD**

The services provided through the ASD pilot program are evidence-based habilitative services often covered under private insurance that improve adaptive behavior, language, and cognitive outcomes. The new components of the ASD service package authorized under the Waiver are:

- Behavior Consultative Supports
- Individual Behavior Supports

Up to 200 children under 13 years of age with ASD who are Medicaid/CHIP eligible and who have a functional behavioral assessment indicating their condition is of high or moderate acuity are eligible for these behavioral therapies through the ASD pilot program. This program became operational in the spring of 2014 with enrollment ongoing as newly eligible children were identified.[83]

**ID-DD/MI**

The pilot program for children with ID-DD/MI provides intensive in-home and out-of-home services that help to stabilize children in the least restrictive setting. There are seven services in the ID-DD/MI package authorized under the Waiver:

- Case/Care Management

[82] While the waiver demonstration period starts on October 2012, our analytic findings here are based on full calendar years so that our estimates are not driven by seasonality differences.

[83] Service codes for the new behavioral therapies were not built into the administrative claims system of the State's fiscal agent (Molina) at the time the pilot program began. Claims were handled manually until March 2015 when the service codes become operational.

- Individual Supports
- Natural Supports Training
- Intensive In-Community Services – Habilitation
- Respite
- Non-medical Transportation
- Interpreter Services

Up to 200 children ages 5-20 years old with dual diagnoses of ID-DD/MI who are Medicaid/CHIP eligible, meet the level of care criteria, and are involved with a Care Management Organization are eligible for these services through the ID-DD/MI pilot program.[84] Three of the services started in March 2015, Individual Supports began in June 2015, and respite was operationalized in January 2016. Developing the provider network for some services is still ongoing and thus, non-medical transportation and natural supports are not operational yet.

**SED**

The SED component of the Waiver (1) expands Medicaid/CHIP eligibility to all youth with SED who are at-risk for hospitalization or who require a hospital level of care regardless of parental income, (2) federalizes general behavioral health services paid for on the state dollar for all SED children in Medicaid/CHIP, and (3) provides three new behavioral health services shown to be critical in supporting children with serious emotional disturbance in the community:

- Transitioning Youth Life Skill Building (ages 16-20)
- Youth Support and Training (ages 5-16)
- Non-medical Transportation

The expansion in eligibility for waiver services (though not State Plan services) to youth with SED at-risk for hospitalization and federalization of behavioral health services became effective immediately after approval of the Waiver in October 2012. The expansion granting youth at a hospital-level of care both Medicaid State Plan and waiver service eligibility is currently under development. The new services are targeted at children with SED ages 5-20 years old who are involved with a Care Management Organization. The Transitioning Youth Life Skill Building and Youth Support and Training services were operationalized in the fall of 2015.

# Methods

**Data Sources**

The analyses in this chapter were generated using Medicaid fee-for-service (FFS) claims and managed care encounter data for January 1, 2011 through December 31, 2014. We used recipient

[84] The services are delivered on a FFS basis as part of the Individual Service Plan implemented by the child's Care Management Organization.

-level program enrollment information through September 2015 to allow for stratification of quality metrics to relevant subpopulations.

## Metrics

The metrics in this chapter span the baseline period (2011-2012) and first two years of the Waiver demonstration period (2013-2014).[85] They are intended to examine health care outcomes and associated costs for specific subpopulations of children directly affected by the changes implemented under the Waiver. The metrics we utilize are based on specific types of hospital utilization that reflect quality of care in the community. We examine inpatient (IP) utilization overall and for mental illness, avoidable hospital admissions, emergency department (ED) visits, and hospital readmissions or ED visits following an initial hospitalization (all-cause or specifically for mental illness). We also calculate annual costs relating to hospital use overall. This metric illustrates potential cost savings to be realized from the improved home and community-based support provided to children through waiver services.

Table A outlines the planned metrics calculated using the Medicaid FFS claims and managed care encounter data. Due to identification and accuracy concerns, only those metrics where the denominator criterion is fulfilled (see Reporting Criteria below) are reported. Because all metrics assess hospital use, the facility type(s) included in the calculation are also noted. Metrics 1-7 and 11 are population-based and rates are assessed per unit population. Metrics 8-10, on the other hand, are based on index events that arise in a hospital setting. Our purpose was to capture aspects of utilization relevant to the populations being evaluated and potentially impacted by changes under the Waiver. To achieve this, several of these metrics are adaptations of existing metrics. Appendix A contains additional details on each of these measures.

**Table A: Metrics related to quantitative evaluation of Hypothesis 2**

| | Metrics | Description | Facility Type(s) |
|---|---|---|---|
| | Utilization | | |
| 1 | Pediatric Quality Indicators (children 6-17) | Ambulatory care sensitive hospitalizations by children that reflect inadequate community-level care. | General acute care hospitals |
| 2 | Inpatient hospital utilization (all ages) | Admissions to general acute care hospitals. | General acute care hospitals |
| 3 | Inpatient days (all ages) | Total duration of hospital stays. | General acute care hospitals |
| 4 | Mental illness admissions (ages 6+) | Admissions to an acute inpatient facility with a primary diagnosis of mental illness. | General acute care hospitals |
| 5 | Severe mental illness admissions (ages 6+) | Admissions to an acute inpatient facility with a primary diagnosis of severe mental illness.* | General acute care hospitals |

[85] While the waiver demonstration period starts on October 2012, our analytic findings here are based on full calendar years so that our estimates are not driven by seasonality differences.

| | Metrics | Description | Facility Type(s) |
|---|---|---|---|
| 6 | Psychiatric hospital utilization (all ages) | Admissions to psychiatric hospitals. | Short-term and long-term psychiatric hospitals |
| 7 | Emergency department utilization (all ages) | Visits to emergency departments. | General acute care hospitals |
| | Post-Acute Care | | |
| 8 | All-cause: 30-day readmissions or 30-day post-discharge ED visits (all ages) | All-cause unplanned readmissions or ED visit(s) during a 30-day period following an initial hospital admission. These may reflect post-discharge gaps in inpatient care and/or care coordination following discharge. | General acute care hospitals and short-term psychiatric hospitals |
| 9 | Mental illness: 30-day readmissions or 30-day post-discharge ED visits (age 6+) | All-cause unplanned readmissions or ED visit(s) during a 30-day period following an initial hospital admission for mental illness. These may reflect post-discharge gaps in inpatient care and/or care coordination specific to patients with mental illness. | General acute care hospitals and short-term psychiatric hospitals |
| 10 | Severe mental illness: 30-day readmissions or 30-day post-discharge ED visits (ages 6+) | All-cause unplanned readmissions or ED visit(s) during a 30-day period following an initial hospital admission for severe mental illness (SMI). These may reflect post-discharge gaps in inpatient care and/or care coordination for patients with SMI. | General acute care hospitals and short-term psychiatric hospitals |
| | Cost/Spending | | |
| 11 | Costs related to all inpatient hospitalizations and ED visits | Assess the effects of the targeted HCBS on acute care spending overall. | General acute care hospitals |

* This metric is assessed only among hospitalizations for beneficiaries meeting the criteria for a mental illness admission (metric 4). Therefore, admissions for some of the diagnoses falling within the severe mental illness designation but outside of the HEDIS mental illness designation, specifically those related to substance abuse, are not included in this metric. See Appendix C for the diagnosis codes included in the definition of severe mental illness used in this chapter.

If not already part of the metric specification, an inclusion criteria imposed on all metrics was the requirement that a claim for utilization was only counted if the beneficiary had been continuously enrolled in Medicaid for at least 30 days preceding the claim date. As stated in our evaluation plan, this criteria eliminates events which might precipitate Medicaid enrollment and confound the effect of the demonstration.

**Mental Illness Designations**

We used information from the primary ICD9-CM diagnosis code present on inpatient claims to identify hospitalizations for mental illness and severe mental illness. Specifically, we used the National Committee for Quality Assurance's 2014 HEDIS Mental Illness Value Set to identify hospitalizations for mental illness (NCQA 2014). Within this universe of designated mental illness hospitalizations we further identified those hospitalizations which were for severe mental illness conditions based on findings from the national comorbidity survey – replication (Kessler et al. 2005) and subsequent work by Coffey et al. (2011) at the Agency for Health Care Research and

Quality (AHRQ). Appendix C lists the diagnosis codes included in the definition of severe mental illness used in this chapter.

**Costs**

Data on costs come from the payment fields in the Medicaid claims data. We only tabulated costs to Medicaid and Medicaid HMOs incurred via direct payment for services to providers. Payments made by Medicare or from any other source are not included. Costs for hospital use only reflect facility charges and do not include any physician or lab charges associated with hospitalization or outpatient visits. All costs were inflation adjusted and expressed in year 2012 purchasing power using the Consumer Price Index for medical care from Table 1A (Crawford, Church, and Rippy 2013, 164; Crawford and Church 2014, 165; Crawford, Church, and Akin 2015, 165).

**Population Definitions**

*Medicaid Youth:* Beneficiaries, ages 0-20, with any period of active enrollment in a particular calendar year, as indicated by the effective dates of their Program Status Codes, made up the Medicaid youth cohort for that year. Metrics are presented for this population to capture any trends in quality metrics that impact all Medicaid children and youth.

*ASD:* The cohort of children enrolled in the ASD pilot program was identified starting with recipient-level data from January 2014 - September 2015. Any child with an active 'Special Program Code' (SPC) of 48 (indicating ASD moderate acuity) or 49 (indicating ASD high acuity) during this period was included in the ASD cohort. All children in this cohort who were identified in years 2011-2014, as indicated by their presence in the respective Medicaid youth eligibility cohort, made up the ASD study population for each of these years.

*ID-DD/MI:* The cohort of children enrolled in the ID-DD/MI pilot program was identified starting with recipient-level data from January 2014 - September 2015. Any child with an active SPC of 38 during this period was included in the ID-DD/MI cohort. All children in this cohort who were identified in years 2011-2014, as indicated by their presence in the respective Medicaid youth eligibility cohort, made up the ID-DD/MI study population for each of these years.

*SED:* The cohort of children with SED and eligible to receive waiver services was identified starting with recipient-level data from September 2015. Any child age 5-20, with a SPC of 37 and a concurrently active Program Status Code of 641[86] was included in the SED cohort. All children in this cohort who were identified in years 2011-2014, as indicated by their presence in the respective Medicaid youth eligibility cohort, made up the SED population for each of these years.

[86] Program Status Code 641 indicates the program under the Division of Public Welfare for Medicaid beneficiaries eligible for Child Behavioral Health Services only.

Table B shows the number of children identified in each cohort using enrollment data and special program codes from the period(s) when the waiver services were operational and attrition of those population totals as enrollment was tracked back to the years in the interim report study period. Children with SED newly enrolled as a result of the eligibility expansion under the Waiver would not be in the recipient-level data in the baseline years, thus explaining the larger declines in the SED population.

**Table B: Population totals for cohorts of children and youth eligible for home and community-based waiver services**

| | Identification | 2014 | 2013 | 2012 | 2011 |
|---|---|---|---|---|---|
| **ASD** | 54 | 54 | 52 | 49 | 40 |
| **ID-DD/MI** | 220 | 219 | 202 | 187 | 180 |
| **SED*** | 2,780 | 1,369 | 767 | 546 | 507 |

*Only enrollment in September 2015, when waiver services for this population were operationalized, was considered when identifying the SED cohort.

**Reporting Criteria**

For Metrics 1-7 and 11, which are population-based rates, estimates are not shown when the denominator for IP hospitalizations or ED visits is less than 50. For the remaining three metrics, denominators and estimates are suppressed when denominators are less than 30. We calculated annual estimates over 2011-2014.

While we have already suppressed estimates based on small denominators, it is important to note due to small numbers of children in the ASD and ID-DD/MI cohorts, the observed variation for the metrics between years might be the result of outliers in the data or random events. Estimates based on small samples should be interpreted with this caveat. Additionally, the SED at-risk population was eligible only for waiver services starting in October 2012. Hospitalizations and emergency department use for these individuals would not be present in our claims data since they require eligibility for State Plan services. Consequently, the population-based metrics (Metrics 1-7 and 11) in the post-baseline years for the SED cohort will include more individuals in the denominator than we can capture numerator information for, resulting in lower rates.

**Data Analysis**

Due to small sample sizes in the ASD cohort and because waiver services for the other two cohorts were not delivered during the study period of this interim evaluation report, only descriptive results are shown. Statistical testing, where feasible, will be conducted in our final evaluation report due in 2017.

# Results

Tables 4.1 and 4.2 show several rates of hospital utilization for populations of Medicaid youth eligible for home and community-based waiver services.[87] Our sample was insufficient to present these rates for the ASD waiver population for the baseline years and for some metrics in years 2013 and 2014. In general, rates of avoidable hospitalizations were very low (Table 4.1). There were 0.2 avoidable hospitalizations per 100 Medicaid youth in each year of the study period. The rate was higher in the ID-DD/MI cohort, reaching 1.8 per 100 ID-DD/MI youth in 2013. There were nearly no avoidable hospitalizations among the SED cohort in any year. We observe a slight downward trend in inpatient utilization for Medicaid youth overall over 2011-2014 which is mirrored in the ID-DD/MI cohort. To illustrate, in 2011 and 2014 there were 16.1 and 11.9 visits, respectively, per 100 youth in the ID-DD/MI cohort. A decline in inpatient utilization over this period is also seen in the SED cohort, but this may be because hospitalizations are not captured in the claims data for the SED at-risk portion of this cohort who, though Medicaid enrolled, are not eligible for State Plan services. The lowest emergency department visit rate for most cohorts is in year 2014, although this rate has not trended downward consistently for all the cohorts. Per-capita costs associated with hospital use are generally greater for the ID-DD/MI cohort in all years compared to the other cohorts, reflecting their higher rates of inpatient stays and ED visits. As an example, hospital costs were $1,085 per 100 children in the ID-DD/MI cohort in 2012. The corresponding rate was $350 per 100 for all Medicaid youth under 21 years of age in the same year.

Considering inpatient hospital use for mental health conditions (Table 4.2), rates for Medicaid youth overall were steady over the study period. Rates were higher among the cohorts of children eventually eligible for waiver services. There were 1.6 mental illness hospitalizations per 100 children in the SED cohort in 2011 and 0.5 such hospitalizations per 100 in 2014. This is lower than the corresponding rates among the ID-DD/MI cohort. Hospitalizations for severe mental illness were infrequent in general, with rates of 1 or less per 100 for all cohorts in all years. Admissions to either long-term or short-term psychiatric hospitals were greatest in each year for children in the ID-DD/MI cohort with no clear trend across the study period. There was 1.7 admissions per 100 in 2011 and 1.8 admissions per 100 in 2014 for this cohort.

Table 4.3 presents 30-day readmission rates and rates of ED treat-and-release visits within 30 days of discharge for different types of hospitalizations occurring in 2012, 2013, and 2014. These estimates are presented for the cohorts of children combined to ensure the minimum denominator of 30 index hospitalizations. In the one baseline year (2012), nearly 6% of

[87] It is important to note that rates are consistently presented as events per 100 population, but as shown in the tables accompanying each rate table, the relevant denominators are sometimes less than 100.

hospitalizations among all children eventually eligible for waiver home and community-based services were followed by a readmission within 30 days. Eleven percent were followed by an ED visit within the same window resulting in 14% being followed by either one or both of these outcomes. These rates were generally better (lower) than the corresponding rates for all Medicaid youth. However, in the early demonstration years this pattern inverts. Readmission and ED visits post-discharge improve slightly (reflected in lower percentages) among Medicaid youth overall, but appear to worsen among the combined ASD, ID-DD/MI, and SED cohort. In 2014, 16% of hospitalizations in this cohort were followed by a readmission within 30 days, 19% were followed by an ED visit within the same window resulting in nearly 26% being followed by either one or both of these outcomes. The infrequency of mental illness and serious mental illness hospitalizations in these cohorts prevent us from assessing their trends in the early demonstration years.

**Table 4.1: Overall hospital utilization rates (per 100 population) and costs per beneficiary for Medicaid youth eligible for home and community-based waiver services**

| | ASD | | | | ID-DD/MI | | | | SED | | | | Medicaid Youth | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Overall Hospital Utilization** | **2011** | **2012** | **2013** | **2014** | **2011** | **2012** | **2013** | **2014** | **2011** | **2012** | **2013** | **2014** | **2011** | **2012** | **2013** | **2014** |
| Avoidable hospitalizations | * | * | * | * | 1.4 | 0.0 | 1.8 | 0.6 | 0.0 | 0.0 | 0.1 | 0.0 | 0.2 | 0.2 | 0.2 | 0.2 |
| Inpatient utilization | * | * | 13.5 | 7.4 | 16.1 | 13.9 | 11.4 | 11.9 | 2.3 | 0.9 | 1.2 | 0.4 | 3.4 | 3.1 | 2.8 | 2.5 |
| Inpatient days | * | * | 44.2 | 16.7 | 69.4 | 43.3 | 57.4 | 158.0 | 14.1 | 2.0 | 5.7 | 3.1 | 11.9 | 11.3 | 10.7 | 9.6 |
| ED visits | * | * | 53.8 | 44.4 | 73.3 | 59.9 | 60.4 | 61.2 | 20.9 | 17.1 | 12.9 | 5.5 | 42.9 | 44.2 | 43.9 | 42.8 |
| Hospital costs per beneficiary | * | * | $954 | $656 | $1,117 | $1,085 | $903 | $2,847 | $128 | $136 | $119 | $58 | $336 | $350 | $352 | $350 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: ASD=Autism Spectrum Disorder; ID-DD/MI=Co-occurring intellectual/developmental disability and mental illness; SED=Serious Emotional Disturbance; ED=Emergency Department.
Rates are per 100 population; Medicaid youth includes all beneficiaries ages 0–20.
*Estimate suppressed due to insufficient sample size.

| **Cohort Sizes** | ASD | | | | ID-DD/MI | | | | SED | | | | Medicaid Youth | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **2011** | **2012** | **2013** | **2014** | **2011** | **2012** | **2013** | **2014** | **2011** | **2012** | **2013** | **2014** | **2011** | **2012** | **2013** | **2014** |
| Avoidable hospitalizations | 15 | 23 | 35 | 43 | 143 | 153 | 169 | 173 | 437 | 513 | 727 | 1,274 | 479,503 | 497,129 | 512,211 | 539,136 |
| Inpatient utilization | 40 | 49 | 52 | 54 | 180 | 187 | 202 | 219 | 516 | 556 | 767 | 1,369 | 868,829 | 886,595 | 897,412 | 941,512 |
| Inpatient days | 40 | 49 | 52 | 54 | 180 | 187 | 202 | 219 | 516 | 556 | 767 | 1,369 | 868,829 | 886,595 | 897,412 | 941,512 |
| ED visits | 40 | 49 | 52 | 54 | 180 | 187 | 202 | 219 | 516 | 556 | 767 | 1,369 | 868,829 | 886,595 | 897,412 | 941,512 |

These Ns reflect relevant denominators for rates reported in the top panel.
See Appendix A for details on inclusion/exclusion criteria resulting in eligible population for each metric.

**Table 4.2: Mental health inpatient utilization rates (per 100 population) for Medicaid youth eligible for home and community-based waiver services**

| Inpatient Hospital Utilization for Mental Health Conditions | ASD | | | | ID-DD/MI | | | | SED | | | | Medicaid Youth | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| Mental illness hospitalizations | * | * | * | * | 6.3 | 3.1 | 4.2 | 4.8 | 1.6 | 0.4 | 0.5 | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 |
| Severe mental illness hospitalizations | * | * | * | * | 0.7 | 0.6 | 0.0 | 1.0 | 0.9 | 0.2 | 0.4 | 0.4 | 0.2 | 0.2 | 0.3 | 0.3 |
| Hospitalizations at psychiatric hospitals | * | * | 0.0 | 0.0 | 1.7 | 2.1 | 1.5 | 1.8 | 0.4 | 1.3 | 1.0 | 0.7 | 0.1 | 0.1 | 0.1 | 0.1 |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011–2014; Analysis by Rutgers Center for State Health Policy.
Notes: ASD=Autism Spectrum Disorder; ID-DD/MI=Co-occurring intellectual/developmental disability and mental illness; SED=Serious Emotional Disturbance.
Rates are per 100 population; Medicaid youth includes all beneficiaries ages 0–20.
*Estimate suppressed due to insufficient sample size.

| Cohort Sizes | ASD | | | | ID-DD/MI | | | | SED | | | | Medicaid Youth | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 | 2011 | 2012 | 2013 | 2014 |
| Mental illness hospitalizations | 15 | 23 | 35 | 44 | 143 | 162 | 189 | 207 | 437 | 513 | 732 | 1,326 | 565,150 | 581,855 | 596,448 | 637,731 |
| SMI hospitalizations | 15 | 23 | 35 | 44 | 143 | 162 | 189 | 207 | 437 | 513 | 732 | 1,326 | 565,150 | 581,855 | 596,448 | 637,731 |
| Hospitalizations at psychiatric hospitals | 40 | 49 | 52 | 54 | 180 | 187 | 202 | 219 | 516 | 556 | 767 | 1,369 | 868,829 | 886,595 | 897,412 | 941,512 |

Notes: SMI=Severe Mental Illness.
These Ns reflect relevant denominators for rates reported in the top panel.
See Appendix A for details on inclusion/exclusion criteria resulting in eligible population for each metric.

**Table 4.3: Post-acute care following hospitalization of Medicaid youth eligible for home and community-based waiver services**

| | Combined Waiver Populations (ASD, ID-DD/MI, SED) | | | Medicaid Youth | | |
|---|---|---|---|---|---|---|
| **Post-Acute Care Following Types of Hospitalizations** | **2012** | **2013** | **2014** | **2012** | **2013** | **2014** |
| All-Cause Hospitalizations | | | | | | |
| Readmission within 30 days | 5.7% | 9.8% | 16.1% | 8.5% | 8.2% | 7.1% |
| ED Visit within 30 days | 11.4% | 14.6% | 19.4% | 14.1% | 13.8% | 14.0% |
| Either of above | 14.3% | 22.0% | 25.8% | 19.6% | 19.0% | 18.6% |
| Mental Illness Hospitalizations | | | | | | |
| Readmission within 30 days | * | * | * | 11.6% | 10.7% | 10.8% |
| ED Visit within 30 days | * | * | * | 21.0% | 18.8% | 20.5% |
| Either of above | * | * | * | 25.8% | 23.1% | 23.8% |
| Severe Mental Illness Hospitalizations | | | | | | |
| Readmission within 30 days | * | * | * | 11.3% | 11.6% | 11.7% |
| ED Visit within 30 days | * | * | * | 20.6% | 19.3% | 21.3% |
| Either of above | * | * | * | 24.9% | 24.0% | 25.2% |

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2014; Analysis by Rutgers Center for State Health Policy.

Notes: ASD=Autism Spectrum Disorder; ID-DD/MI=Co-occurring intellectual/developmental disability and mental illness; SED=Serious Emotional Disturbance; ED=Emergency Department.

Medicaid youth includes all beneficiaries ages 0-20.

*Estimate suppressed due to insufficient sample size.

# Discussion

This chapter presents estimates for the baseline and early demonstration years for the metrics we proposed to assess the impact of expanded home and community-based services authorized under the Comprehensive Medicaid Waiver for children with autism spectrum disorder, co-occurring intellectual disabilities/developmental disabilities and mental illness, and serious emotional disturbance. With respect to the waiver services for children with ASD and ID-DD/MI, it is worth noting that DCF delivers these services to more children than just those enrolled in the pilot programs established by the Waiver. Thus, while the scope of our evaluation is limited to the cohorts meeting the inclusion criteria for the pilot programs, our analytic strategy will not fully reflect the impact of these supportive home and community-based services on all children receiving them.

Below we highlight some key takeaway points from this chapter's findings. Due to small sample sizes in the ASD cohort and because waiver services for the other two cohorts were not delivered during the study period of this interim evaluation report, we mostly cannot assess the impact of these new services based on the analysis period 2011-2014. One exception to this is a decrease in overall hospital utilization rate in the ASD population from 2013 to 2014, potentially reflecting an improvement in quality of care that leads to a decrease in hospitalizations.

While we occasionally note differences between estimates for individual years or between populations, the intent is descriptive and should be interpreted with the caveat that the differences discussed have not been adjusted for patient and provider characteristics and can be influenced by outlier events in small populations.

Rates of avoidable hospital use paid for by Medicaid for children with ID-DD/MI and SED in our defined cohorts and for Medicaid youth overall were very low in the baseline and early demonstration period. Hospital use, as measured by overall inpatient stays, ED visit rates, mental illness hospitalizations, and admissions to psychiatric hospitals showed greater variation across subpopulations, and we observed higher rates of utilization and costs per beneficiary among children with ID-DD/MI. Their utilization was consistently greater in all years than the corresponding rates for other cohorts of children and youth for which estimates could be generated. Estimates of inpatient utilization and ED visits for the ID-DD/MI and SED cohorts are lower in 2014 than in 2011, and are lower in 2014 than in 2013 for the ASD cohort.

Measures of hospital use for mental health conditions remained steady for Medicaid youth overall between 2011 and 2014, but we observed declines in mental illness hospitalizations across this time period for children with ID-DD/MI and SED. Slight increases with the SED cohort

in hospitalizations at psychiatric hospitals are also evident. The different trends between inpatient facility types (general acute care vs. psychiatric) is relevant to consider given the goal of expanded home and community-based services in reducing institutionalization (with the caveat that some of the estimates of change may not represent a systematic trend due to small sample sizes).

Several of the exclusion criteria (e.g. lack of Medicaid enrollment history) for identifying qualifying index admissions for assessment of 30-day readmissions and ED visits within 30 days of discharge present challenges for small cohorts. We could not reach the minimum sample size for assessing utilization subsequent to mental or severe mental illness hospitalizations. For all-cause hospitalizations, we found that the combined populations of youth eligible for the HCBS waiver programs started with lower rates of readmissions and ED visits than Medicaid youth overall, but have a greater prevalence of these poor outcomes by 2014. This could be due to a steadily growing prevalence within all-cause hospitalizations of severe mental illness hospitalizations and hospitalizations at psychiatric hospitals among the waiver cohorts. As can be observed for Medicaid youth overall, the rate of readmissions or ED visits following discharge are highest following hospitalizations for severe mental illness.

The rates of specific types of utilization calculated in this chapter help shed light on the relative applicability of the proposed metrics to the various subpopulations of interest. As a key example, hospital use metrics do not reflect quality for the SED at-risk population since this utilization is not on the menu of services available to them under the Waiver. In order to address this limitation, we will determine supplemental metrics for the SED cohort in our final evaluation report due in 2017. Specifically, we will investigate rates of residential treatment facility use and out-of-home placement in this cohort. Additionally, we will consider the feasibility of combining years of data in order to achieve minimum sample sizes for examining the ASD cohort and outcomes following hospitalization for mental and severe mental illness. Finally, subject to availability, we will examine relevant measures reported by DCF in accordance with their Quality Strategy for the Waiver. Within the limits of data availability and the timing of policy implementation, we will devise the optimal approach to answering the research questions under Hypothesis 2 of the waiver Special Terms and Conditions (CMS 2014).

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# Appendix A: Description of Measures

*Inpatient Utilization and Emergency Department Visits:* These measures assess the extent to which individuals receive inpatient hospital treatment or care in the emergency department. These measures of acute care and emergency medical utilization shed light on overall health of individuals and capture potential policy impact on health and healthcare. It is however important to remember that use of inpatient and emergency department services is affected by many member characteristics such as age, sex, health, and socioeconomic status.

Our preparation of these measures consider utilization at any general acute care hospital, inside or outside NJ, by members of our defined child cohorts (ASD, ID-DD/MI, SED, and Youth). The days associated with all identified inpatient hospitalizations, and the costs associated with all identified inpatient and emergency department visits are also aggregated over cohort members.

*Ambulatory Care Sensitive (ACS) Inpatient Hospitalizations:* We calculate rates of ACS inpatient (IP) hospitalizations that may occur due to inadequate quality of ambulatory/primary care within communities. Avoidable hospitalizations have been widely used in previous research to measure access to primary care, and disparities in health outcomes (Basu, Friedman, and Burstin 2004; Billings et al. 1993; Bindman et al. 1995; Howard et al. 2007). The federal Agency for Healthcare Research and Quality (AHRQ) provides validated programming algorithms to calculate rates of avoidable ACS hospitalizations which are used in this analysis. These are known as the Pediatric Quality Indicators for children (ages 6-17). Appendix B gives a list of ACS conditions that constitute a composite index that measures the overall rate of avoidable IP hospitalizations per unit of population.

Our preparation of this metric considers avoidable hospitalizations occurring at any general acute care hospital, inside or outside NJ, by members of our defined child cohorts (ASD, ID-DD/MI, SED, and Youth).

*Mental Illness Admissions:* This measure of inpatient utilization assesses the extent to which individuals receive inpatient hospital treatment for mental illness. Like general measures of hospital utilization, this measure of service use gathers information about the provision of care to individuals and how organizations managing that care use and allocate resources. Use of inpatient services is affected by many member characteristics such as age, sex, health, and socioeconomic status.

This metric was adapted from the National Committee of Quality Assurance's Follow-up after Hospitalization for Mental Illness (FUH) metric which is endorsed by NQF. Our preparation of this metric considers hospitalizations for mental illness occurring at any general acute care hospital, inside or outside NJ, by members of our defined child cohorts (ASD, ID-DD/MI, SED, and Youth). In accordance with the metric specification for FUH, index hospitalizations for mental illness were only identified for the population age 6 and older.

*Severe Mental Illness Admissions:* Preparation of this metric followed the same specifications as Mental Illness Admissions. The only difference was that the admissions counted were a subset of the mental illness admissions, defined as those admissions with a diagnosis qualifying as severe mental illness. Therefore, admissions for some of the diagnoses falling within the severe mental illness designation but outside of the HEDIS Mental Illness Value Set, specifically those related to substance abuse, are not included in this metric. See Appendix C for the list of diagnosis codes designated as severe mental illness in this report.

*Admissions to Psychiatric Hospitals:* This measures assesses the extent to which individuals receive inpatient treatment at a short-term or long-term psychiatric hospital. Our preparation of this metric considers utilization at any psychiatric hospital, inside or outside NJ, by members of our defined child cohorts (ASD, ID-DD/MI, SED, and Youth).

*Readmissions:* Thirty-day readmissions metrics are used to broadly measure the quality of care delivered by hospitals (Benbassat and Taragin 2000; Jencks, Williams, and Coleman 2009) and post-discharge care coordination. Such 'potentially preventable' readmissions are defined as readmission for any cause within 30 days of the discharge date for the index hospitalization, excluding a specified set of planned readmissions. While readmissions rates have been most heavily utilized to assess quality for the Medicare population, calculating these measures among the Medicaid population has received growing attention (Trudnak et al. 2014).

We prepared readmission metrics considering hospitalizations at acute inpatient facilities, both general acute care hospitals and short-term psychiatric hospitals, inside or outside NJ, by members of our defined child cohorts (ASD, ID-DD/MI, SED, and Youth). In accordance with specifications for all Centers for Medicare and Medicaid Services (CMS) readmissions metrics, we required that the beneficiary be enrolled for 12 months prior to the index hospitalization (ignoring gaps of 45 days or less) to allow for sufficient claims history if risk-adjustment were to be undertaken. While estimates presented in this chapter are not risk-adjusted, estimates for year 2011 could not be calculated due to this restriction.

*Hospital-Wide All-Cause Unplanned Readmissions:* This readmission metric is endorsed by the National Quality Forum (NQF) and it was calculated by adapting the federal CMS methodology available at QualityNet[88] to the Medicaid FFS claims and encounter data. It was calculated for children ages 0-17 so it could be used to assess quality for the populations of children affected by the Waiver policies. Additionally, we included index admissions with a principal psychiatric diagnosis.

*Readmission Following Hospitalization for Mental Illness:* We adapted the National Committee of Quality Assurance's 'Follow up after hospitalization' (FUH) specifications for the identification of a hospitalization for mental illness in the calculation of this metric (NCQA 2014). For this metric, we considered admissions to any general acute care hospital or short-term psychiatric hospital with a diagnosis of mental illness. In accordance with the metric specification for FUH, index hospitalizations for mental illness were only identified for the population age 6 and older.

*Readmission Following Hospitalization for Severe Mental Illness:* Preparation of this metric followed the same specifications as *Readmission Following Hospitalization for Mental Illness*. The only difference was that the universe of index admissions considered was a subset of the mental illness index admissions defined as those admissions with a diagnosis qualifying as severe mental illness. Therefore, admissions for some of the diagnoses falling within the severe mental illness designation but outside of the HEDIS mental illness designation, specifically those related to substance abuse, are not included in this metric. See Appendix C for the list of diagnosis codes designated as severe mental illness.

*Emergency Department Visits within 30 Days of Discharge:* Return visits to the ED after a hospital discharge can be an important indicator of inadequate post-discharge follow-up and care coordination. Although not a validated quality metric, research on this topic is growing (DeLia et al. 2014). For each of the index admission universes identified for the readmission metrics described above, we also flagged whether there was an ED treat-and-release visit at any general acute care hospital inside or outside NJ within 30 days of discharge.

[88] https://www.qualitynet.org.

# Appendix B: AHRQ Pediatric Quality Composite Indicator – Constituents

| Overall Composite (PDI #90) |
| --- |
| PDI #14 Asthma Admission Rate |
| PDI #15 Diabetes Short-Term Complications Admission Rate |
| PDI #16 Gastroenteritis Admission Rate |
| PDI #18 Urinary Tract Infection Admission Rate |

Source: Pediatric Quality Indicators Technical Specifications - Version 5.0, March 2015; http://www.qualityindicators.ahrq.gov/Archive/PDI_TechSpec_V45.aspx.

# Appendix C: Severe Mental Illness Diagnoses

| Severe Mental Illness | |
|---|---|
| 295, 297, 298 | Psychotic disorders |
| 296.00-06, 296.10-16, 296.40-46, 296.50-56, 296.60-66, 296.7, 296.80-82, 296.89, 296.90, 296.99 | Bipolar disorders |
| 300.3 | Obsessive compulsive disorder |
| 300.4, 309.1, 301.11-12 | Dysthymia (chronic depression) |
| 313.81 | Oppositional defiant disorder |
| 296.20, 296.23, 296.24, 296.30, 296.33, 296.34 | Depressive disorders |
| 301.20 | Personality disorder |
| 312.03, 312.13, 312.21 | Conduct disorder |

# Chapter 5: Discussion

This interim report examines various sources of information to address the first three demonstration hypotheses and corresponding research questions set forth in the Special Terms and Conditions (CMS 2014) of the New Jersey Medicaid Comprehensive Waiver. The key changes authorized by the Waiver and considered in this draft interim report are the expansion in managed care to Long-term Services and Supports (LTSS) and behavioral health (BH) services, targeted home and community-based services (HCBS) for specific populations of children, and administrative simplifications in the Medicaid eligibility process for low-income applicants seeking LTSS. We utilize data on NJ Medicaid MCO performance and processes from the Healthcare Effectiveness Data and Information Set (HEDIS®), the Consumer Assessment of Healthcare Providers and Systems (CAHPS®) survey, MCO reports to the Department of Human Services, data reported by divisions within the Department of Human Services (DMAHS, DoAS, and DDS), reports from the Department of Banking and Insurance, and four years of Medicaid FFS claims and managed care encounter data spanning the baseline and early demonstration years. This report supplements an earlier report with qualitative findings from key informant interviews of providers, consumer advocates, MCOs and state officials on MLTSS implementation[89] and the midpoint evaluation of the Delivery System Reform Incentive Payment (DSRIP) program which is part of the Waiver, but evaluated as a separate component.[90]

On the whole, this interim report primarily addresses the very early impacts of the policy changes occurring under the Waiver. Quality metrics included in this report extend through the end of calendar year 2014, capturing only the first six months of MLTSS implementation and preceding initiation of two out of the three targeted home and community-based waiver services programs for Medicaid children/youth with autism spectrum disorder, co-occurring intellectual and developmental disabilities and mental illness, and severe emotional disturbance. Some of the MCO performance and process measures from secondary data sources presented in Chapter 2 cover more of the post-MLTSS period and extend as far as the first quarter of calendar year 2016.

[89] Farnham J, S Chakravarty, and K Lloyd. 2015. *Initial Stakeholder Feedback on Implementation of the Managed Care Expansion in Long-Term Services and Supports*. New Brunswick, NJ: Rutgers Center for State Health Policy. http://www.cshp.rutgers.edu/Downloads/10740.pdf.

[90] The DSRIP midpoint evaluation was submitted to the New Jersey Division of Medical Assistance and Health Services (DMAHS) on September 2015 with the final evaluation due in March 2018.

**Hypothesis 1**

*Summary:* While all of the findings have been discussed in detail in the individual chapters, we identify below some common themes related to Hypothesis 1 across these different components. Measures of quality of care and consumer satisfaction for the entire Medicaid managed care population indicate there were no substantial negative impacts evident during the first six months of the MLTSS program. The evidence for this conclusion is strongest in the preventive care domain. Here, most HEDIS® metrics demonstrate improvement and the few declines are, on average, of a smaller magnitude than the improvements. For most of the HEDIS® metrics related to chronic conditions, we observed unchanged or improved quality. These findings are concordant with rates of avoidable inpatient and avoidable ED visits which are designed to reflect inadequate ambulatory/primary care within communities that may lead to preventable hospital use due to unmanaged conditions. Both types of avoidable utilization declined over 2011-2014 for the managed care population in our descriptive analyses and showed no net positive or negative effect as a result of MLTSS in the regression analyses. This is one of the more robust findings, although there may be several other areas where there was potential improvement in terms of quality, efficiency, and coordination of care. Decreases in readmission rates, further supported by small increases in ambulatory visits after discharge were observed, though only the decrease in hospital-wide readmission rates was statistically significant.

The one area with negative findings for the managed care population relates to ambulatory care for beneficiaries with behavioral health conditions. In both the results from annual HEDIS® reports applying to the DDD population and our claims-based analysis of all managed care beneficiaries, there were significant declines in the rate of 30-day follow-up with a mental health practitioner after discharge from a hospitalization for mental illness. With the exception of the DDD population and the HCBS population in the second half of 2014, this follow-up care would occur on a FFS basis for most managed care beneficiaries over this time period because behavioral health was carved out of MCO contracts (though the mental health hospitalization would be under the purview of the MCO). Thus, this effect is not exclusively an issue with service delivery through managed care, but is an area where managed care beneficiaries and MCOs stand to benefit from innovations in behavioral health care delivery.

A broad goal of the managed care expansion under the Waiver was to serve more long-term care beneficiaries in their homes and communities, rebalancing spending away from nursing facilities. Presentations made by DMAHS at MLTSS stakeholder meetings show this shift in setting. Since MLTSS implementation in July 2014, the percentage of beneficiaries in nursing facilities has decreased as the share in home and community-based settings has increased, and those individuals transitioned from former HCBS waiver programs have generally stayed in HCBS settings. Our own analysis of claims-based monthly estimates of total spending partitioned

between the NF and HCBS populations also show an increasing proportion of total spending attributable to HCBS beneficiaries from July 2014 through December 2014. Both the LTSS spending and the non-avoidable portion of non-LTSS spending are the growing components for the HCBS population over this time period. Avoidable costs of care have no net growth and comprise less than 1% of total spending. Thus, there is initial evidence that the intended rebalancing is underway, and our final evaluation report spanning a longer follow up period will indicate whether these trends persist.

When we examine the impact of MLTSS specifically on beneficiaries meeting an institutional level of care and residing in their homes and communities under the former 1915(c) waiver programs or, after July 1, 2014, under MLTSS, both health outcomes and process measures paint a more complicated picture of quality, especially in the very early months of MLTSS implementation. Both claims-based annual estimates for the HCBS population and data in MLTSS performance measure reports from MCOs show declines in overall inpatient and emergency department use rates, over 2013-2014 in claims estimates and from July 2014 to March 2015 in performance reports. Further, overall rates of avoidable inpatient and avoidable ED visits declined from 2013 to 2014 for the HCBS population in annual claims-based estimates. However, when we undertake regression analysis that accounts for other factors and isolates trends in hospital use directly attributable to MLTSS, we find mixed effects. The probability of avoidable inpatient hospitalizations declined significantly in the first six months of MLTSS, but the number of avoidable ED visits significantly increased. Our statistical models also find increased growth in avoidable inpatient costs in the HCBS population due to MLTSS, but avoidable ED costs go down. In the aggregate, these marginal effects do not impact the share of avoidable hospital costs as mentioned above, but it will be important to monitor this further into the post-MLTSS period.

A number of metrics relating to inpatient and post-discharge care following hospitalizations for medical conditions (e.g. 30-day readmissions for heart failure, AMI, or pneumonia and ambulatory care visit within 14 days of discharge) worsened for HCBS individuals as a result of MLTSS, though most of these results did not reach conventional levels of statistical significance. It is important to note that quality measures calculated using claims data cover only the first six months of MLTSS in this interim report, which was a period of transition. In these early months of the program, there were issues with timeliness of assessment for new MLTSS enrollees and waiver transitionees. While continuity of care was ensured by State requirements and no changes were made to delivery of acute care services, this was an uncertain time for beneficiaries when the coordination of all services under managed care was not complete and, for existing enrollees, transitions to a new care manager working for their MCO were underway. Uninterrupted HCBS care is important to maintaining or stabilizing people's health and preventing progression to a higher level of care where possible. Additional claims data analysis extending beyond the first six

months of the post-MLTSS period will help us determine whether any of these findings persist or strengthen to a level of statistical significance thereby giving a comprehensive picture of the MLTSS policy impact.

Information provided by the Division of Aging Services and by MCOs indicates that the timeliness of clinical assessments continues to improve. MCO-reports of potentially negative events, such as critical incidents, complaints, grievances, appeals, and service reductions appear to show that such events affect a small number of members and are generally reported in a timely fashion. The Division of Banking and Insurance did not show an increase in appeals of managed care decisions in 2014. Network adequacy information has not been reported for MLTSS services, but MCO-reported grievances appear to show, at most, 12 cases in 2015 relating to problems accessing MLTSS providers.

*Limitations/Caveats:* The Medicaid claims and encounter data available to us for this evaluation presents specific challenges related to the dual eligible population. Duals in managed care plans may not have their utilization captured in the Medicaid claims data if there is no Medicaid liability in terms of a copayment or coinsurance for the acute care service. The HCBS portion of this population has been progressively moved into managed care starting in late 2011, with the NF population shifting slowly via attrition of grandfathered FFS beneficiaries starting in mid-2014. Therefore, any underestimate of utilization will be present in the both the pre- and the post-MLTSS period thereby allowing our difference-in-differences statistical model to correct for this while estimating policy impacts.[91]

Finally, there are two limitations of our data preparation related to the nursing facility population. First, we are unable to differentiate between custodial NF residents and individuals only temporarily in a NF for rehabilitation. Our algorithm for defining the NF population on an annual basis (Appendix D) reduces the possibility of misclassification of non-LTC or community-LTC beneficiaries as part of the NF population because of a rehab stay, but we also use a monthly classification in other models. We may be excluding some observations relating to HCBS individuals in those specifications. We will consider sensitivity tests relating to this in our final report. Second, since patients residing in medical facilities, such as a nursing homes, may have follow-up care provided within the facility itself, our analysis of metrics relating to post-acute ambulatory care (*Follow-up After Hospitalization for Mental Illness* and *Ambulatory Visit within 14 Days of Discharge*) cannot be accurately calculated for this population if follow-up services are not billed separately within these facilities. Specifically, some care provided by physicians to NF

[91] Any under-representation of utilization (which we expect to be limited) in the claims data for duals would only bias our findings if it changed differentially across the pre and post-MLTSS period for the HCBS population compared to the non-LTC ABD population used as a control group.

residents in NJ are included in the facility per diem rate and thus claims are not generated for these services. We however can accurately calculate this metric for individuals discharged to home thereby retaining its importance as an important metric for the HCBS population.

**Hypothesis 2**

*Summary:* As observed in analyses related to hypothesis 1, we also see declines in rates of inpatient utilization and ED visits between 2013 and 2014 for children enrolled in the ASD pilot program under the Waiver which started in the spring of 2014. Rates of avoidable inpatient admissions were very low among cohorts of children eligible for home and community-based waiver services so we did not observe any overall declines between 2011 and 2014 as we did for the HCBS cohort under hypothesis 1. Additionally, most of the waiver policies under hypothesis 2 were not in effect during the study period of this interim report precluding any assessment of policy impacts. Thus, at this point, we cannot determine whether waiver services designed to support beneficiaries, both children with special needs and long-term care beneficiaries, in their homes and communities are generally positive, negative, or differ in their effects on health outcomes for these two targeted populations.

*Limitations:* Implementation timing and small sample sizes limit our ability to evaluate the impact of waiver policies on populations of children and youth eligible for home and community-based services. The hospital use metrics proposed in our evaluation plan will not reflect quality for the SED at-risk population since this utilization is not on the menu of services available to them under the Waiver. In order to address these limitations, we will investigate rates of residential treatment facility use and out-of-home placement in this cohort in our final evaluation report due in 2017. Additionally, we will consider the feasibility of combining years of data in order to achieve minimum sample sizes for examining the impacts of waiver services on the pilot-enrolled ASD cohort, and ED and readmission outcomes following hospitalization for mental and severe mental illness for all populations of youth receiving targeted HCBS.

**Hypothesis 3**

Information provided by the state indicates that as of the end of 2015, nearly 900 individuals had set up Qualified Income Trusts (QITs), which allow people whose income is above the level normally eligible for Medicaid but is not sufficient to pay the cost of long-term care services, to spend down their excess income and become eligible for Medicaid. Prior to the Comprehensive Waiver, this kind of designation (medically needy) was only possible for those in institutional settings. We do not know exactly how many of the 900 individuals are in HCBS settings, but we know from state presentations that some are.

Information provided by the state indicates that as of the end of 2015, about 627 individuals who were under the federal poverty level were able to self-attest that they had not transferred assets during the past five years, meaning that the county welfare agencies and the beneficiary were able to skip a comprehensive financial examination. Audits of the effectiveness of this process are not yet available.

The existence of these new avenues into the Medicaid long-term care system, particularly the establishment of QITs, has the potential to impact the number and mix of individuals in the MLTSS program. We will examine the direct effects of these administrative simplifications in a future report, but these changes also have implications for our evaluation of Hypothesis 1. They underscore the importance of adjusting for differing patient characteristics in determining the impact of the MLTSS policy on health outcomes.

**Future Work**

Our final evaluation report due in 2017 will build off the analyses presented here. We will have a longer post-MLTSS implementation for claims-based metrics which will increase our ability to detect policy effects and will reflect the impacts of the program after the early transitionary period. As more nursing facility residents come under MLTSS, we will explore the impact of MLTSS on this population as well, subject to a sufficient sample size. If data for the post-MLTSS period are sufficient to achieve minimum sample sizes, we will also explore stratification of metrics by demographic characteristics, such as race/ethnicity, and examine whether there are any differential impacts of MLTSS on outcomes by race/ethnicity in statistical models. Uniform billing hospital discharge data, if publically available, will be prepared for selected metrics to compare trends between Medicaid and other payers over the period of the demonstration. We will have data from the 2015 CAHPS® survey available which will reflect consumer perceptions of care for a time period when MLTSS was in effect and lend itself to potentially meaningful comparisons of trends within eligibility groups, in particular for the ABD population. HEDIS®, CAHPS®, and MCO performance reports will also include data for Aetna, a Medicaid MCO that entered the market in December of 2014. We will have conducted a second round of stakeholder interviews to gauge ongoing experiences with and perceptions of the MLTSS program, and will have qualitative interview data from stakeholders, state officials, and provider organizations regarding the Supports program, which began in the summer of 2015. Finally, data on the implementation and quality of the administrative simplifications process being collected by the State will be shared with us for the final report.

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