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Examining the Effect of the NJ FamilyCare Comprehensive Demonstration on Access to Care, Quality, and Cost of Care:

Draft Interim Evaluation Report

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Executive Summary

Background/Overview of Questions, Hypotheses and Results

This report is the interim evaluation of the NJ FamilyCare Comprehensive Demonstration, which was approved by the Centers for Medicare and Medicaid Services (CMS) on July 27, 2017, effective August 1, 2017 through June 30, 2022.

This chapter summarizes the research questions, hypotheses and conclusions of the interim evaluation, and discusses issues to consider for the final evaluation report. The following summary table shows the hypotheses and conclusions.

Hypothesis	Interim Evaluation Conclusion
1. The managed care expansion will improve access to care, the quality, efficiency, and coordination of care, and the cost of care for the overall population in managed care.	1. Hypothesis 1 is mostly supported by the data from HEDIS and CAHPS metrics, assessing access and quality for the overall managed care population. Costs for the overall population declined during the first waiver period.[1]
2. 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,	2. Hypothesis 2 is supported for improved access, reduced costs, and allowing individuals to live in their communities. There is insufficient evidence to support Hypothesis 2 for quality of care, where we

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[1] Chakravarty et al., 2017.

Hypothesis	Interim Evaluation Conclusion
and allow more individuals to live in their communities instead of institutions.	lack comparative measures, and find mixed effects on outcomes in claims analysis. There is evidence of service adequacy and some evidence of quality improvement in MLTSS-specific quality metrics since 2015. Per-beneficiary total healthcare costs were lower for HCBS enrollees after MLTSS.
3. Utilizing Qualified Income Trusts will allow more individuals to qualify for Medicaid and will increase the number of Medicaid long-term care recipients in community settings.	3. Hypothesis 3 is supported. There are Medicaid recipients using QITs in community settings who would not otherwise be eligible.
4. 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.	4. Hypothesis 4 is supported. Self-attestation has been used since it was authorized, and audits have found no problems.
5. Providing home and community-based services to Medicaid and CHIP beneficiaries and others with serious emotional disturbance or intellectual disabilities/developmental disabilities with and without co-occurring mental illness will lead to better care outcomes including those relating to ambulatory care.	Hypothesis 5 is partially supported: • DCF metrics for children/youth show improving scores on needs and strengths assessments for the ASD and I/DD-MI groups and decreased ED visits and avoidable utilization spending for I/DD-MI youth. Descriptive measures suggest positive outcomes from the SED services. • Among adults with I/DD, enrollment in the Supports Program was associated with improvements (decrease) in preventable hospitalization rates but there was no evidence of improved preventive or follow up care.
6. Providing home and community-based services to expanded eligibility groups, who would otherwise have not been	Hypothesis 6 is partially supported. We find the following based on descriptive trend data:

Hypothesis	Interim Evaluation Conclusion
eligible for Medicaid or CHIP absent the demonstration will lead to improvements in preventive care and avoidable utilization.	• For youth with SED in out of home settings not otherwise eligible for Medicaid: While some avoidable care utilization increased subsequent to Medicaid enrollment, residential treatment center admission for those enrolled showed a large decline. • For adults in the Supports waiver not otherwise eligible for Medicaid: There were no consistent improvements in the rates of IDD-specific avoidable hospitalizations or rates of diabetic eye exams, but rates of HbA1c testing for diabetics did increase in the period following Medicaid enrollment.
7. Providing home and community-based services to Medicaid and CHIP beneficiaries and others with serious emotional disturbance who have, or who would otherwise be at risk for, institutionalization will reduce avoidable utilization.	• Hypothesis 7 was not able to be evaluated with respect to avoidable utilization, but descriptive measures suggest youth receiving these services are able to successfully transition off the waiver.
8. Mandating individuals who have access to employee sponsored insurance into the premium assistance program will cost the State at least 5% less than providing individuals coverage in NJFC.	• Hypothesis 8 is supported, with savings of about 60%.

Overall, then, three hypotheses (Hypotheses 3, 4, and 8) for the interim evaluation report are fully supported, four hypotheses (1, 2, 5, and 6) are partially supported, and one (Hypothesis 7) was not able to be evaluated as written, but descriptive measures suggest positive general outcomes.[2]

For our final evaluation report, planned in 2023, we will have an additional two and a half years of claims data, through June 2022. These additional years will be affected by the COVID-19 pandemic, posing significant challenges in disentangling demonstration effects from pandemic

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[2] Hypotheses for the SUD interim evaluation are contained in a separate report.

effects. We have laid out our preliminary consideration of these challenges in the discussion section of this chapter, but we will remain responsive to additional considerations that become apparent as we move toward the final report.

Chapter 1: HEDIS® and CAHPS® Quality Indicators: Preventive Care, Behavioral Health Care, Treatment of Chronic Conditions, and Consumer Satisfaction

This chapter examines the performance of NJ Medicaid managed care organizations (MCOs), comparing changes between the baseline period of the Waiver evaluation (2011-2012), the first demonstration period (2013-2016, referred to as "Waiver 1"), and the second demonstration period (2017-2018, referred to as "Waiver 2"). The purpose is to assess care for all beneficiaries served by MCOs over these periods when specific Waiver policies were being implemented. It provides evidence on the impact of the managed care expansion on access to care, and the quality, efficiency, and coordination of care for all adults and children, an evaluation Research Question enumerated in the approved evaluation design (CMS 2019).

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 CAHPS® (Consumer Assessment of Healthcare Providers and Systems), an annual independent survey of members' experience with healthcare services they receive in their Medicaid health plan. Most of these data are publicly reported, but for HEDIS® metrics, we also used data spreadsheets created by the State's EQRO and provided to us by DMAHS.

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

- The rates for adolescents vaccine combination 1 (meningococcal and Tdap/Td) increased significantly in the Waiver 2 period from the baseline (+6.0 percentage points (pp)) and the Waiver 1 period (+4.0 pp). The rates for meningococcal vaccination (+4.9 pp and +3.5 pp, respectively) and Tdap or Td (+4.6 pp and +2.0 pp, respectively) improved significantly in the Waiver 2 period from the baseline and the Waiver 1 periods.
- Rates significantly improved for wellness visits for children 3-6 years of age (+0.3 pp and +0.4 pp, respectively) in the Waiver 2 period from the baseline and the Waiver 1 periods. However, rates declined for well-child visits in the first fifteen months of life (-3.8 pp and -3.5 pp, respectively) in the Waiver 2 period from the baseline and the Waiver 1 periods.

- Rates for timeliness of prenatal care declined (-2.0 pp) from the baseline in the Waiver 2 period. Rates for timeliness of postpartum care significantly increased in Waiver 2 when compared to the baseline and the Waiver 1 periods (+1.9 pp and +3.2 pp, respectively).
- Rates improved significantly for the access to primary care measures in the Waiver 2 period from the baseline and the Waiver 1 periods for children and adolescents 25 months to 19 years of age. However, access to primary care declined for children 12-24 months of age in the Waiver 2 period when compared to the baseline and the Waiver 1 periods (declines of -0.5 pp and -0.4 pp, respectively), though the rate still remained high at 97%.
- In comparison to the baseline, cervical cancer screening rate declined (-3.5 pp) in the Waiver 2 period from the baseline. However, rates significantly improved (+0.8 pp) from the Waiver 1 period.

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 2018, with most improvements occurring during the Waiver 1 period. Overall, rates remained stable from the Waiver 1 to Waiver 2 periods.

Behavioral Health Care Services Measure:

- Rates significantly improved for initiation phase follow-up care for children prescribed ADHD medication in Waiver 2 when compared to the baseline and the Waiver 1 periods (+1.4 pp and +1.1 pp, respectively). There was a significant decline of 3.2 pp in the follow-up care during continuation and maintenance phase in Waiver 2 when compared to the Waiver 1 period.

Treatment of Chronic Conditions Measures: These HEDIS® measures are related to medication management and high prevalence chronic conditions, such as diabetes.

- Rates improved significantly for annual monitoring of patients on persistent medications such as angiotensin converting enzyme inhibitors or angiotensin receptor blockers (+1.9 pp) and diuretics (+2.2 pp) in the Waiver 2 period when compared to the Waiver 1 period.

- Rates for the diabetes care measures showed large improvements in the Waiver 2 period when compared to the baseline and Waiver 1 periods. HbA1c testing improved 7.9 pp from the baseline with 2.9 pp of that improvement since the Waiver 1 period. The HbA1c poor control (>9.0%) was 9.4 pp lower in the Waiver 2 period compared to the baseline and 4.3 pp lower from the Waiver 1 period. Moreover, retinal eye exams improved 5.4 pp from the baseline and 2.3 pp from the Waiver 1 period. All changes were statistically significant.

Measures of Consumer Satisfaction: These CAHPS® measures for adults and children in Medicaid managed care relate to members' experience with healthcare..

- The results were mixed across the different plans and for overall pooled estimates for children when comparing the Waiver 2 period to Waiver 1.
- The overall trends for adults showed improvements for all measures in Waiver 2 when compared to the baseline, as did the individual plan rates for adults. The results were mixed for Waiver 2 to Waiver 1 comparison for adults.

With some exceptions, the findings presented in this interim report support the conclusion that overall quality of care for Medicaid managed care beneficiaries did not deteriorate, and in several cases improved during the Waiver 2 phase of the demonstration period compared to the baseline and Waiver 1 periods. These findings are based on limited data from the Waiver 2 period and could change as additional years of data are added in the final evaluation report.

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

This chapter discusses data and performance measures relevant to managed long-term services and supports (MLTSS) that have been collected and reported by MCOs, external quality review organizations and state government relating to a post-implementation period spanning 2014 through 2020.

Our objective in this chapter is to examine these data and performance measures to shed light on the impact of the managed care expansion on access to care, quality of care, and the mix of care settings.

Summary of Findings

Briefly, we find that it appears that MLTSS has generally been successful in expanding access to long term services and supports (LTSS) in community settings in terms of enrolling beneficiaries.

Access to services and quality are more complicated to measure and have mixed results depending on the method of measurement used. Measures of serious problems such as critical incidents, appeals/grievances/complaints, and fair hearings show relatively small numbers of enrollees affected. Because the services are frequently brought to the beneficiary by providers not working out of a fixed office location, meaning that the typical network access method of measuring the number of providers within a certain number of miles of each beneficiary does not apply. There are anecdotal reports of problems with accessing some types of services.[3] Limited network information for acute care providers for the Medicaid population as a whole suggests that coverage may have worsened slightly from 2016-2018 for some provider types, with gaps tending to be geographically concentrated. Quality audits of the extent of LTSS service delivery show that, despite improvements from 2017 to 2019, several key services are not fully delivered to the level authorized much of the time. The reasons for this, effect of this on consumers, and the actual level of delivery is not clear from audit reports. Performance metrics show some evidence of improvement over time, and consumers surveyed have generally found their services adequate for their needs.

Measures Examined

Measures related to MLTSS are collected and reported in a number of ways. We have drawn upon data reported by managed care organizations, state departments and offices, external quality review organizations, and beneficiary surveys.

Some of the measures we discuss are part of the MLTSS Quality Strategy, a group of about 40 measures that was created prior to the inception of MLTSS. We have also considered stakeholder input as discussed in separate reports (Farnham et al., forthcoming; Farnham et al. 2017, Farnham et al. 2015).

The following are the measures that are discussed in more detail in the chapter:

Share of Population by Setting; Distribution of Age Groups in MLTSS

- The share of the population receiving long-term care services in home and community-based settings has increased, while the share of the population in nursing facilities has decreased, indicating that the state is moving toward providing more services in home and community settings (Table 2.2, Figure 2.1).
- The share of people enrolled in the former §1915(c) waiver programs who have moved to nursing facilities remains under 10%, indicating that people who begin receiving services in community settings are largely able to remain there (Table 2.3).
- Eighty-nine percent of New Jersey's Medicaid long-term care recipients are now in MLTSS, compared with 28% in July, 2014. All age categories have grown in the number of enrollees from 2014 to 2020, with the slowest growth in the 80 and over category and the highest growth in ages 0-21 and 65-79 (Table 2.4). About 75% of Medicaid long-term care recipients are ages 65 and older in 2014 and 2020, though the share has shifted away from the 80 and

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[3] See, for example, DMAHS (2018) on nonmedical transportation and chore services, IPRO (2020) on social adult day and CSHP interviews (Farnham et. al. forthcoming, 2017, 2015) on general perceptions of service gaps.

over category and toward those 65-79. Among those under 65, the share has remained the same for those 0-21, decreased slightly for those 22-54, and increased slightly for those aged 55-64 (Figure 2.2).

Assessment Timeliness and Volume

- The timeliness of nursing home level of care assessments for newly enrolled Medicaid beneficiaries by the state Office of Community Choice Options (OCCO) has varied over time between 2015 and 2019. Timeliness of MCO assessments has generally improved over that time (Table 2.5, Figure 2.3), with different patterns among different MCOs (Figure 2.4). OCCO continues to complete more assessments than MCOs for new MLTSS enrollees(Figure 2.5). The impact of timeliness on consumers is not reported in the data examined.

Critical Incident Reporting

- The Division of Aging Services monitors timeliness and trends among 30 categories of reporting of critical incidents that had or could have adverse effects on members. Timeliness has been 94% or higher each year since 2015, and the number of reports has generally grown along with enrollees (Figure 2.6). Generally, the most common critical incidents are medical emergencies or falls that require medical treatment.

External Quality Reviews

- An external quality review organization (EQRO) audits about 100 files each year for MLTSS-HCBS and MLTSS-NF populations for each MCO. Files are a mixture of newly enrolled and continuing enrollees, and must meet continuous enrollment requirements to be included in the audits. Thus, enrollees who have enrollment gaps or switch MCOs are not included. If fewer than 85% of audited files meet required standards,[4] MCOs must form a corrective action plan. Audits involve MCO records only, with no interaction with members or caregivers.
- The last HCBS audit went from July 2019 through February 2020 due to the pandemic, and the last NF audit was postponed due to the pandemic.
- We reviewed trends for 6 HCBS metrics and 5 NF metrics that have been reported over time, and the most recent compliance information for 13 HCBS metrics and 17 NF metrics.
- Of the 6 HCBS metrics reported over time, MCOs generally did well in three of them: the extent to which their care plans were aligned with clinical assessment results, the presence of backup plans, and evidence of critical incident training. Two--timeliness of care completion and use of person-centered principles in care plan development--were more mixed. None of the MCOs met the standard for the extent to which services were delivered in accordance

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[4] Now 86%, but 85% in the reports reviewed for this Chapter.

with the care plan in either 2017 or 2019, though there was some improvement. Looking at relative performance of the MCOs for the 5 metrics that were available for multiple years, one MCO was consistently above average, two improved, and two declined. More detail on the HCBS findings:

- While all plans increased in their *timeliness of care plan completion* for HCBS enrollees from 2015 to 2016, trajectories have been more mixed since then. One plan has been at or above 85% for 4 of the 6 periods, another for 2 periods, 2 others for 1 period, and one for none of the 5 periods (Figure 2.7). Audit reports do not examine how or if timeliness of care plan completion affects services to enrollees.
- All MCOs were at 88% or higher in the extent to which *care plans were aligned with clinical assessment results* for HCBS enrollees in 4 of the 6 periods, though two different MCOs dipped below by about 30 points, one in 2018 and another in 2019 (Figure 2.8). We do not have any further information about the ways in which care plans were aligned or not, or what this meant for consumers.
- All MCOs have showed large differences over time in the extent to which their *care plans were developed using person-centered principles* for HCBS enrollees, and there is no clear linear trend in this measure. The largest average overall was in 2017, though none of the MCOs met the 85% standard in that year. No more than 2 MCOs have ever met the standard in any year 2015-2019, and only one MCO met the standard in more than one year (Figure 2.9).
- Three of the MCOs achieved the 85% minimum for HCBS enrollee *care plans having a backup plan* 4 or more times. One plan, though improving through its first two audits into the 80% range, still has not achieved the minimum. The fifth plan started at 95% but declined after the first audit. The overall average has never reached the minimum threshold (Figure 2.10).
- MCOs have been consistently high or shown general improvement in the extent to which HCBS enrollee audited files show *evidence of critical incident training* (Figure 2.11). All plans met the 85% standard in 2020.
- Looking at *each MCO's relative performance* on these 5 HCBS enrollee measures over time, one MCO was above average in all periods, one began below average and rose above, two started above average and declined, and one stayed below average, although it showed a general increase in trajectory (Figure 2.12).
- An examination of the extent to which HCBS enrollee *services were delivered in type, scope, amount, frequency in duration as per their care plan* showed an increase from 32% to 37% of sampled cases with at least 95% of services delivered overall (individual MCO values ranged from 24% to 46%). This was well below the 85% standard in both years. Four MCOs improved in the measure and one declined (Figure 2.13). Patterns for just personal care assistance were somewhat different, though all MCOs were still below the

  85% standard—compliance rates were 37% in 2017 and 45% in 2019, with individual MCO values ranging from 22% to 56% (Figure 2.14). There were differences in compliance rates by service, ranging from 26% to 78% (Figure 2.15).

- Of the 5 NF metrics, all showed evidence of improvement over time. More detail on the NF findings:
  - Two MCOs met the 85% standard for *timeliness of care plan completion* for NF residents in 2018, both showing large improvements from 2017. Four MCOs improved their performance on this measure while one declined (Figure 2.16). Those not meeting the standard are far below (9%-27% in 2018). There was not a consistent pattern in MCO performance on this measure and the one for HCBS.
  - Three MCOs met the 85% standard for *care plan development using person-centered principles* for NF residents in 2018 and one met it in 2017 (Figure 2.17). As with care plan timeliness, there was not a consistent pattern in MCO performance on this measure and the one for HCBS.
  - Two MCOs met the 85% standard for *evidence of critical incident training* for NF residents in 2018 and two more were close in 2018 after none met the standard in 2017 (Figure 2.18). All MCOs were either higher or the same on this metric in the nursing home setting compared with their scores in the HCBS setting.
  - One MCO met the 85% standard for *review of facility plan of care* for NF residents in 2018. All MCOs improved in 2018 from their 2017 scores. Three MCOs increased their score between 2016 and 2018, one stayed about the same, and one decreased (Figure 2.19).
  - None of the MCOs ever met the 85% standard for *timely onsite review of member placement and services*, though two improved their results from 2016-2018 (Figure 2.20).
- In the most recent audit information available, two MCOs met the 85% standard on more than half of the 13 HCBS measures and three met more than half of the 17 NF measures (Figure 2.21). Of the 13 HCBS measures, four were met by all 5 MCOs and 9 were met by two or fewer MCOs. Of the 17 nursing facility measures, five measures were met by 4-5 MCOs, four measures by 3 MCOs, and six by two or fewer MCOs (Table 2.7).

Appeals/Grievances/Complaints, Fair Hearings

- Appeals, grievances and complaints *have remained steady overall* at slightly below 1% of MCO MLTSS members from 2015-2019 (Figure 2.22). One MCO has been consistently below the average and other consistently above by a small amount. Others have varied, one starting out above average but coming below and two others starting very low and then increasing. These are estimates, as members can have multiple issues and reporting does not remove duplicates (in other words, the true percentage of members with appeals, grievances or complaints may be lower).

- An analysis of the types of appeals and grievances for two quarters in 2019 shows that MCO/administrative issues were the most frequent type in the early quarter and LTSS issues were more frequent in the later quarter. Problems with dental services were also frequent (Figure 2.23).
- MCOs generally respond to appeals/grievances quickly. An examination of appeal outcomes in 2015 and 2016 showed that MCOs generally overwhelmingly uphold their original decisions (more than 90%).
- Fair hearing data are not segregated by Medicaid program, so MLTSS cannot be viewed separately. A minority of fair hearing filings result in a decision. The share of filings by MCO in 2016 appears similar to the share of decisions in 2016 (i.e., there do not appear to be differences in the rate of withdrawals). The number of filings and decisions appears to be small compared with the number of Medicaid enrollees (Table 2.8), and shows a lot of variability by MCO (Figure 2.24). For the period 2014-2020, the share of final agency decisions exceeded the average share of Medicaid and MLTSS enrollees for two MCOs (Figure 2.25).
- Data from the NJ Department of Banking and Insurance supports advocate perceptions that external appeals of private duty nursing denials increased in 2015. In 2016 and 2017, external appeals decreased. In the first half of 2018 they were already higher than all of 2017, though the number of overall external appeals also grew dramatically, so it wasn’t yet clear if this was a trend (Figure 2.26, Table 9).

Network Adequacy

New Jersey’s External Quality Review Organization reports do not summarize network adequacy results by MCO but sometimes highlight particular issues. The 2020 quality report suggests that social adult day is a service for which MCOs have trouble finding providers.[5] Detailed grievance information for 2019 shown in Appendix A2.3 does not seem to suggest provider network adequacy as a large factor in member complaints.

GeoAccess reports for 17 acute care provider types for the Medicaid population as a whole from 2016-2018 suggest that coverage worsened slightly over the period for dentists, primary care providers (both regular and pediatric), endocrinologists, oral surgeons, and hospitals. Coverage remained very high for other specialties. Coverage gaps tended to be concentrated in particular counties, often though not always those with less dense populations where the standard mileage metric was presumably harder to achieve.

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[5] See https://www.state.nj.us/humanservices/dmahs/news/Medicaid_MLTSS_Quality_Report_2020.pdf

Transitions between Nursing Home and Community Settings

- The number of transitions has increased after the first year of MLTSS implementation, and 12% or fewer transitioned members returned to a nursing home within 90 days.
- Despite greatly increasing number of HCBS members in MLTSS, the largest number of HCBS members transitioning to nursing home settings occurred during the first year of MLTSS implementation, with slightly decreased numbers in subsequent years. The majority of members who move to a nursing home stay 180 days or longer.

NCI-AD (National Core Indicators, Aging and Disabilities™) Survey

- The NCI-AD™ is an *annual face-to-face survey* with questions developed by experts in long-term care. NJ has participated each year since the survey was first launched in 2015, surveying *between 700 and 900 people each year* and including about 100 cases for each MCO for HCBS enrollees and for PACE and nursing home residents. There are 4 years of data for New Jersey.
- NCI-AD™ covers many topics including community participation and access measures, choice and decision-making, relationships, satisfaction with life, services and staff, service and care coordination, safety, health care, and wellness.
- For the 2017-2018 and 2018-2019 surveys, New Jersey added questions regarding housing needs, home delivered meals, care manager changes, access to financial resources, and awareness of information about substance use. New Jersey piloted the NCI-AD™ optional module on person-centered planning in 2017-2018 and included it in the 2018-2019 survey.
- Other than the size of the overall population from which the samples are drawn, the *sampling procedures and the composition of the sample relative to the composition of its population are unclear*. The reports provide *no information about response rates*. So, while there is a lot of rich information in the survey about the enrollees who are included, it is *not clear to what extent these results can be generalized* to the populations from which they are drawn.
- NCI-AD™ surveys are also *done in some other states and are designed to facilitate interstate comparisons among states with similar programs*. Because the other participating states have varied, we only look at *New Jersey compared with other states for the most recent survey* in 2018-2019.
  - Compared with other states participating in NCI-AD™, New Jersey's MLTSS members were less likely to be white and speak English and more likely to be in a metropolitan area. They had less length of LTSS services in their current program.
- Comparing *MLTSS HCBS enrollees in New Jersey with those in Kansas, Ohio, Tennessee, and Wisconsin* showed that New Jersey's MLTSS HCBS members:
  - appear more at-risk than average with respect to: being older, more concerned with falling or being unstable, less able to get to safely quickly in case of a house fire, more

    likely to report poor health, more likely to have poor hearing, and more likely to need at least some assistance with self-care (bathing, dressing, toileting, eating, mobility)
    - appear less at-risk than average with respect to: being less likely to have had a recent address change and less likely to describe their vision as poor.
    - were *about the same on 17 of 24 outcome measures dealing with access to primary care, equipment/modifications, and ED use*. New Jersey had *better outcomes for 6 measures and worse outcomes for one* (Table 2.11a)
        - New Jersey had better outcomes with respect to bathroom modifications, needing a scooter, and physical exams/wellness visits and hearing, vision and dental exams in the past year. *New Jersey particularly stood out with regard to access to primary care*, and was 10 or more points above the average for dental, hearing and vision exams in the past year.
        - New Jersey had worse outcomes with respect to needing a ramp or stair lift in or outside the home.
    - were *similar to other states on 29 of 53 items measuring respondent choices, quality of life and care management/services*. New Jersey had *better outcomes on 17 measures and worse outcomes on 7* (Table 2.12a).
        - The largest differences between New Jersey and the other states when New Jersey scored better was in the extent to which 1) paid staff changed too often, 2) people had discussed forgetting things more often with a doctor or nurse (where applicable), 3) people wanted to live elsewhere, 4) paid support staff showed up and left when desired, 5) people who had concerns about falling or being unstable had someone talk/work with them to reduce the risk, 6) people had an emergency backup plan, 7) people's money was taken or used without their permission in the past year, and 8) people in group settings were able to lock the doors to their room if desired.
        - The largest differences between New Jersey and the other states when New Jersey scored lower was in the extent to which 1) people in group settings with roommates who can choose their roommates, 2) people receiving information in the language they prefer (if not English), 3) people in group settings who have enough privacy, and 4) people in group settings who are able to furnish/decorate how they want. For the HCBS population, then, NJ lagged particularly with regard to group settings—of 7 questions asked on this topic, NJ was better than average on 1, the same on 3, and worse on 3.
- Comparing responses from *MLTSS NF enrollees in New Jersey versus those in Tennessee* (the only other surveyed state with an MLTSS NF program) showed that New Jersey's MLTSS NF members who responded to the survey were older and had more concerns about falling or being unstable, but were less likely to have dementia.

    - MLTSS NF enrollees in New Jersey were *about the same as Tennessee for 18 of 24 outcome measures dealing with access to primary care, equipment/modifications, and ED use*. New Jersey exceeded Tennessee in the frequency of all type of primary care visits (physical, hearing, vision, dental exams) in the past year, and had fewer reported emergency room visits. However, New Jersey lagged Tennessee in respondents who could get an appointment with their primary care doctor when needed (Table 2.11b).
    - Of the *53 items measuring various aspects of respondent choices, quality of life and care management/services, New Jersey's MLTSS NF respondents were similar to Tennessee's on 43*. *New Jersey was above Tennessee for 4 measures and below Tennessee on 6 measures* (Table 2.12b). The positive items were all close to the margin of error threshold of 10 percent, with the largest difference being in the extent to which respondents reported discussing forgetfulness with a doctor or nurse. NJ MLTSS NF respondents were also less likely to think their paid support staff changed too often. On the negative side, the highest items were people whose visitors are able to come any time, paid support staff doing things the way people want them done, and paid support staff treating people with respect. The items where NJ NF MLTSS participants were lower suggest less control over their environment and staff than in Tennessee, although NJ respondents were less likely to say they would prefer to live elsewhere, and about equally likely to say they felt in control of their lives.
- *Comparing responses from long-term care programs across New Jersey (MLTSS-HCBS, PACE and nursing home residents) showed* that:
    - There were *differences in racial composition, living situation (PACE vs. MLTSS-HCBS) and types of disability among the groups* (Table 2.13a).
    - Nursing home residents were always more likely to say they preferred to live elsewhere and least likely to say they could eat meals when desired.
    - PACE was the highest in all years in having had a dental visit (59-86% of respondents). However, this measure is not risk-adjusted and PACE members have dental services available on site, which may account for some of the difference. MLTSS-HCBS recipients were generally the lowest on this measure, ranging from 45-52%. Nursing home residents ranged from 55-71%. This was a large contrast with having had a physical health visit, which was 80% or higher in all groups.
    - All other results varied by year/programs (Table 2.13b).
    - While nursing home residents are less positive about their care, there have been more than 300 MLTSS-NF surveys done over 3 years, and at least 3/4 have reported that they always get enough assistance with daily activities and self-care over 3 survey periods.
- *Comparing responses across MLTSS members in different MCOs shows a lot of variability from year to year in both population characteristics and outcomes.* The variability we see in

demographic characteristics from one period to the next both within and among MCOs leads us to believe that samples may not be representative of the MCOs' general MLTSS population and likely are not strictly comparable over time for the purpose of identifying trends in the larger population. There were a few trends or consistencies of note (Table 2.14):

  - A decline in the share of respondents who are white.
  - The majority of respondents report a physical disability.
  - Access to nonmedical transportation was lower and more variable than access to medical transportation.
  - At least 76% of respondents from individual MCOs said they could eat meals when desired, with averages from 77%-88% over the survey years.
  - Across all MCOs, 2018-2019 had the lowest score on the extent to which respondents always/almost always liked how they spent their time during the day, with some variability across MCOs in this measure (as low as 39% and as high as 61%). One MCO consistently ranked highly on this measure across all four surveys, which could reflect differences in the populations surveyed across MCOs as well as the providers contracted by the MCOs.
  - There was a difference in survey responses about the extent to which paid support staff changed too often from 2015-2016 (when 31-47% thought staff changed too often) compared with subsequent years (when 13-35% thought staff changed too often). We don't have a measure of how often staff actually changed.
  - At least 65% (and as many as 78%) of individual MCO respondents have felt that their services are meeting all their needs and goals across all years of the survey, with the risk-adjusted average for MLTSS-HCBS ranging from 71% to 76%.
  - At least 78% (and as many as 93%) of individual MCO respondents have felt that they always get enough needed help with self-care and other daily activities across all MCOs and years. The risk adjusted averages range from 83% to 88% for MLTSS-HCBS for these measures.
- Enrollees self-select into MCOs and programs (subject to clinical and financial eligibility), and there are other differences across MCOs and other programs in terms of geographic availability, provider networks, and related factors. As a result*, it is not possible to use these data as a rigorous performance review of MLTSS or individual MCOs, but the data may contain useful information regarding how to improve services for members*.

Chapter 3: Impact of Waiver Reforms to Streamline Medicaid Eligibility Processes

In this chapter we assess administrative changes under the NJ FamilyCare Comprehensive Demonstration intended to streamline Medicaid eligibility for long term services and supports. These include 1) the provision to disregard income through a qualified income trust (QIT) for individuals in need of long term care whose income is above the threshold eligibility level and 2) the elimination of the transfer of assets look-back period for individuals who are at or below 100% of the FPL. To evaluate these reforms, we draw on statistics from administrative records provided to us by State officials or available in public reports and presentations. We also rely on audit data collected by the State's Bureau of Quality Control (BQC) and contextual information on the audit process, and findings from direct communications with State officials. Finally, we use Medicaid fee-for-service (FFS) claims and managed care encounter data for January 1, 2011 through December 31, 2019 to examine the share of long-term care recipients in home and community-based setting in the pre- and post-waiver period.

Since 2015, there have been at least 8,600 individuals qualifying for Medicaid with a QIT. About 75% are in nursing homes, but at least 2,000 individuals have been able to qualify for LTSS in community settings (about 1,500 in Assisted Living and about 600 in other community settings), who would otherwise have had to seek nursing home care to get Medicaid LTSS, because prior to MLTSS only nursing home residents could use the medically needy designation. As of early 2021, roughly 35% of nursing home residents on MLTSS were eligible due to a QIT (and would have been eligible under a previous designation of medically needy), versus about 55% of Assisted Living residents and about 2% of residents in other community settings, who would not otherwise have been eligible (unless they went into a nursing home under the medically needy designation).

An examination of QITs by county shows that all counties are using them. It is difficult to calculate an expected take-up rate for QITs. However, examination of census data regarding population levels of poverty and foreign birth among older adults provides some plausible explanations for differences, though it could be that there is more awareness of QITs in some areas, or other factors affecting the take-up of the underlying Medicaid population.

The percent of Medicaid recipients using HCBS has steadily increased since the first round of the NJ Comprehensive Waiver was approved in 2012. As of 2019, with our annual method of calculating beneficiary setting (versus sometime in 2018 using a point-in-time method), the percentage of LTC recipients using HCBS exceeded the percentage in nursing homes.

At least 5,500 Medicaid recipients have used the streamlined self-attestation process since 2012, with an average of 180 per quarter. Eight randomly sampled applications for each quarter between October 2015 and December 2016 underwent a detailed audit process by BQC staff to determine the accuracy of the self-attestation. They reviewed financial documents to determine whether any assets were transferred for less than fair market value during the five years prior to application. There was a zero error rate on these audited samples.

The full potential of either of these administrative simplifications to reduce barriers to MLTSS enrollment relies on their uniform and equitable application. While the representativeness of counties in the early self-attestation audit samples raised the question of whether all counties were using the self-attestation form, the BQC saw more counties included in subsequent samples and has not expressed concern that there is any systematic differences in the use of the form across County Welfare Agencies (CWAs). With regard to QITs, stakeholders have expressed concerns about access to legal assistance for consumers with limited financial or social resources, who may be at a disadvantage for drawing up the trust documents and designating a representative to administer the trust over time, or administrative errors that lead to ineligibility. However, while the State has asked the CWAs to reach out if they encounter these situations, only a small number of such cases have been brought to the State's attention and they have been resolved.

The data and information we have reviewed indicates that the elimination of the transfer of assets look-back period for low-income LTSS applicants and the establishment of QITs have been successfully implemented. It is reasonable to conclude that the expanded eligibility for HCBS made possible by the QIT and the streamlined pathway into Medicaid long-term care service made possible by the self-attestation process contributed to the growth in the HCBS population during the waiver demonstration periods.

We note that this interim analysis is based on data currently available to us, which has significant limitations. As part of our planned final report, we have been working with the State to obtain fuller data which will allow a more comprehensive evaluation. This is aligned with the State's current work with stakeholders to identify potential improvements to QIT policies and processes.

Chapter 4: Analysis of Medicaid Claims Data to Examine Access to Care, Quality, and Cost of Care in MLTSS

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) for NJ Medicaid beneficiaries, which began under the first §1115 Comprehensive Demonstration (October 2012-July 2017) and continued during the renewal period (starting in August 2017). The analysis in this chapter provides evidence to help assess the impact of the managed care expansion on access to care, quality of care, and mix of care settings employed for the long-term care population, an evaluation Research Question enumerated in the approved evaluation design (CMS 2019).

Using Medicaid fee-for-service (FFS) claims and managed care encounter data over 2011-2019, we present annual estimates to examine the rebalancing of Medicaid long-term care eligible recipients and spending from the nursing facility to the community. We then examine measures of access to care, quality of care, and cost of health care using multivariate regression analyses in order to isolate the effect of the managed care expansion policy on the stated outcomes (after adjusting for patient characteristics and time effects). We primarily utilize difference-in-differences (DD) estimation with a propensity score matched comparison group for the adult population receiving home and community based services (HCBS). The technique examines changes in selected quality metrics from the pre- to the post-implementation period of the MLTSS program, and we further differentiate those changes between the base (Waiver 1) and renewal (Waiver 2) demonstration periods.

LTC Population Rebalancing and Spending

- The size of the LTC population has grown over 2011-2019, and the composition has shifted from the majority of beneficiaries residing in nursing facilities (74% in 2011) to the majority residing in home and community-based settings in 2019 (52%).
- The percentage of new Medicaid LTSS users first receiving services in the community (compared to first services being received in NHs) has more than doubled from 25.3% in 2012 to 62.9% in 2019 with the growth climbing most steeply starting in 2014.
- The share of (inflation-adjusted) LTSS spending in the community (out of total LTSS spending in community and NFs) has doubled since MLTSS began, from 12% in 2014 to 25% by 2019.
- Per person (inflation-adjusted) spending is declining for the HCBS-MLTSS populations, decreasing by about 20% by 2019 compared to pre-MLTSS.

MLTSS Impact on the Adult HCBS Population

- We observe no statistically significant impact of MLTSS on overall inpatient utilization, ED visits, avoidable inpatient utilization or avoidable ED visits by the HCBS population, neither when examining the MLTSS period overall, or separately by the Waiver 1 and Waiver 2 periods.
- During the Waiver 2 period, the MLTSS policy is associated with a statistically significant decrease in avoidable inpatient costs for the HCBS population, with the percentage increase in spending for HCBS beneficiaries around one-third of what it would have been without MLTSS, as estimated by the comparison group (p<0.01).
- Our models estimate small declines in hospital-wide readmissions for HCBS beneficiaries under MLTSS, but these effects are not statistically significant.
- Readmissions after pneumonia hospitalizations show *marginally statistically significant* increases under MLTSS. Over the entire period when MLTSS was in effect, there was a 5.4 pp increase in 30-day readmissions following pneumonia hospitalizations for HCBS beneficiaries (p<0.1). During just the Waiver 2 period, there was an estimated 6.7 pp increase, but this was not statistically significant.
- We do not observe a statistically significant effect of MLTSS overall on either HbA1c testing or eye exams, and *there are mixed results when looking at the demonstration periods separately*. MLTSS was associated with a 4.0 pp lower rate of HbA1c testing among the HCBS population during the Waiver 1 period and this was marginally significant (p<0.1). While not significant, it was associated with a 4.2 pp increase in the Waiver 2 period.

MLTSS Impact on the Adult HCBS Population with a Behavioral Health (BH) Condition

- We do not observe any statistically significant impacts of MLTSS on avoidable inpatient stays or avoidable ED visits for adults in HCBS with a BH condition.
- We find a statistically significant decline of 9.4 pp in hospital-wide readmissions associated with MLTSS in the Waiver 1 period. In the Waiver 2 period, the coefficient is positive indicating an increase in readmissions compared to the pre-MLTSS period, but this was not statistically significant.
- We estimate decreases in the rate of 7-day follow-up after mental illness hospitalizations of 12.1 pp, but increases in the 30-day follow-up by 1.1 pp when looking over the entire MLTSS period; however, neither effect is statistically significant.

The staggered timing of MLTSS enrollment for the nursing facility population, lack of a suitable comparison group in the pre-MLTSS period, and the diminishing population of NF residents, requires us to utilize separate estimation strategies from those used for the HCBS population to assess the impact of MLTSS. We use propensity matching to look at the average effect of MLTSS on the nursing facility (NF) population using the NF Fee-for-Service (FFS) population for comparison. The matched population of FFS NF residents is small for some outcomes and because of the small cell sizes average effects cannot be adjusted for secular trends.

Average Effects of MLTSS on the Nursing Facility Population

- There was no statistically significant difference in the percentage of NF residents with one or more avoidable hospitalizations in a quarter (between NF-MLTSS and NF-FFS).
- The difference in the average quarterly number of ED visits per 1,000 beneficiaries is -29.7 visits, meaning, over a calendar quarter, there were 29.7 fewer visits per 1,000 MLTSS beneficiaries in a NF compared to those in a NF under FFS. This finding is statistically significant ($p<0.05$).
- Average effects for other hospital utilization outcomes show a lower likelihood (assessed over a quarter) of inpatient hospitalizations (-6.2 pp) and ED visits (-2.8 pp) among the MLTSS nursing facility population. The reduced inpatient hospitalizations are statistically significant ($p<0.05$).
- Pneumonia readmissions were higher by 4.7 pp for the NF population in MLTSS, but this was not significant.
- On average, annual dental visit rates were significantly lower for the NF population under MLTSS (-9.2 pp, $p<0.05$), but rates of HbA1c testing and diabetic eye exams were higher by 13.8 and 15.3 pp, respectively ($p<0.05$).

The small sample size of children in MLTSS, which diminishes further when putting in restrictions to isolate a cohort or require minimum enrollment durations, meant it is not feasible to conduct matching or regression modeling for children in MLTSS.

The analyses in this chapter provide evidence that in the first five and half years following the transition to MLTSS for the HCBS population, quality of care has not consistently improved or worsened overall when looking across multiple measures. Our most statistically relevant findings which show consistency in direction across both the Waiver 1 and Waiver 2 periods are that avoidable inpatient spending has declined and readmissions following pneumonia hospitalizations have increased. For the NF population in MLTSS, most statistically significant findings are positive, indicating reduced inpatient hospitalizations and avoidable ED visits.

Chapter 5: Examining Care Outcomes for Populations of Children and Youth Eligible for Targeted Home and Community-Based Services

In this chapter, we analyze data for evaluating and assessing programs under the NJ FamilyCare Comprehensive Demonstration that support children with Autism Spectrum Disorder (ASD), intellectual/developmental disabilities (ID-DD) with and without co-occurring mental illness (MI), and Serious Emotional Disturbance (SED). All of these programs began under the first §1115 Comprehensive Demonstration (October 2012-July 2017) and continued during the renewal period (starting in August 2017) with service coordination handled by the NJ Department of Children and Families, Children's System of Care (DCF-CSOC). We utilize Medicaid fee-for-service claims and managed care encounter data to examine trends in program enrollment and to calculate quality of care measures. Claims-based measures include inpatient utilization and ED visits overall; avoidable ED visits that arise due to inadequate ambulatory or primary care in the community; mental illness hospitalizations; admissions to residential treatment centers (RTCs); total and avoidable hospital spending; and well-child visits for children ages 3-6. Finally, we look at quality assurances reported by DCF-CSOC as part of their Quality Strategy for several years of the Demonstration.

ASD Waiver Program

The ASD pilot program provided new behavioral therapies for up to 200 children under 13 years of age with ASD who were Medicaid/CHIP eligible. Services began in the Spring of 2014. The ASD pilot continued under the Demonstration renewal until approval of a State Plan Amendment (SPA) which incorporated the services into the NJ Medicaid State Plan. Using claims data from 2013-2019 and a propensity-matched comparison population of youth with ASD not enrolled in these waiver programs, we conducted multivariate regression analyses to adjust for patient characteristics and time trends utilizing a difference-in-differences (DD) framework. We found:

- There is an estimated 0.3 fewer inpatient hospitalizations, 0.5 additional ED visits, and 0.5 additional avoidable ED visits per 100 beneficiaries per quarter associated with participation in the ASD pilot. However, none of these effects were statistically significant.
- There was no statistically significant difference in total/overall hospital spending or avoidable hospital spending for youth in the ASD pilot although the magnitude of estimates suggest lower costs for both categories of spending.
- Youth in the ASD pilot have 0.4 percentage point (pp) lower likelihood of having an admission to a residential treatment center (RTC) in a year, but this was not a statistically significant effect.
- Our model estimates a decline of 3.7 pp in the likelihood of receiving a well-child visit for those of ages 3-6 in the ASD waiver program, but this was again not statistically significant.

Because similar services were also provided to children with ASD outside the waiver who may be included in our comparison population, this analysis provides conservative estimates, meaning we are less likely to detect effects.

CSSP-I/DD Waiver Program

The program for children with ID-DDprovides intensive in-home and out-of-home services to Medicaid/CHIP children up to 20 years old with ID-DD. It started out serving those with a co-occurring mental illness diagnosis, but was absorbed into the Children's Support Services Program (CSSP) and was expanded to cover children with ID-DD without a co-occurring mental health diagnosis under the Demonstration renewal. Individual services rolled out at different times starting in 2015 through 2017. Using claims data from 2013-2019 and a propensity-matched comparison population of youth with ID-DD not enrolled in these waiver programs, we conducted multivariate regression analyses to adjust for patient characteristics and time trends utilizing a difference-in-differences framework. We found:

- There was a statistically significant decrease of 2.5 ED visits and 1.2 avoidable ED visits per 100 beneficiaries in the CSSP-I/DD waiver program per quarter ($p<0.05$).
- There were declines, though not statistically significant, of 1.7 inpatient days per beneficiary per quarter as a result of participation in this waiver program.
- There was no significant impact on rates of overall hospitalizations and mental illness hospitalizations. Point estimates were in the direction of slightly more inpatient hospitalizations overall (0.3 per 100 beneficiaries per quarter) and fewer mental illness hospitalizations (-0.1 per 100 per quarter).
- There was marginally significant reduced avoidable hospital spending among youth with ID-DD enrolled in the CSSP ($p<0.01$).

CSSP-SED & SED Plan A Expansion

The SED waiver program provides children with SED, up to age 20 years old, critical behavioral health services intended to help prevent out-of-home placements. These supportive services became Medicaid-covered services in the Fall of 2015. In July 2016 there was an expansion in eligibility for Medicaid State Plan services for youth with SED in out-of-home settings (Plan A expansion). Under the Demonstration renewal, the SED program became part of the CSSP. The majority of youth in the CSSP-SED are not Medicaid/CHIP eligible for State Plan services. Therefore, we do not have claims for any inpatient or outpatient utilization to look at quality outcomes for this population. Instead, we examine enrollment patterns in the waiver for home and community-based services and the likelihood that youth in the waiver will subsequently become enrolled under the Plan A expansion due to an out-of-home placement. If waiver enrollment duration and transitions to out-of-home settings decrease, it suggests increased stability of youth with SED. We find:

- Declines over time in the average number of months enrolled on the waiver, from around 9 months in 2013-2015 to about 6.3 months for youth enrolling in 2018.
- The percentage of waiver youth who leave the waiver, but then re-enroll at some point declines by about 5 percentage points over time.
- Looking only over the period when the SED Plan A expansion was in effect, only a small percentage (~2.5%) of youth with SED in the CSSP end up with enrollment into Plan A. Since Plan A enrollment only applies to those with an out-of-home-placement, this means that is an uncommon outcome.
- There's a slightly lower chance of enrolling in Plan A, meaning a slightly lower chance of an out-of-home placement, for youth enrolled in the CSSP-SED waiver for more months compared to fewer months (2.9% of those in the CSSP-SED 19-24 months go into Plan A compared to 3.5% enrolled 13-18 months).

These patterns suggest success of the waiver services in maintaining children with SED in their homes and communities, but these findings are descriptive and subject to caveats.

CSSP-SED Plan A: Looking specifically at youth enrolling into Plan A for whom we can observe utilization outcomes for the years following enrollment in our claims, we find:

- In general, utilization does not decline as hypothesized but instead, increased between 2018-2019. In 2019 there was a higher rate of ED visits, avoidable ED visits, and inpatient days when looking at all youth with SED enrolled in Plan A and a continuously enrolled cohort.
- Rates of mental illness hospitalizations only change a little over time, increasing 1 hospitalization per 100 between 2018-2019 for the continuously enrolled cohort and declining by a similar amount when looking at all SED Plan A enrollees.
- Between 2018-2019, the percentage in the SED Plan A cohort with a residential treatment center admission declined from 68.3% to 34.6%.
- 'Mental, behavioral, and neurodevelopmental disorders' was the most common classification of ED visits in all years for SED Plan A enrollees, with 'Injury, poisoning, and other external causes' the second most common.
- The specific diagnoses on ED visits for CSSP-SED Plan A enrollees shows that Major Depressive Disorder is always one of the most prevalent diagnosis codes in all years examined.

Without a pre-period, we cannot know based on trends subsequent to gaining Medicaid eligibility, whether such eligibility changed the trajectory of utilization. Longer-term outcomes could potentially provide a better picture of the impact of this eligibility expansion for Medicaid services.

DCF-CSOC Reported Quality Assurances

The Department of Children and Families, Children's System of Care lists 17 assurances in its Quality Strategy relating to ID/DD–MI and the ASD pilot, with audits done by the Division of Medical Assistance and Health Services' Quality Management Unit (QMU).

- Of the 16 quality assurances reported by DCF (See Table 5.5 below), 12 relating to ID/DD–MI and 11 relating to ASD had been reported by DY7, with an additional 2 reported for the combined programs.
- Outcomes were generally high for reported assurances.
- Enrollees of both ID/DD–MI and ASD programs exceeded the 80% benchmark in every year reported and showed higher levels of achievement each year based on improved assessment scores.
- Level of care assessments were completed, care plans developed and updated, and appropriate services authorized in compliance with assurances 98% to 100% of the time.
- 73%-100% of youth and families were provided a choice of providers (with evidence of more in files for results below 100%, even where the indicated form was not completed).
- CSOC was always able to verify qualifications and training for new providers.
- Timeliness of unusual incident reports (UIRs) was 91% for ASD and 96% for ID/DD–MI, and timeliness of demonstration of required follow-up for UIRs was 83% for ASD and 84% for ID/DD–MI.
- ASD had no UIRs involving restrictive interventions. ID/DD–MI had 7 incidents and while none of them had sufficient documentation of whether remediation was done in accordance with policies/procedures, all were without injury.
- Combined quality assurance information showed that the state established and monitored healthcare standards 100% of the time, that 95% of claims were coded and paid in a compliant manner, and rates remained consistent with the approved methodology throughout the demonstration.
- Demographic information shows that the ASD program increased its share of enrollees who were ages 0-4 in DY5, possibly reflecting earlier diagnosis and intervention. Fewer ASD youth required out of home care in DY5 compared with DY4. The share of ID/DD-MI requiring out of home care increased from 4% to 5% from DY4 to DY5, but since all enrollees are at risk of needing out of home care, this is not a large increase.
- Case examples provided in the DY7 annual report showed how providers work with waiver-enrolled youth and their families on communication (including a variety of strategies for nonverbal youth), creating routines, learning new skills, and in one case stabilizing medications. Several of the youth were able to transition off the program after their interventions, and all gained significant function.

- 185 providers served program enrollees in DY7, with 61% serving both I/DD and the ASD pilot and 39% (mostly respite providers) serving only the I/DD enrollees.

Conclusions

On selected hospital and ambulatory care outcomes, (utilizing a modeling approach that assures similarity of comparison populations but as a result provides conservative estimates), we do not observe any significant impact of providing home and community-based services to Medicaid/CHIP beneficiaries with Autism Spectrum Disorder under the waiver pilot program. The waiver ASD pilot has been discontinued and services are now part of the Medicaid State Plan package. Providing home and community-based services to Medicaid and CHIP beneficiaries with intellectual/developmental disabilities with and without co-occurring mental illness is associated with better care outcomes including lower ED use and avoidable spending. As with the ASD waiver program, these estimates are likely conservative.

Descriptive trends in enrollment duration, re-enrollment, and out-of-home placement suggest positive impacts of the SED waiver on stabilizing youth, preventing institutionalization, and reducing dependency on waiver services; however, there may be other reasons for the trends we observe. After providing youth with SED having an out-of-home placement eligibility for Medicaid State Plan services, descriptive, unadjusted trends in hospital and ED use do not show declines, but instead show increases in avoidable use in the first couple years. Roughly a third of ED visits for these Plan A youth are related to mental and behavioral health conditions. Admissions to residential treatment centers do show a downward trend in the cohort of Plan A enrollees. Longer-term outcomes could provide a different picture of the impact of this eligibility expansion.

There are generally high outcomes on all assurances reported as part of the DCF Quality Strategy.

Chapter 6: Analysis of Medicaid Claims Data to Examine Care Outcomes for Individuals Receiving HCBS under DDD Waivers

In this chapter, we address research questions under the §1115 Comprehensive Demonstration relating to Medicaid-enrolled adults with intellectual and developmental disabilities. Three policy changes are considered: (1) the Supports Program, (2) the expansion in eligibility for the Supports Program, and (3) the Community Care Program (CCP). The Supports Program, launched under the initial Demonstration is a fee-for-service HCBS program for adult Medicaid enrollees who meet the Division of Developmental Disabilities eligibility criteria. A 2016 CMS approved amendment to the initial Waiver expanded income eligibility for the Supports program allowing individuals up to 300% FBR to receive Medicaid State Plan and waiver home and community-based services. The Community Care Waiver (CCW) was first approved in 1985 for adults who meet an institutional level of care. The CCW was incorporated into the §1115 Comprehensive Demonstration in 2017, as the Community Care Program (CCP).

The analyses in this chapter were generated using Medicaid FFS claims and managed care encounter data from 2013-2019. We follow three distinct analytic strategies to examine the impacts of the three policy changes. We first identify the specific populations which were subject to each of the policies and examine their health outcomes and service utilization. The outcomes that are assessed for the evaluation include specific categories of preventable hospitalizations that are relevant to adults with IDD (epilepsy, constipation, schizophrenia, and reflux) (Balogh et al. 2011), follow up after hospitalizations for mental illness, and utilization of specific preventive care services for adults with diabetes. To provide contextual information, we also present trends in different types of HCBS utilization.

For identifying the impact of the Supports program, we examine changes in outcomes for beneficiaries who ever enroll under Supports compared to similar individuals who do not receive waiver-funded services using a pre-post methodology. For assessing the impact of the transition of the Community Care Waiver to §1115 Demonstration authority we examine potential changes in outcomes before and after the transition in 2017, among individuals enrolled in CCW. For assessing the impact of the expansion in Supports services we identify individuals who, absent the Demonstration, would not have been eligible for Medicaid. Due to the absence of baseline data for these populations (since prior to the policy change they were not Medicaid-eligible and hence would not show up in our claims data), we conducted trend analyses of outcomes over time, after policy implementation.

Supports Waiver

- There is an estimated 0.1 fewer inpatient hospitalizations each for epilepsy and reflux per 100 beneficiaries per year associated with participation in the Supports program. However, neither of these effects were statistically significant.
- There is a statistically significant decline of 0.8 hospitalizations for schizophrenia per 100 beneficiaries per year attributable to the Supports programs.
- Overall, there is a 0.7 percentage point (pp) lower probability of any I/DD-relevant avoidable hospitalization in a year and about 1 fewer avoidable hospitalizations per 100 beneficiaries per year associated with the Supports program and these estimates are statistically significant.
- There was no statistically significant differences in diabetes monitoring outcomes (HbA1c testing or eye exams) due to the Supports program.

- The impact of Supports enrollment on follow-up visits after mental illness hospitalizations are mixed and also not statistically significant.

CCW Transition to the §1115 Waiver

- We estimate increases in I/DD-relevant avoidable hospitalizations of less than 1 visit per 100 beneficiaries per year and the increases are statistically significant for epilepsy, constipation, and reflux.
- Overall, there is a statistically significant increase of 0.7 pp in the probability of an I/DD-relevant avoidable hospitalization per year. When looking at total hospitalization count, the increase is 1 additional hospitalization per 100 beneficiaries per year after the CCW transitioned to the CCP.
- Diabetes monitoring outcomes show a statistically significant increase of 6 pp per year in the probability of an eye exam and a 1 pp decline in HbA1c testing rates in the period after the CCW transition which is not statistically significant.
- We estimate statistically significant increases in rates of follow-up visits after mental illness hospitalizations for enrollees in the CCW when it came under the 1115 as the CCP.

Medicaid Eligibility Expansion for Supports

We assess descriptive trends without a baseline period, hence it is not possible to make inferences about the policy impact.

- Nearly 2,000 individuals have Medicaid coverage due to this eligibility expansion as of the end of 2019.
- We do not observe consistent improvements (nor consistent deterioration) in rates of IDD-specific avoidable hospitalizations or rates of eye exams for diabetics under the Supports expansion in the short-term period after Medicaid enrollment.
- Rates of HbA1c testing for diabetics improve after Medicaid enrollment for adults in the Supports program under the eligibility expansion.

Conclusions

We find partial support in our analyses for positive outcomes associated with providing home and community-based services to Medicaid adults with intellectual disabilities/developmental disabilities under the Demonstration.

Chapter 7: Assessment of Medicaid Cost Savings from the Premium Support Program

This chapter examines the potential Medicaid cost savings due to beneficiaries participating in the NJ FamilyCare Premium Support Program (PSP) which was brought under §1115 Waiver authority as part of the Demonstration renewal in August 2017. We examined cost savings for the beneficiaries who entered PSP between August 2015 and July 2017 (referred to as "pre-Waiver 2" period) and the first two years of the Waiver 2 demonstration period (beneficiaries who entered PSP between August 2017 and July 2019, referred to as "Waiver 2" period). We also examined the combined estimate for the four-year period (beneficiaries who entered PSP between August 2015 and July 2019). This analysis provides evidence needed to assess the impact of participation in the PSP on Medicaid cost, an evaluation Research Question enumerated in the approved evaluation design (CMS 2019).

We used the NJ Data Report provided to us by the Division of Medical Assistance and Health Services (DMAHS) and calculated per member per month savings and the net percentage of savings to Medicaid for each family in the PSP compared to the projected cost to NJ FamilyCare without the premium support program. The NJ Data Report included the net savings to Medicaid. Overall, 109 families (total members=251) entered the PSP between August 2015 and July 2019.

- Forty families (93 members) entered in the pre-Waiver 2 period and 69 families (158 members) entered in the Waiver 2 period.
- Medicaid saved $449,659 from beneficiaries who entered the PSP at any point between August 2015 and July 2019. The savings during the Waiver 2 period was $285,828 and during the pre-Waiver 2 period was $163,831.
- The average total per member per month savings to Medicaid was $112 for the two time periods. Medicaid saved an average of $117 per member per month during the Waiver 2 period and about an average of $103 per member per month during the pre-Waiver 2 period.
- The average percentage cost savings from family enrollment in PSP compared to enrollment in NJ FamilyCare during the Waiver 2 period was 58.6% and in the pre-Waiver 2 period was 64.5%. The overall average percentage cost savings for the two periods was 60.7%.

The findings presented in this chapter suggest substantial savings to Medicaid when beneficiaries participated in PSP, overall and during the time this program was under the Comprehensive Demonstration. This supports the conclusion that additional efforts to increase enrollment for individuals who have access to employer sponsored insurance and outreach efforts to recruit employers that offer health insurance plans may result in significant cost savings. These findings are based on a few years of data and could change as additional years of data are added in the final evaluation report.

Chapter 8: Cost Effectiveness Analysis

In this interim report, we describe initial results of our cost effectiveness analysis (CEA) on the first policy evaluated— the managed care expansion of Medicaid long-term services and supports home and community-based services (MLTSS-HCBS). We assess one of the main goals of this policy, which is to improve care coordination as reflected in a reduction in avoidable hospitalizations, avoidable emergency department (ED) visits, and 30-day readmissions. Accordingly, these events were used as the effectiveness measures in the CEA and our analysis examines cost per avoidable event for each of these three types of events.

It is important to note that the findings herein could be considered supplemental to prior chapters that solely examine impact on outcomes (i.e., Chapter 4). This is because cost-effectiveness analysis goes beyond examination of outcomes and considers changes in outcomes in relation to changes in costs incurred. We note that the application of CEA to New Jersey policy implementation is novel, and may be subject to further refinement, as new approaches to more meaningfully calculating both outcomes and costs are considered. As such, we believe that the findings in this chapter should be treated as one perspective among many.

There are also some caveats that are specific to the estimates in this Chapter. The objective of the MLTSS transition was to expand coverage of LTSS services to include individuals requiring them but not enrolled in the previous waiver programs. It was also to effect a rebalancing of resources from the nursing facilities to the community. These changes cannot be captured through health or health utilization outcomes and are not reflected in these analyses (Chapter 2 addresses some of these broader measures). The estimates in this chapter do not capture effectiveness of the program in achieving these objectives due to the nature of the CEA. More generally, this reflects one of the limitations of CEA in assessing the success of state or federal policies aimed at achieving multiple objectives. A further caveat is that the comparative estimates in this chapter use unadjusted Medicaid claims data, while planned analyses for the final report will use adjusted data to match MLTSS recipients with a comparison group. Thus, the estimates of events and costs will likely change in our next analysis.

An important component of the CEA is policy implementation cost. We measured this using a survey administered to state staff. The total estimated costs of implementing the MLTSS-HCBS policy are $2,471,730, based on the cost of state staff time only. This corresponds to a cost of $47.01 per MLTSS-HCBS beneficiary during the measurement period. Though state staff time is the largest measured cost component of those available for the total cost of MLTSS-HCBS policy implementation, the total policy cost will increase once other costs (currently being gathered) are added. These additional costs include outside contractors/vendors, supplies, and travel.

In terms of cost effectiveness, our interim findings calculate for each outcome, the numerator and denominator components of the Incremental Cost Effectiveness Ratio in a difference in difference framework. We estimate per-beneficiary, per-year savings associated with 30-day readmissions, and increased costs associated with avoidable hospitalizations and avoidable ED visits. Small per-beneficiary, per-year increases in numbers of these three avoidable events (avoidable hospitalizations, avoidable ED visits, and 30-day readmissions) were also observed after implementation of the MLTSS HCBS policy, when considering the MLTSS HCBS population in comparison to the general aged, blind and disabled (ABD) population not enrolled in MLTSS. These populations are not matched on demographic or clinical characteristics—such matching could change results. MLTSS and prior waiver HCBS programs were created for individuals who had higher needs than the general ABD population.

Considering the costs of the MLTSS-HCBS population alone without comparison to the ABD population, our interim findings suggest an overall per-beneficiary savings. This reflects the decrease in total incremental all-cause healthcare costs before and after implementation after subtracting out measured program implementation costs.

The CEA findings suggest that the MLTSS-HCBS population had slightly higher costs for two of the three outcomes of interest, and slightly increased numbers of avoidable events for all three outcomes when compared to a non-MLTSS population. In contrast to these relative measures, the MLTSS program when considered by itself has resulted in cost savings among those receiving the benefit, surpassing its implementation costs on a per beneficiary basis. These are preliminary estimates that do not factor in data not available at the time of this writing. In particular, findings may be subject to change when other costs associated with MLTSS-HCBS are factored in. In addition, the comparison cohort used in the CEA was not statistically adjusted based on underlying likelihood of the avoidable events; we plan to make this adjustment for the final analysis. While we do not expect to find that additional costs of the policy will greatly change results, statistical adjustment of the comparison cohort could indeed result in significant changes.

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

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Background/Overview of Questions, Hypotheses and Results

Background

The NJ FamilyCare Comprehensive Demonstration was approved by the Centers for Medicare and Medicaid Services (CMS) on July 27, 2017, and is effective August 1, 2017 through June 30, 2022. This report is the interim evaluation of this Demonstration. The Demonstration represents a renewal of New Jersey's Comprehensive Waiver Demonstration, which was approved by CMS on October 2, 2012, and was effective October 1, 2012 through July 30, 2017 (see draft final evaluation for the 2012-2017 demonstration in Chakravarty et al., 2017).

The 2017-2022 demonstration maintains all the programs from the prior demonstration and, additionally:

- Transitions beneficiaries from the Community Care Waiver, a separate §1915(c) waiver, into the Community Care Program under the §1115 demonstration in order to expand service offerings and align with the Supports program, which serves a similar population.
- Expands a pilot program offering seven intensive in-home and out-of-home services to Medicaid/CHIP children ages 5-20 years old with ID-DD, which began in the first comprehensive waiver as a pilot serving those with a co-occurring mental illness diagnosis, and was absorbed into the Children's Support Services Program (CSSP). The expansion under the Demonstration renewal covers children with ID-DD without a co-occurring mental health diagnosis.
- Incorporates the Premium Support Program, which provides financial support to cover the cost of the premiums for employer-sponsored health insurance, under §1115 authority.

The chapters in this evaluation report examine the evaluation questions and hypotheses in the CMS-approved evaluation plan (CMS, 2019, shown in Appendix 3).

Overview of Questions, Hypotheses and Results

The CMS-approved evaluation plan (CMS, 2019, shown in Appendix 3), specifies 8 research questions and corresponding hypotheses that are addressed in this report. This section will briefly discuss the context and findings for each of the questions/hypotheses.

1. Impact of managed care expansion on access, quality, efficiency, coordination, and cost of care

Research Question 1: 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?	*Hypothesis 1: The managed care expansion will improve access to care, the quality, efficiency, and coordination of care, and the cost of care for the overall population in managed care.*
Interim Conclusion 1: Hypothesis 1 is mostly supported by the data from HEDIS and CAHPS metrics, assessing access and quality for the overall managed care population. Costs for the overall population declined during the first waiver period.[6]	

Chapter 1 examines 21 measures (12 for children; 9 for adults) from the Healthcare Effectiveness Data and Information Set (HEDIS®), a system of standardized performance measures developed by the National Committee for Quality Assurance (NCQA); and 14 measures (7 each for adults and children) from 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. Measures are examined for the baseline period (2011-2012), the Waiver 1 demonstration period (2013-2016), and two years of the Waiver 2 demonstration period (2017-2018), with differences assessed between these three 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. The available data do not allow for risk adjustment, and changes in the risk profile of the managed care population over time could underlie observed differences. Results should be interpreted with this caveat in mind. *With some exceptions, the findings support the conclusion that overall quality of care for Medicaid managed care beneficiaries*

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[6] Chakravarty et al., 2017.

improved for most HEDIS® and CAHPS® measures examined in the Waiver 2 period when compared with the baseline and the Waiver 1 periods.

Consistently, findings from the different chapters show that the transition to Managed Long-term Services and Supports (MLTSS) has increased access to home and community-based services (HCBS) in terms of enrollment. Available information around acute care provider networks discussed in Chapter 2 suggests that provider availability for dentists, primary care providers (both regular and pediatric), endocrinologists, oral surgeons, and hospitals may have worsened slightly from 2016-2018. Coverage remained very high for other specialties. Coverage gaps tended to be concentrated in particular counties, often (though not always) those with less dense populations where the standard mileage metric (specific number of providers within a certain distance of beneficiaries) was presumably harder to achieve.

2. 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

Research Question 2: 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: 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.*
Interim Conclusion 2: Hypothesis 2 is supported for improved access, reduced costs, and allowing individuals to live in their communities. There is insufficient evidence to support Hypothesis 2*for quality of care, where we lack comparative measures and find mixed effects on outcomes in claims analysis. There is evidence of service adequacy and some evidence of quality improvement in MLTSS-specific metrics since 2015.*	

Chapter 4 utilizes Medicaid claims data over 2011-2019 to calculate a set of measures (e.g., preventable hospitalizations, ED visits, hospital readmissions, follow up rates) relevant for evaluating the effects of the transition to Managed Long-term Service and Supports (MLTSS) under the Comprehensive Demonstration. Using difference-in-differences models with propensity score matching for a continuously enrolled cohort of HCBS beneficiaries (for most outcomes), we examine the MLTSS periods occurring under the first demonstration period (Waiver 1) and the renewal demonstration period (Waiver 2), as well as the overall effect over both of these periods.

By all indicators, NJ is achieving a rebalancing of the long-term care population and associated spending to home and community-based settings. Chapter 4 notes that the total size of the LTC population has grown over 2011-2019 and the composition has shifted from the majority of beneficiaries residing in nursing facilities (74% in 2011) to the majority in home and community-based settings in 2019 (52%). Chapter 2 looks at setting on a per population basis for adults 65 and over and finds the same pattern there. Chapter 4 finds that the percentage of new LTSS enrollees receiving care in the community as opposed to in a nursing facility has more than doubled over this same time period, with the growth climbing most steeply in 2014 when MLTSS began. Consistent with this, we see the share of LTSS spending in the community has doubled since MLTSS began, from 12% in 2014 to 25% by 2019.

Utilizing Medicaid claims data, Chapter 4 finds that *average LTSS spending per person is declining for the HCBS population under MLTSS. LTSS spending per person for the NF-MLTSS population has stayed relatively constant*.

Chapter 2 discusses other access measures. *With regard to access to LTSS services, it is difficult to measure the provider network* because services are frequently brought to the beneficiary by providers not working out of a fixed office location. As a result, the typical network access method of measuring the number of providers within a certain number of miles of each beneficiary does not apply. There are anecdotal reports of problems with some types of services: social adult day, chore services, and nonmedical transportation. *Access-related factors are not a large share of beneficiary complaints.* Quality *audits of the extent of service delivery show that, despite improvements from 2017 to 2019, several key services are still not delivered to the level authorized most of the time*. The reasons for this and effect of this on consumers is not clear.

With regard to claims-based outcomes, results of our difference-in-differences models in Chapter 4 using a propensity score matched comparison group show *few statistically significant changes for the HCBS population. One statistically significant effect was on avoidable inpatient spending, which was lower after MLTSS for the HCBS population*. Results showing no difference were:

- No statistically significant changes in overall inpatient stays or ED visits, avoidable inpatient stays or ED visits for the HCBS population associated with the MLTSS program;
- No statistically significant effect of MLTSS overall on either HbA1c testing or eye exams, and there are mixed results when looking at the demonstration periods separately.
- No consistent (over the two waiver periods) effects evident so far on behavioral health care for the HCBS population under MLTSS.

Results for the nursing facility (NF) population show mostly favorable effects of MLTSS, but the propensity matched comparison population of FFS nursing facility residents was small for some outcomes and there was no adjustment for time trends or clustering. Our NF findings are thus subject to these important caveats. Findings were:

- *MLTSS was associated with lower avoidable ED visits and lower overall inpatient hospitalizations for NF residents, and we found higher rates of recommended care for diabetics (*HbA1c testing and diabetic eye exams) *compared to similar residents under FFS.*
- *However, rates for annual dental visits were lower under MLTSS.*

Quality metrics and consumer surveys presented in Chapter 2 were not collected until after the transition to MLTSS, so a before-after comparison is not possible. A summary of findings:

- *MLTSS performance metrics* collected from MCOs, state offices, or calculated by an external quality review organization *have mixed results, with some evidence of improvement over time.*
- *Critical incidents, appeals/grievances/complaints, and fair hearings appear to affect relatively small numbers of enrollees.*
- *The NCI-AD™ consumer survey shows that in 2018-2019, New Jersey was mostly similar to other states, but stood out particularly favorably with regard to access to primary care/vision/dental/hearing. New Jersey lagged other states in satisfaction with group settings. Comparing MLTSS-HCBS with PACE and nursing home residents over 4 years of survey data, MLTSS-HCBS seemed to lag on dental visits. Overall service adequacy measures were high for both MLTSS-HCBS and MLTSS-NF respondents*, with at least 75% saying that they always got enough assistance with daily activities and self-care over all survey periods.

Chapter 8 examines the cost of MLTSS policy implementation, estimated through a retrospective survey that state staff time costs for implementation were about $2.5 million. Total per-beneficiary health care costs for HCBS enrollees were lower after MLTSS implementation taking into account these costs. A preliminary cost-effectiveness analysis comparing the MLTSS population with the general aged/blind/disabled (ABD) population showed mixed results with respect to savings for several outcomes of interest. The comparison group will be refined for our final evaluation.

3. Impact of the Qualified Income Trust provision on the Medicaid eligibility and enrollment process

Research Question 3: What is the impact of the hypothetical spend-down provision on the Medicaid eligibility and enrollment process? What economies or efficiencies were achieved, and if so, what were they? Was	*Hypothesis 3: Utilizing Qualified Income Trusts will allow more individuals to qualify for Medicaid and will increase the number of*

there a change in the number of individuals or on the mix of individuals qualifying for Medicaid due to this provision?	*Medicaid long-term care recipients in community settings.*
<u>Interim Conclusion 3</u>: Hypothesis 3 is supported.	

The findings presented in Chapter 3 note that the percentage of LTC recipients using HCBS currently exceeds the percentage in nursing homes, and although we cannot directly attribute all of this shift to administrative changes implemented under the Waiver, it is reasonable to conclude that allowing qualified income trusts (QITs) for individuals in need of long term care whose income is above the threshold eligibility level has created an easier pathway into home and community-based long-term care services.

As of March 2021, the availability of QITs has allowed at least 2,000 applicants (about 1,500 in Assisted Living and about 600 in other community settings), to qualify for Medicaid home and community-based services who would have otherwise been ineligible at their current income level unless they sought nursing home care. As of early 2021, roughly 35% of nursing home residents on MLTSS were eligible due to a QIT (and would have been eligible under a previous designation of medically needy), versus about 55% of Assisted Living residents and about 2% of residents in other community settings, who would not otherwise have been eligible (unless they went into a nursing home under the medically needy designation). An examination of QITs by county shows that all counties are using them. It is difficult to explain variations in usage by county, though examination of census data regarding population levels of poverty and foreign birth among older adults provides some plausible explanations for differences.

4. Impact of using self-attestation on the transfer of assets during the look-back period for individuals seeking long term care services who are at/below 100 percent FPL

Research Question 4: What is the impact of using self-attestation on the transfer of assets look-back period of long term care and home and community based services for individuals who are at or below 100 percent 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: 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.*
<u>Interim Conclusion 4</u>: Hypothesis 4 is supported.	

The findings presented in Chapter 3 based on administrative records including audit data, public records and claims-based analysis, note that the percentage of LTC recipients using HCBS now exceeds the percentage in nursing homes, and although we cannot directly attribute all of this shift to administrative changes implemented under the Waiver, it is reasonable to conclude that allowing self-attestation regarding the transfer of assets during the look-back period for individuals seeking long term care services who are at or below 100 percent of the federal poverty line has created an easier pathway into home and community-based long-term care services.

At least 5,500 Medicaid recipients have used the streamlined self-attestation process since 2012, with an average of 180 per quarter. Eight randomly sampled applications for each quarter between October 2015 and December 2016 underwent a detailed audit process by Bureau of Quality Control staff, who found no incidents of asset transfers in the audited cases.

5. Impact of providing additional home and community-based services to Medicaid and CHIP beneficiaries with serious emotional disturbance, behavioral/mental health issues, or intellectual disabilities/developmental disabilities

Research Question 5: What is the impact of providing additional home and community-based services to Medicaid and CHIP beneficiaries with serious emotional disturbance, behavioral/mental health issues, or intellectual disabilities/developmental disabilities?	*Hypothesis 5: Providing home and community-based services to Medicaid and CHIP beneficiaries and others with serious emotional disturbance or intellectual disabilities/developmental disabilities with and without co-occurring mental illness will lead to better care outcomes including those relating to ambulatory care.*

Interim Conclusion 5: Hypothesis 5 is partially supported:

- *DCF metrics show increasing scores on assessments for the ASD and I/DD-MI groups. Claims-based analysis showed decreased ED visits (overall and avoidable) and avoidable hospital spending for I/DD-MI youth. Descriptive measures suggest positive outcomes from the SED services.*
- *Among adults with I/DD, enrollment in the Supports Program was associated with improvements (decrease) in preventable hospitalization rates but there was no evidence of improved preventive or follow up care.*

ASD Waiver Program. The ASD pilot program provided new behavioral therapies, starting in Spring 2014, for up to 200 children under 13 years of age with ASD who are Medicaid/CHIP eligible (the enrollment cap was reached early in 2019). *While not statistically significant*, all adjusted outcomes[7] showed reduced utilization (including well visits for those ages 3-6, which was not desired). Because similar services were also provided to some children with ASD outside the waiver, some of whom may be in our comparison population, differences must be large for our analysis to detect effects. *DCF metrics showed high and steadily increasing Child and Adolescent Needs and Strengths (CANS) assessment scores for enrollees*, with 99.7% showing improvement in fiscal 2019, and results always exceeding the 80% benchmark.

CSSP-I/DD Waiver Program. The program for children with ID-DD(/MI) provides intensive in-home and out-of-home services to Medicaid/CHIP children ages 5-20 years old with ID-DD. It started as a pilot serving those with a co-occurring mental illness diagnosis, but was absorbed into the Children's Support Services Program (CSSP) and was expanded to cover children with ID-DD without a co-occurring mental health diagnosis under the Demonstration renewal. We estimate the latter group accounted for 12% of enrollees in 2019. Individual services rolled out at different times starting in 2015 through 2017. Enrollment in the CSSP-I/DD waiver program ranged from a quarterly average of around 100 initially to over 1,000 in the last two years, with the biggest increase in enrollment during first waiver demonstration period (2015-2017). In claims-based analyses, we found a *statistically significant decrease in ED visits, small but not statistically significant declines in inpatient days, no significant impact on rates of overall hospitalizations and mental illness hospitalizations, and marginally significant reduced avoidable hospital spending. DCF metrics showed high and steadily increasing Child and Adolescent Needs and Strengths (CANS) assessment scores* for enrollees, with 96.4% of enrollees showing improvement in fiscal 2019, and results always exceeding the 80% benchmark.

CSSP-SED Waiver (also discussed in Hypotheses 6 and 7). Several thousand children and youth with serious emotional disturbance were eligible for new Medicaid home and community-based services under the Demonstration which were designed to support youth in their homes and communities, preventing institutionalization, and stabilizing youth to eliminate the need for supportive services. Only a small percentage of waiver participants are also Medicaid-eligible for coverage of acute care services, so we cannot calculate claims-based utilization measures to evaluate this waiver program. A descriptive analysis over the demonstration period shows *concurrent declines in the average number of months enrolled on the waiver and the percentage of enrollees who disenroll and then re-enroll onto the waiver, potentially indicating improvement in the time needed to successfully stabilize youth so that waiver services are no longer needed.* Additionally, only a small percentage of youth with SED in the waiver enroll into Medicaid State

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[7] Avoidable hospitalizations and hospital readmissions were rare events among this population, so we could not model these outcomes.

Plan A services due to an out-of-home placement (about 2.5% of youth in CSSP-SED). While descriptive and subject to caveats, these findings are a positive indication that waiver services help maintain children in their homes and communities.

Supports Program. We examined the impact of enrollment in the Supports Program for adults with IDD by comparing them with a propensity score matched group of adults with IDD who were not enrolled in the Supports Program on a range of health utilization outcomes over the study period. Outcomes included types of preventable hospitalizations that were specific to individuals with IDD (e.g., hospitalizations for epilepsy, reflux, constipation, or schizophrenia), two types of preventive care services (annual visits for Hemoglobin A1C testing and eye examination for adults with diabetes) and follow up after hospitalization for mental illness. We found that enrollment in the Supports Program was associated with a decrease in the likelihood of one or more IDD-relevant preventable hospitalizations and, also, the total number of preventable hospitalizations in a year. There was no statistically significant association between enrollment in the Supports Program and rates of eye examinations, A1C testing, or follow up rates after hospitalization for mental illness.

6. Impact of providing home and community-based services to expanded eligibility groups not otherwise eligible for Medicaid or CHIP

Research Question 6: What is the impact of providing home and community-based services to expanded eligibility groups, who would otherwise have not been eligible for Medicaid or CHIP absent the demonstration?	*Hypothesis 6: Providing home and community-based services to expanded eligibility groups, who would otherwise have not been eligible for Medicaid or CHIP absent the demonstration will lead to improvements in preventive care and avoidable utilization.*
Interim Conclusion 6: Hypothesis 6 is partially supported based on the following findings from descriptive trend data: • *For youth with SED in out of home settings not otherwise eligible for Medicaid, while some avoidable care utilization increased subsequent to Medicaid enrollment, residential treatment center admission for those enrolled showed a large decline.* • *For adults in the Supports waiver not otherwise eligible for Medicaid, there are no consistent improvements in the rates of IDD-specific avoidable hospitalizations or rates of diabetic eye exams, but rates of HbA1c testing for diabetics do increase in the period following Medicaid enrollment.*	

Medicaid expansion for youth ages 5-20 with serious emotional disturbance (SED). In July 2016 there was an *expansion in Medicaid eligibility for youth with Serious Emotional Disturbance (SED) in out-of-home settings* (Plan A expansion), which became part of the Children's Support Services Program (CSSP) under the Demonstration renewal. The majority of youth in the CSSP-SED are not otherwise Medicaid/CHIP eligible. In total, nearly 700 youth with SED were enrolled in Medicaid at some point from July 2016 through December 2019 as a result of this eligibility expansion. On average, about 34% were gaining Medicaid eligibility through this expansion for the very first time. *We found increased rather than the hypothesized decreased utilization from 2018 to 2019* in ED visits, avoidable ED visits, inpatient days, including mental illness hospitalizations when looking at all youth with SED enrolled in Plan A and a continuously enrolled cohort of Medicaid youth. Without a pre-period, we cannot put these observed trends in context to know if gaining Medicaid eligibility changed the trajectory of utilization. The cohort population is likely comprised of youth with higher intensity needs than all point-in-time Plan A enrollees since these youth must remain or return to an out-of-home setting to maintain Plan A eligibility at each yearly redetermination. Given these are youth with SED gaining access to Medicaid coverage, these *increases could reflect pent up demand for needed care that would have otherwise been forgone*. *Between 2018 and 2019, the percentage in the SED Plan A cohort with a residential treatment center admission showed a large decline from 68.3% to 34.6%*.

Medicaid expansion for individuals in Supports up to 300% FBR. Under an amendment to the initial 1115 demonstration, eligibility for the Supports Program was expanded to allow individuals up to 300% FBR to receive Medicaid State Plan and waiver home and community-based services. Due to the absence of baseline data for this populations (since prior to the policy change they were not Medicaid-eligible and hence would not show up in our claims data), we conduct trend analyses of outcomes over time only after implementation of the eligibility expansion. We do not observe consistent improvements in the rates of IDD-relevant avoidable hospitalizations (hospitalizations for epilepsy, reflux, constipation, or schizophrenia) and rates of diabetic eye exams go down between 2018 and 2019. Rates of HbA1c testing for diabetics improve over time which is a positive finding. As before, due to the lack of pre-policy data these changes cannot be attributed to the policy effect.

7. Impact of the program to provide a safe, stable, and therapeutically supportive environment for children age 5 to 21 with serious emotional disturbance and at risk for institutionalization

Research Question 7: 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	*Hypothesis 7: Providing home and community-based services to Medicaid and CHIP beneficiaries and others with serious emotional disturbance who have, or who*

emotional disturbance who have, or who would otherwise be at risk for, institutionalization?	*would otherwise be at risk for, institutionalization will reduce avoidable utilization.*
Interim Conclusion 7: Hypothesis 7 was not able to be evaluated with respect to avoidable utilization, but descriptive measures suggest positive outcomes from the services.	

Several thousand children and youth with serious emotional disturbance were eligible for new Medicaid home and community-based services under the Demonstration which were designed to support youth in their homes and communities, preventing institutionalization and stabilizing youth to eliminate the need for supportive services. Only a small percentage of waiver participants are also Medicaid-eligible for coverage of acute care services so we were unable to calculate claims-based utilization measures. A descriptive analysis over the demonstration period shows *concurrent declines in the average number of months enrolled on the waiver and the percentage of enrollees who disenroll and then re-enroll onto the waiver, potentially indicating improvement in the time needed to successfully stabilize youth so that waiver services are no longer needed.* Additionally, as discussed with Hypothesis 5, only a small percentage of youth with SED in the waiver enroll into Plan A. This is a positive indication, albeit only descriptive and subject to caveats, that waiver services help maintain children in their homes and communities.

8. Impact of mandating individuals who are eligible for NJFC and have access to employer sponsored insurance into the premium assistance program

Research Question 8: What is the impact of mandating individuals who are eligible for NJFC and have access to employer sponsored insurance into the premium assistance program; as conditional of eligibility?	*Hypothesis 8: Mandating individuals who have access to employer sponsored insurance into the premium assistance program will cost the State at least 5% less than providing individuals coverage in NJFC.*
Interim Conclusion 8: Hypothesis 8 is supported, with savings of about 60%.	

The findings presented in Chapter 7 suggest substantial savings to Medicaid when beneficiaries participated in the NJ FamilyCare Premium Support Program (PSP), overall and during the time this program was under the Comprehensive Demonstration.

Medicaid saved $449,659 from beneficiaries who entered the PSP at any point between August 2015 and July 2019. The savings during the Waiver 2 period was $285,828 and during the pre-

Waiver 2 period was $163,831. The average total per member per month savings to Medicaid was $112 over the two time periods. Medicaid saved an average of $117 per member per month during the Waiver 2 period and about an average of $103 per member per month during the pre-Waiver 2 period. The average percentage cost savings from family enrollment in PSP compared to enrollment in NJ FamilyCare during the Waiver 2 period was 58.6% and in the pre-Waiver 2 period was 64.5%. The overall average percentage cost savings for the two periods was 60.7%.

This supports the conclusion that additional efforts to increase enrollment for individuals who have access to employer sponsored insurance and outreach efforts to recruit employers that offer health insurance plans may result in significant cost savings. It is important to remember that estimates speak only to the financial value of the program and not the health of members. The risk profile of beneficiaries in the PSP will vary and could increase Medicaid costs for PSP beneficiaries causing fluctuations in net and per member, per month savings. Additionally, the data available didn’t include all the beneficiaries enrolled in the program. These findings are based on a few years of data and could change as additional years of data are added in the final evaluation report.

Discussion

Overall, then, three hypotheses (Hypotheses 3, 4, and 8) for the interim evaluation report are fully supported, four hypotheses (1, 2, 5, and 6) are partially supported, and one (Hypothesis 7) was not able to be evaluated as written, but descriptive measures suggest positive general outcomes.

The follow up period for our claims-based analyses for the second demonstration period covered in this interim report is 2.5 years (August 2017 through December 2019). The period for our final report will add another two and half years of data, through June of 2022. These additional years will be affected by the COVID-19 pandemic, posing significant challenges in disentangling demonstration effects from pandemic effects. CMS is aware of these challenges and has provided some helpful guidance for evaluators (CMS, n.d.). We have some preliminary strategies for approaching these challenges in the final evaluation.

In particular, where possible we employ difference-in-differences (DD) models which are more robust than trends and time series designs in adjusting for changes brought about by the pandemic. However, there are cases when we do not have an appropriate comparison group or pre-policy data and so cannot conduct DD analysis and must observe trends in outcomes instead. We may remove the time period of the pandemic (if a sufficient post period remains) to understand trends in outcomes due to policy impact.

Medicaid automatic disenrollment in New Jersey was suspended during the pandemic leading to higher enrollment than usual during the pandemic period. This underscores the importance of enrollment adjustment which we already do in all our modeling. We are also aware that a larger proportion of services would have been delivered via telehealth which could impact outcomes. In order to ensure continuity in billing and payment, New Jersey did not require any billing modifiers for services delivered via telehealth during the pandemic. Therefore, we do not anticipate having to modify any of the codes used in our metric calculations for the pandemic period. However, we are aware codes may eventually require modifiers if telehealth becomes a more permanent option. Also changes in aspects of care could necessitate changes in the logic of quality metrics. We will follow the guidance of measure stewards such as NCQA, which has already provided telehealth updates to a number of their quality measures for measurement years 2020 and 2021 in response to the pandemic.

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Chapter 1: HEDIS® and CAHPS® Quality Indicators: Preventive Care, Behavioral Health Care, Treatment of Chronic Conditions, and Consumer Satisfaction

Introduction

This chapter compares the performance of NJ Family Care managed care organizations (MCOs) in the second Waiver demonstration period (data available for 2017-2018) to the baseline period of the Waiver evaluation (2011-2012), and the first four years of the Waiver demonstration period (2013-2016). It presents quality and utilization-based metrics from two sources:

- 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
- CAHPS® (Consumer Assessment of Healthcare Providers and Systems) survey that, on an annual basis, assesses members' experience with healthcare they receive in their Medicaid health plan.

Examining potential changes across all managed care beneficiaries (not just restricted to those directly affected by the Waiver policy) provides evidence needed to test Hypothesis 1 of the Waiver evaluation, which flows from the first Research Question Waiver enumerated in the approved evaluation design (CMS 2019).

Research Question 1: **"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?"**

Hypothesis 1**: "The managed care expansion will improve access to care, the quality, efficiency, and coordination of care, and the cost of care for the overall population in managed care."**

Monitoring Medicaid managed care organizations' (MCOs') adherence to the goals of the Quality Strategy governing the State's improvement efforts for all Medicaid managed care services (DMAHS 2014 and 2016) is intended to ensure that implementation of the Managed Long-term Services and Supports (MLTSS) expansion did not negatively affect quality of care for members served by MCOs including those not directly impacted by the Waiver policy.

The measures in the tables are related to preventive care, behavioral health care, treatment of chronic conditions, and consumer satisfaction.

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 validated 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, sometimes stratified by eligibility categories of interest, is interviewed using child and adult versions of the CAHPS® instrument. Both types of quality measures, those from medical records and claims (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 report[8]. We provide pooled estimates for three periods:

- Baseline (2011-2012)
- Waiver 1: first demonstration period (2013-2016)
- Waiver 2: second demonstration period (2017-2018)[9]

For the HEDIS® metrics, in addition to select measures which are publicly reported, we also used data spreadsheets created by the State's EQRO and provided to us by DMAHS. We only included measures reported in the Waiver 2 period which were also reported in at least one of the Waiver

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[8] 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/.

[9] The Waiver 1 period ended in June 2017 with an extension period before the approval of the Demonstration renewal in August 2017. We analyzed 2017 as part of the Waiver 2 period.

1 and Baseline periods. We excluded data for select years when major specification changes caused trending breaks so as to only make comparisons of estimates generated using generally consistent specifications. When major specification changes would invalidate any comparisons between periods, we excluded those measures entirely. We also footnote where there were minor specification changes warranting caution when making period comparisons. The 2011 and 2012 CAHPS® Health Plan Survey 4.0 reports prepared by ACS Government Healthcare Solutions, the 2013 and 2014 CAHPS® Health Plan Survey 5.0 reports prepared by Xerox State Healthcare LLC, and the 2015-2018 CAHPS® Health Plan Survey 5.0H reports prepared by DataStat, Inc., and also provided to us by DMAHS, were the source of the CAHPS® metrics reported for the years 2011-2018.[10]

Statistical Testing

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), Waiver 1 (2013-2016), and Waiver 2 (2017-2018) periods, 95% confidence intervals (CI) of the difference between the pooled estimates were calculated using the following formula:

- Waiver 2 to baseline comparison
  $(\text{overall rate}_{2017\text{-}2018} - \text{overall rate}_{2011\text{-}2012}) \pm 1.96 \times SEDiff$
- Waiver 2 to Waiver 1 comparison
  $(\text{overall rate}_{2017\text{-}2018} - \text{overall rate}_{2013\text{-}2016}) \pm 1.96 \times SEDiff$

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 the baseline or the Waiver 1 period
n_2 is the population denominator for the Waiver 2 period
p_1 is the weighted pooled rate for the baseline or the Waiver 1 period
p_2 is the weighted pooled rate for the Waiver 2 period
q_1 is $(1-p_1)$
q_2 is $(1-p_2)$

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[10] The baseline period for the evaluation of the NJ FamilyCare Comprehensive Waiver Demonstration (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.

We calculated weighted proportions for the baseline and the Waiver 1 and 2 periods and conducted a two-sample test of proportion to examine whether differences observed between Waiver 2 and baseline and Waiver 2 and Waiver 1 were statistically significant. Due to very large sample sizes, small changes in rates may be significant. 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. Data were analyzed using MS Excel 2016 and STATA MP 16 software.

Comparison of CAHPS® Measures: CAHPS® data-based metrics are available from samples that are representative of individual plans.[11] We calculated individual plan and overall averages for the baseline and the Waiver 1 and 2 periods. However, this overall average does not reflect the differences in enrollment across plans and thus is not equivalent to the average for the Medicaid managed care population. Also, whether or not estimates were case-mix adjusted was not consistent across years. Because of this, it is not feasible to conduct statistical tests of differences across the years for the entire managed care population. Accordingly, we adopted a descriptive approach where we compared Waiver 2 estimates separately for each plan and also the overall average across plans, with the baseline and the Waiver 1 estimates.[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 Measures**:* Table 1.1 shows pooled estimates for quality measures related to preventive care for adults and children in Medicaid managed care during the baseline and Waiver 1 and 2 periods spanning years 2011-2018 (baseline: 2011-2012; Waiver 1: 2013-2016; Waiver 2:

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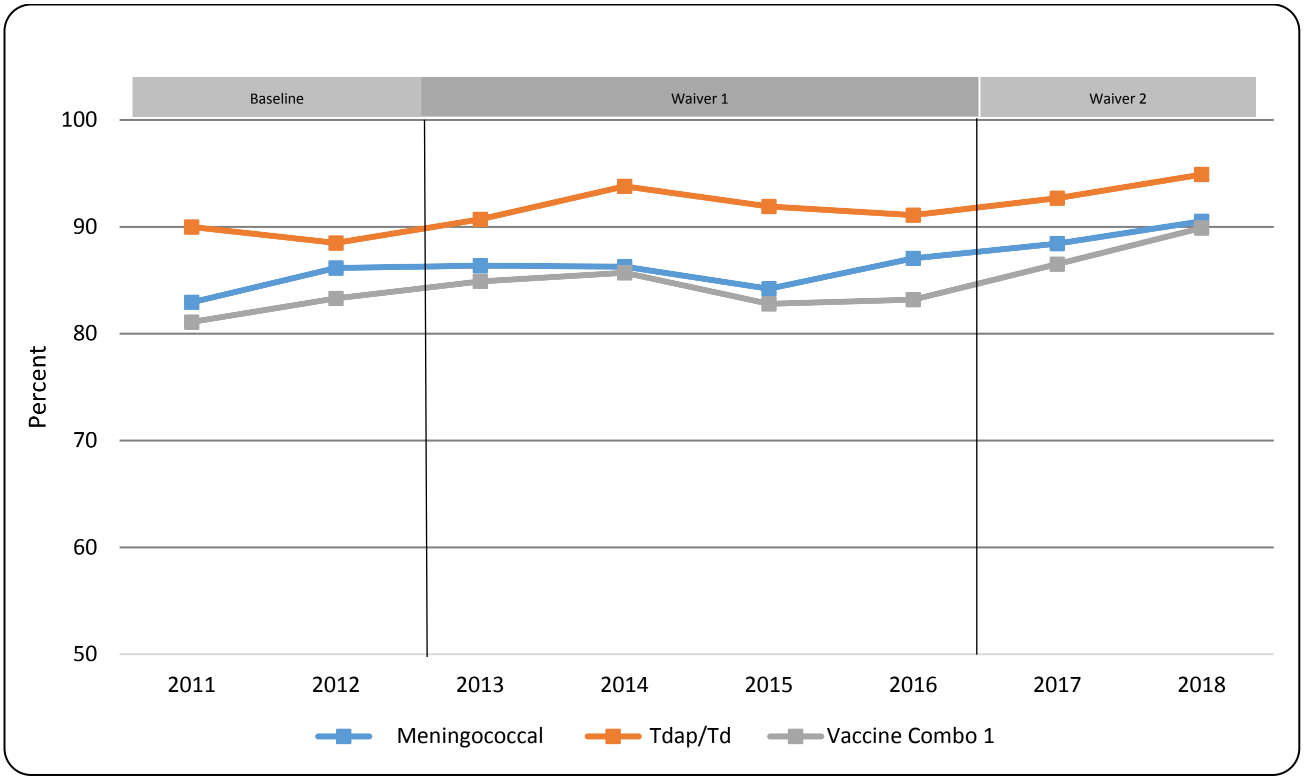
[11] Effective July 1, 2014, Healthfirst's Medicaid beneficiaries were migrated to WellCare. The field period for the 2014 CAHPS began in April 2014 and respondents were required to have been enrolled with their health plan for at least the prior 6 months to be eligible for the survey. Therefore, the 2014 estimates relate to beneficiaries enrolled in Healthfirst, and are thus comparable to previous years. The 2015 estimates are just WellCare, and thus not comparable to the Healthfirst estimates for previous years. The overall averages for the baseline and Waiver 1 periods include Healthfirst estimates. Aetna estimates were available from 2016.

[12] Other limitations relating to CAHPS® survey include low response rates (see Appendix 1A) making sample sizes small for some questions for some plans. Differential non-response, particularly in small samples, can create unquantifiable bias in estimates.

2017-2018). 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.

- Immunization: Figure 1.1 shows the trend from 2011-2018 for adolescents in managed care who received their meningococcal vaccination, Tdap or Td (tetanus, diphtheria toxoids and acellular pertussis vaccine or tetanus, diphtheria toxoids) or both (vaccine combination 1) by their 13th birthday. All three measures showed a statistically significant improvement in the Waiver 2 period when compared to the baseline (meningococcal vaccine =+4.9 pp, Tdap/Td =+4.6 pp and vaccine 1 combination =+6.0 pp) and the Waiver 1 (meningococcal vaccine =+3.5 pp, Tdap/Td =+1.9 pp and vaccine 1 combination=+4.1 pp) periods.

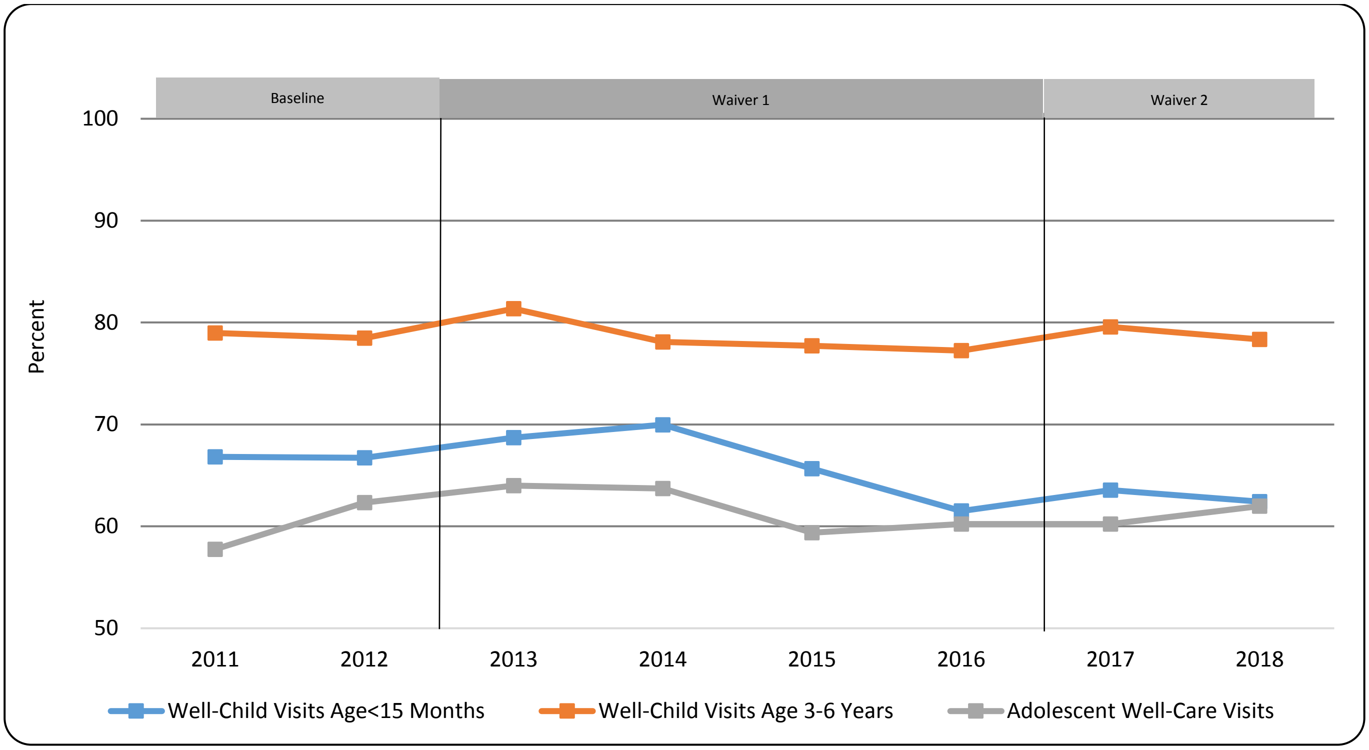
Figure 1.1: Immunizations for adolescents (IMA): 2011-2018



Source: HEDIS data from NJ Division of Medical Assistance and Health Services, 2011-2018; Analysis by Rutgers Center for State Health Policy.

- Well-care visits: Figure 1.2 shows the trend from 2011-2018 for well-child visits in the first 15 months of life, well-child visits in 3-6 years of age, and adolescent well-care visits. There was a statistically significant decline in the pooled rate for Waiver 2 (63.0%) as compared to the baseline (66.8%) and the Waiver 1 (66.5%) periods for well-child visits in the first fifteen months of life. Pooled estimates for well-child visits in 3-6 years of age showed an upward trend (baseline=78.7%, Waiver 1=78.6%, and Waiver 2=79.0%). However, adolescents' well-care visits pooled estimates (61.1%) showed mixed results when compared with the baseline (60.1%) and the Waiver 1 (61.7%) periods.

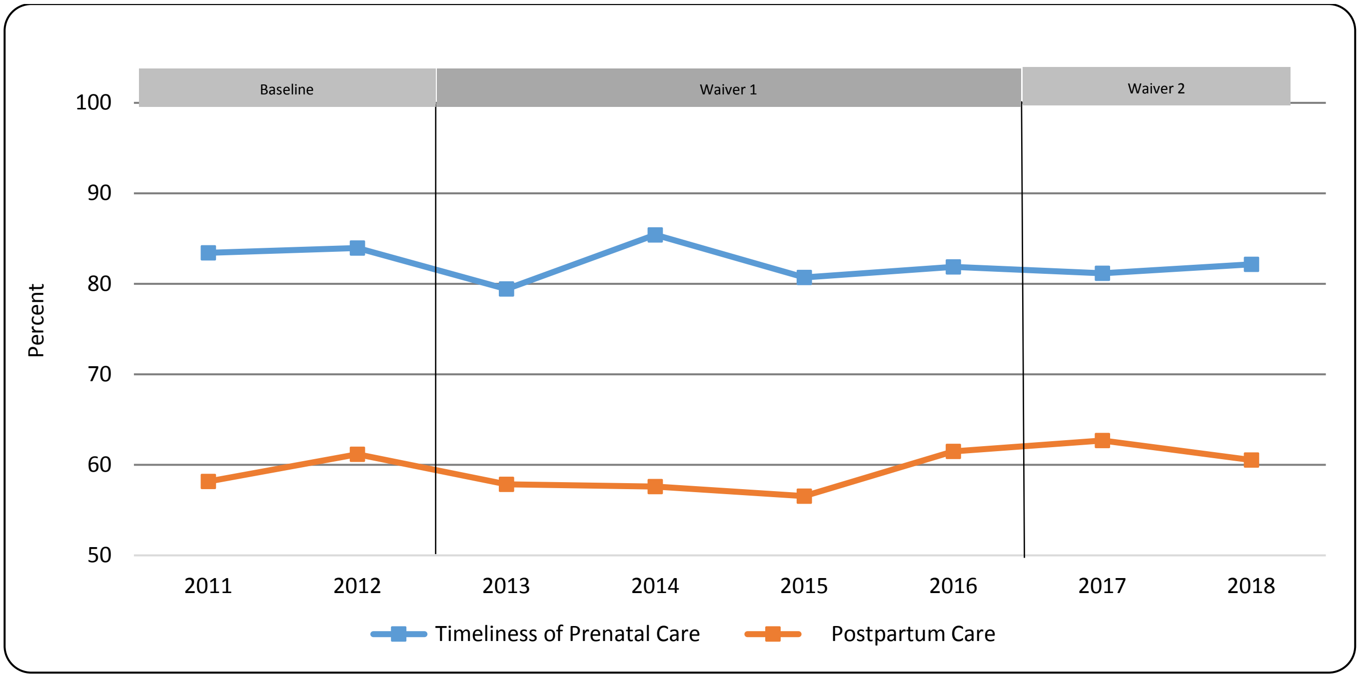
Figure 1.2: Well-care visits: 2011-2018



Source: HEDIS data from NJ Division of Medical Assistance and Health Services, 2011-2018; Analysis by Rutgers Center for State Health Policy.

- Timeliness of prenatal and postpartum care: Figure 1.3 shows the trend from 2011-2018 for timeliness of pre-natal and post-partum care. For the pre-natal care, there was a statistically significant decline (-2.0%) in the pooled rate for Waiver 2 (81.7%) as compared to the baseline (83.7%). However, the pooled estimates for timeliness of post-partum care during Waiver 2 (61.6%) showed statistically significant improvement when compared to the baseline (59.7%) and the Waiver 1 (58.4%) periods.

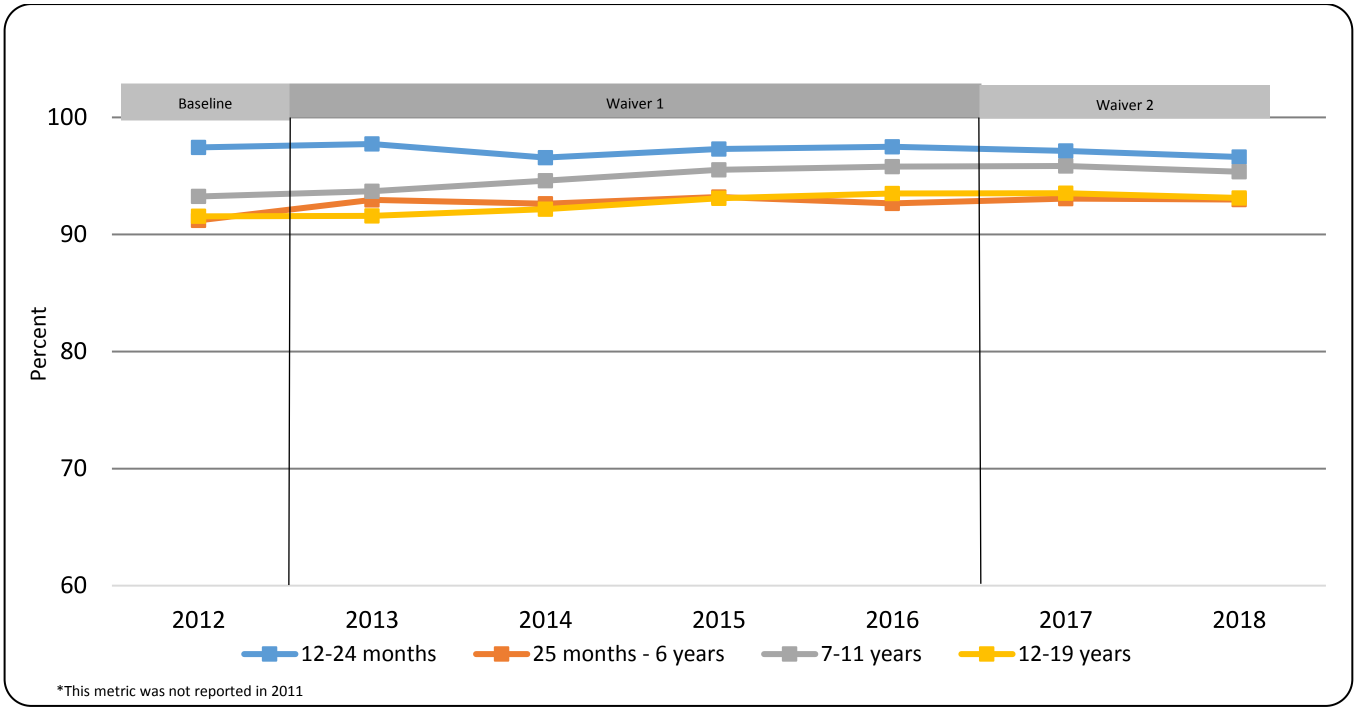
Figure 1.3: Prenatal and postpartum care: 2011-2018



Source: HEDIS data from NJ Division of Medical Assistance and Health Services, 2011-2018; Analysis by Rutgers Center for State Health Policy.

- Children and adolescents' access to primary care practitioners: Figure 1.4 shows the trend from 2011-2018 for children's and young adults' (12 months-19 years of age) visits with a primary care practitioner (PCP). The pooled estimates for Waiver 2 showed a statistically significant improvement for three out of four age categories (25 months – 6 years, 7-11 years, and 12-19 years) when compared with the baseline and the Waiver 1 period estimates. Among children 12-24 months of age, there was a statistically significant decline of less than one percentage point in the Waiver 2 pooled estimates as compared to the baseline and the Waiver 1 periods.

Figure 1.4: Children and adolescents' access to primary care practitioners: 2012-2018*

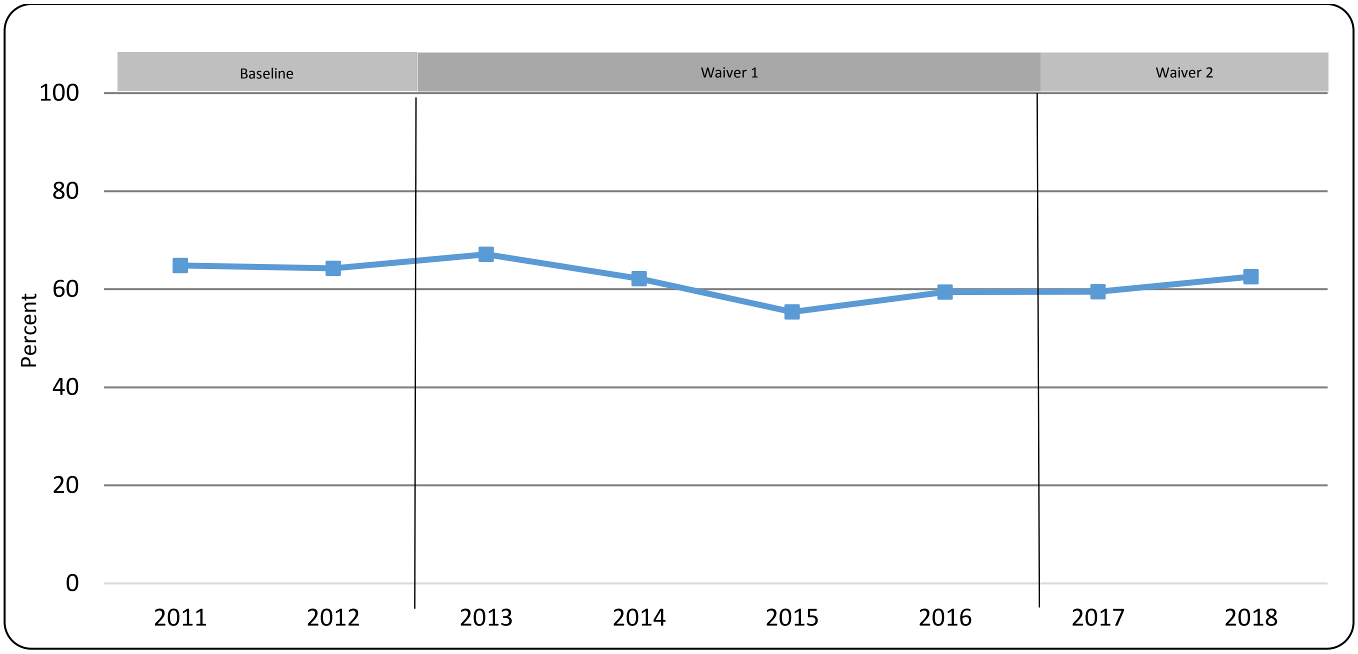


*This metric was not reported in 2011

Source: HEDIS data from NJ Division of Medical Assistance and Health Services, 2012-2018; Analysis by Rutgers Center for State Health Policy.

- Cervical cancer screening: Figure 1.5 shows the cervical cancer screening trend from 2011-2018. When compared to the baseline (64.5%), there was a statistically significant decline in the Waiver 2 pooled estimate (61.0%). However, the Waiver 2 estimate improved slightly from the Waiver 1 (60.2%) period.

Figure 1.5: Cervical cancer screening: 2011-2018



Source: HEDIS data from NJ Division of Medical Assistance and Health Services, 2011-2018; Analysis by Rutgers Center for State Health Policy.

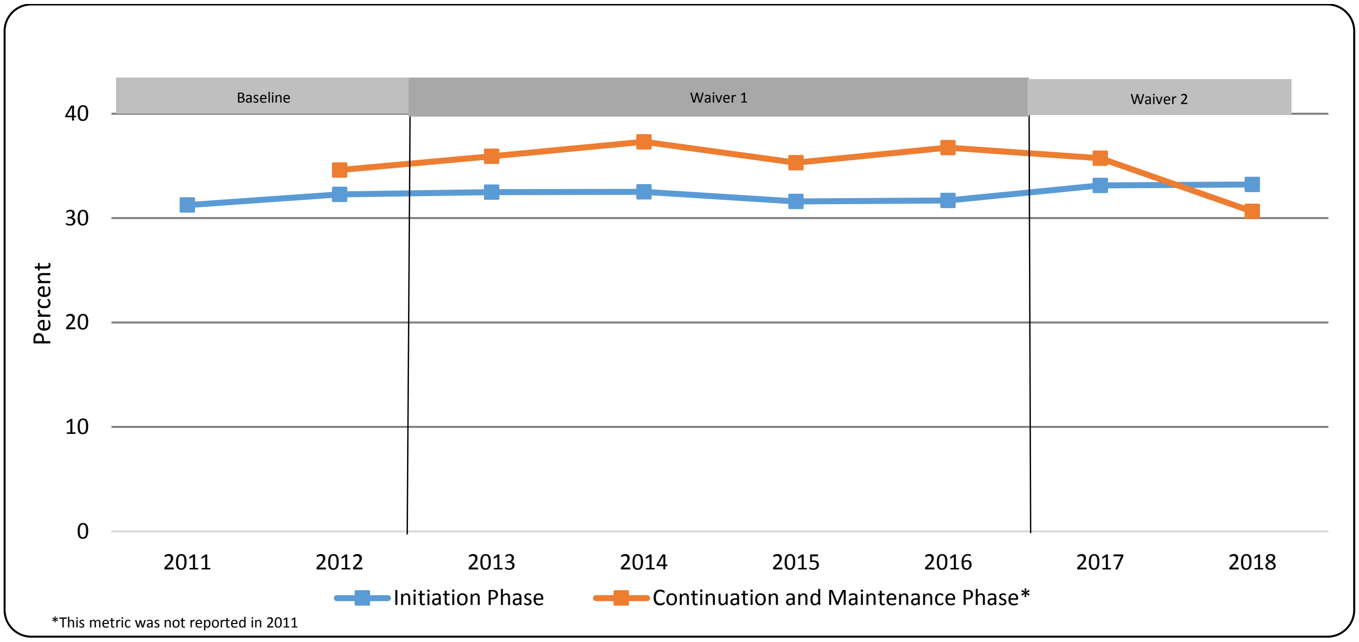
CAHPS® measure for dental care utilization (*Table 1.2*): In each plan and separately for adults and children, the average estimates for respondents who self-report that they have received care from a dental office or clinic in the past six months is shown for baseline, Waiver 1, and Waiver 2 periods. The pattern of rates suggests a general improvement in dental care utilization among adults in Medicaid managed care, both overall and among the different plans, but rates are still low (overall plan average: baseline=30%, Waiver 1 = 40%, and Waiver 2 = 41%). The rates for children showed a mixed trend with respondents in one out of five plans reporting a decrease in dental care utilization during the Waiver 2 period. The overall plan average in the Waiver 2 phase (64%) improved from the baseline (62%) but not from the Waiver 1 (65%) period.

Behavioral Health Care Services Measures (Table 1.3)*:* The HEDIS® measure, follow-up care for children prescribed an ADHD medication, is a National Quality Forum (NQF) endorsed measure of initiation and follow-up care for children with a diagnosis of attention-deficit/hyperactivity disorder (ADHD). Figure 1.6 shows the trend for the initiation phase and the continuation and maintenance phase for follow-up care for children prescribed an ADHD medication from 2011-2018.

- Initiation Phase refers to the percentage of 6-12-year-old children who were diagnosed with ADHD and had at least one face-to-face follow-up care visit within 30 days of when ADHD medication was first dispensed: The pooled Waiver 2 period rate (33.2%) for the initiation phase showed a statistically significant increase when compared with the baseline (31.8%) and the Waiver 1 (32.1%) periods.

- For the continuation and maintenance phase, there was no statistically significant difference in rates between Waiver 2 (33.1%) and baseline (34.6%). However, there was a statistically significant decrease (-3.2 pp) when compared with the Waiver 1 period.

Figure 1.6: Follow-up care for children prescribed ADHD medication: 2011-2018

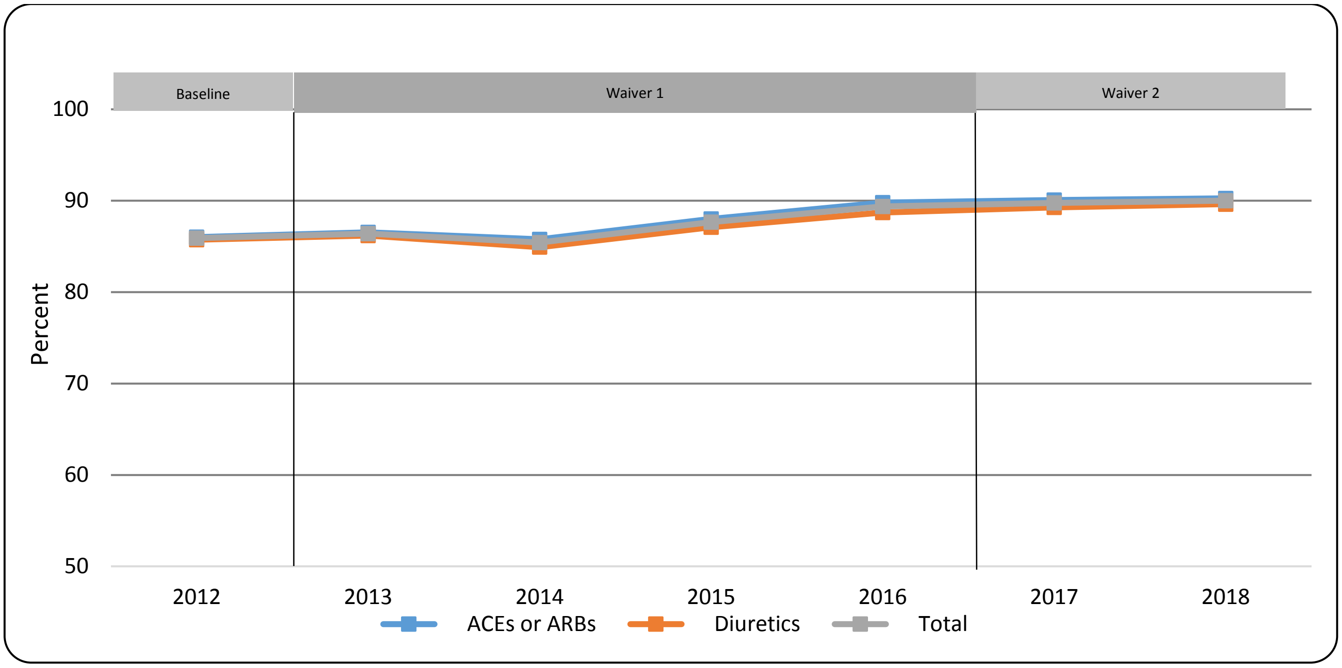


Source: HEDIS data from NJ Division of Medical Assistance and Health Services, 2011-2018; Analysis by Rutgers Center for State Health Policy.

Treatment of Chronic Conditions Measures: Table 1.4 shows quality measures related to treatment of chronic conditions, such as diabetes and medication management.

- *Annual Monitoring for Patients on Persistent Medications:* Figure 1.7 shows quality measures related to annual monitoring for members on angiotensin converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARB), diuretics, and total rate. Due to revisions in the numerator calculation for year 2014, the Waiver 2 pooled rate was not compared to the baseline and year 2013 was not included in the Waiver 1 pooled estimate. When compared to Waiver 1, there was a statistically significant improvement in annual monitoring in Waiver 2 period for ACEs or ARBs (+1.9 pp), diuretics (+2.2 pp), and total rate (+2.0 pp).

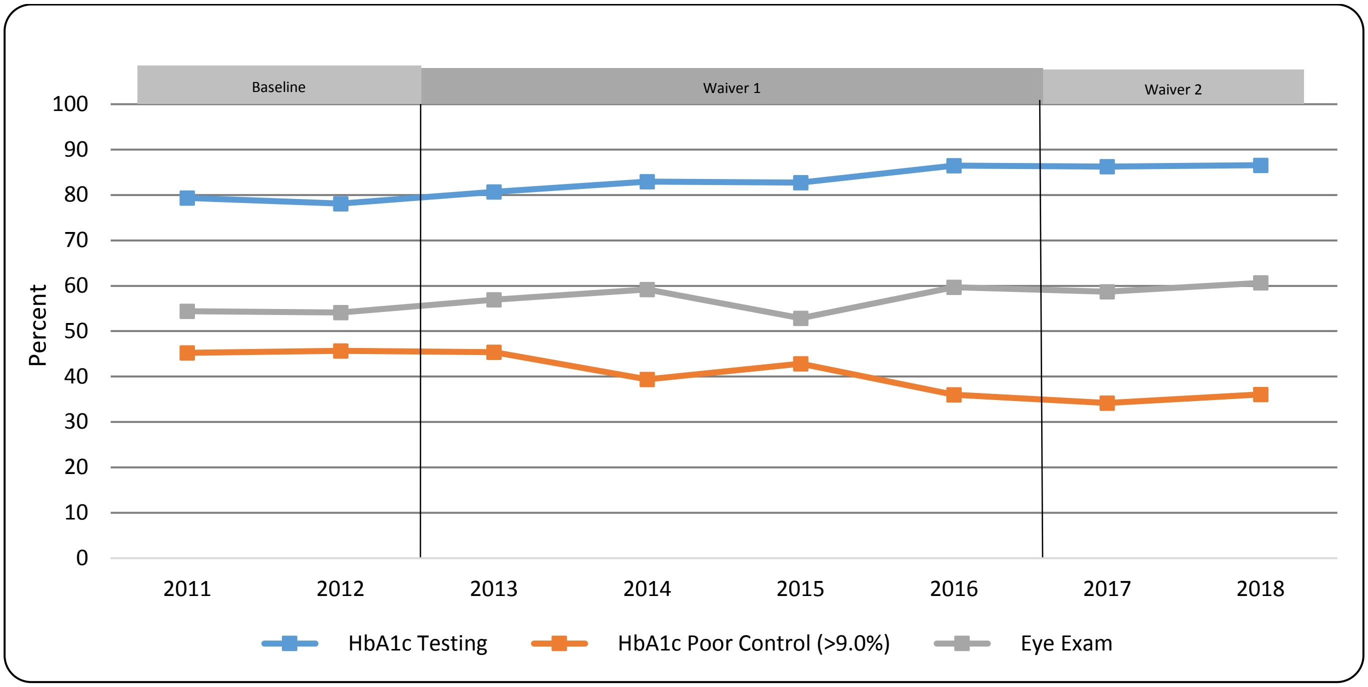
Figure 1.7: Annual monitoring for patients on persistent medications: 2012-2018



Source: HEDIS data from NJ Division of Medical Assistance and Health Services, 2015-2018; Analysis by Rutgers Center for State Health Policy.

Comprehensive Diabetes Care: Figure 1.8 shows trends for quality measures Hemoglobin A1c (HbA1c) testing, HbA1c poor control (>9.0%), and retinal eye exam. For HbA1c poor control, a lower rate is better. The pooled rate for Waiver 2 period showed a statistically significant improvement from both the baseline (HbA1c =+7.9 pp, HbA1c (>9.0%) = -9.4 pp, and eye exam = +5.4 pp) and the Waiver 1 periods (HbA1c =+2.9 pp, HbA1c (>9.0%) = -4.3 pp, and eye exam = +2.6 pp).

Figure 1.8: Comprehensive diabetes care: 2011-2018



Source: HEDIS data from NJ Division of Medical Assistance and Health Services, 2011-2018; Analysis by Rutgers Center for State Health Policy.
Note: For HEDIS measurement 2017, members in one health plan were excluded due to differing methodology in the calculation of HbA1c testing and HbA1c Poor Control (>9.0%)

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 plans. 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.

- Among adults (Table 1.5), all measures for the overall plan rate showed improvement in the Waiver 2 period when compared to the baseline, but 2 of these 6 measures had not improved since the Waiver 1 period. *How Well Doctors Communicate composite* showed no change, and there was a decline in the *Overall Rating of Personal Doctor*.
- For children in Medicaid managed care plans (Table 1.6), the overall rates improved in Waiver 2 from baseline for five of the six measures. There was no change in the *How Well Doctors Communicate* composite. However, when compared to the Waiver 1 period, two measures improved (*Getting Care Quickly* composite, *Ease of Getting Appointments with Specialists),* two measures remained unchanged (*Getting Needed Care* composite, *Personal Doctor Informed about Other Providers*), and two measures declined (*How Well Doctors Communicate* composite*, Overall Rating of Personal Doctor).*

Table 1.1: New Jersey Medicaid managed care population: HEDIS® measures of preventive care quality, 2011-2018

Measurement Year (MY)	Baseline (2011-2012) Pooled Rate	Waiver 1 (2013-2016) Pooled Rate	Waiver 2 (2017-2018) Pooled Rate	Comparison 1	Comparison 2	Comparison 1 *p* value	Waiver 2 Performance Relative to Baseline	Comparison 2 *p* value	Waiver 2 Performance Relative to Waiver 1
				Waiver 2 Relative to Baseline %	Waiver 2 Relative to Waiver 1 %				
Immunizations for Adolescents (IMA)									
Meningococcal	84.6%	86.0%	89.5%	**4.9**	**3.5**	*<0.001*	**Improved**	*<0.001*	**Improved**
Tdap/Td	89.2%	91.9%	93.8%	**4.6**	**1.9**	*<0.001*	**Improved**	*<0.001*	**Improved**
Vaccine Combination 1[a]	82.2%	84.1%	88.2%	**6.0**	**4.1**	*<0.001*	**Improved**	*<0.001*	**Improved**
Well-Care Visits									
Well-Child Visits in First 15 Months of Life (W15)	66.8%	66.5%	63.0%	**-3.8**	**-3.5**	*<0.001*	**Declined**	*<0.001*	**Declined**
Well-Child Visits in the 3rd, 4th, 5th, and 6th Years of Life (W34)	78.7%	78.6%	79.0%	**0.3**	**0.4**	*0.0215*	**Improved**	*0.0001*	**Improved**
Adolescent Well-Care Visits (AWC)	60.1%	61.7%	61.1%	**1.0**	**-0.6**	*<0.001*	**Improved**	*<0.001*	**Declined**
Prenatal and Postpartum Care (PPC)									
Timeliness of Prenatal Care	83.7%	81.8%	81.7%	**-2.0**	-0.2	*<0.001*	**Declined**	*0.4367*	Same
Postpartum Care	59.7%	58.4%	61.6%	**1.9**	**3.2**	*<0.001*	**Improved**	*<0.001*	**Improved**
Children and Adolescents' Access to Primary Care Practitioners (CAP)[b]									
12-24 months	97.4%	97.3%	96.9%	**-0.5**	**-0.4**	*<0.001*	**Declined**	*<0.001*	**Declined**
25 months - 6 years	91.2%	92.9%	93.0%	**1.8**	**0.2**	*<0.001*	**Improved**	*0.0045*	**Improved**
7-11 years	93.2%	94.9%	95.6%	**2.4**	**0.7**	*<0.001*	**Improved**	*<0.001*	**Improved**
12-19 years	91.5%	92.6%	93.3%	**1.8**	**0.7**	*<0.001*	**Improved**	*<0.001*	**Improved**
Cancer Screening									
Cervical Cancer Screening	64.5%	60.2%	61.0%	**-3.5**	**0.8**	*<0.001*	**Declined**	*<0.001*	**Improved**

Notes: Comparisons in bold format indicate statistically significant changes

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

[b] This metric was not reported in 2011

Table 1.2: New Jersey Medicaid managed care population: CAHPS® measures of preventive care quality, 2011-2018

New Jersey Medicaid Managed Care Population		Amerigroup				Aetna				Horizon				United Healthcare				WellCare				Overall Plan Average			
		Baseline Average (2011-2012)	**Waiver 1 Average (2013-**	**Waiver 2 Average (2017-**	**Waiver 2 Performance Relative to:**	**Baseline Average (2011-2012)**	**Waiver 1 Average (2013-**	**Waiver 2 Average (2017-**	**Waiver 2 Performance Relative to:**	**Baseline Average (2011-2012)**	**Waiver 1 Average (2013-2016)**	**Waiver 2 Average (2017-**	**Waiver 2 Performance Relative to:**	**Baseline Average (2011-2012)**	**Waiver 1 Average (2013-2016)**	**Waiver 2 Average (2017-**	**Waiver 2 Performance Relative to:**	**Baseline Average (2011-**	**Waiver 1 Average (2013-2016)**	**Waiver 2 Average (2017-**	**Waiver 2 Performance Relative to:**	**Baseline Average* (2011-2012)**	**Waiver 1 Average* (2013-2016)**	**Waiver 2 Average (2017-**	**Waiver 2 Performance Relative to:**
Received Care from Dental Office or Clinic in Past 6 Months	**Adults**	*n=579*	*n=376*	*n=331*	Baseline		*n=269*	*n=229*	Baseline: n/a	*n=652*	*n=469*	*n=395*	Baseline	*n=661*	*n=426*	*n=443*	Baseline		*n=311*	*n=508*	Baseline: n/a	*n=2282*	*n=1681*	*n=1905*	Baseline
		30%	38%	40%	Waiver 1	*n/a*	33%	35%	Waiver 1	32%	44%	48%	Waiver 1	30%	41%	43%	Waiver 1	*n/a*	36%	38%	Waiver 1	30%	40%	41%	Waiver 1
	Children	*n=646*	*n=452*	*n=492*	Baseline		*n=277*	*n=348*	Baseline: n/a	*n=743*	*n=513*	*n=385*	Baseline	*n=768*	*n=480*	*n=537*	Baseline		*n=403*	*n=636*	Baseline: n/a	*n=2676*	*n=1980*	*n=2396*	Baseline
		64%	69%	61%	Waiver 1	*n/a*	36%	47%	Waiver 1	63%	67%	68%	Waiver 1	61%	67%	66%	Waiver 1	*n/a*	69%	71%	Waiver 1	62%	65%	64%	Waiver 1

*The overall baseline and Waiver 1 averages include data for Healthfirst plan that exited the market in 2014.

Note: Shading scheme does not indicate statistically significant differences, only the direction of change (>1%) in point estimates from Waiver 2 to Baseline and Waiver 2 to Waiver 1 as follows:

Improved
No Change or Mixed Trend
Declined

Table 1.3: New Jersey Medicaid managed care population: HEDIS® measures of behavioral health care services quality, 2011-2018

Measurement Year (MY)	Baseline (2011-2012) Pooled Rate	Waiver 1 (2013-2016) Pooled Rate	Waiver 2 (2017-2018) Pooled Rate	Comparison 1	Comparison 2	Comparison 1 *p* value	Waiver 2 Performance Relative to Baseline	Comparison 2 *p* value	Waiver 2 Performance Relative to Waiver 1
				Waiver 2 Relative to Baseline %	Waiver 2 Relative to Waiver 1 %				
Follow-up Care for Children Prescribed ADHD Medication (ADD)									
Initiation Phase	31.8%	32.1%	33.2%	**1.4**	**1.1**	*0.0247*	**Improved**	*0.0286*	**Improved**
Continuation and Maintenance Phase[a]	34.6%	36.3%	33.1%	-1.5	**-3.2**	*0.3548*	Same	*0.0071*	**Declined**

Notes: Comparisons in bold format indicate statistically significant changes

[a] This metric was not reported in 2011

Table 1.4: New Jersey Medicaid managed care population: HEDIS® measures of chronic conditions/ treatment quality, 2011-2018

Measurement Year (MY)	Baseline (2011-2012) Pooled Rate	Waiver 1 (2013-2016) Pooled Rate	Waiver 2 (2017-2018) Pooled Rate	Comparison 1	Comparison 2	Comparison 1 *p* value	Waiver 2 Performance Relative to Baseline	Comparison 2 *p* value	Waiver 2 Performance Relative to Waiver 1
				Waiver 2 Relative to Baseline %	Waiver 2 Relative to Waiver 1 %				
Annual Monitoring for Patients on Persistent Medications[a]									
ACE Inhibitors or ARBs	no comparison	88.3%	90.2%	no comparison	**1.9**	n/a	n/a	*<0.001*	**Improved**
Diuretics	no comparison	87.3%	89.5%	no comparison	**2.2**	n/a	n/a	*<0.001*	**Improved**
Total	no comparison	87.9%	89.9%	no comparison	**2.0**	n/a	n/a	*<0.001*	**Improved**
Comprehensive Diabetes Care (CDC)[b]									
HbA1c Testing[c]	78.7%	83.7%	86.6%	**7.9**	**2.9**	*<0.001*	**Improved**	*<0.001*	**Improved**
HbA1c Poor Control (>9.0%)[c]	45.5%	40.3%	36.0%	**-9.4**	**-4.3**	*<0.001*	**Improved**	*<0.001*	**Improved**
Eye Exam	54.2%	57.1%	59.7%	**5.4**	**2.6**	*<0.001*	**Improved**	*<0.001*	**Improved**

Notes: Comparisons in bold format indicate statistically significant changes

[a] This metric was not reported in 2011 and numerator calculations were revised in 2014. Used 2014-2016 as Waiver 1 period and compared to Waiver 2. No baseline comparison

[b] Trends from 2015 to 2018 may be related to ICD-9 to ICD-10 transitions

[c] Excluded members in one health plan due to differing methodology in the calculation of this measure in 2017. Only 2018 used as Waiver 2 period

Table 1.5: New Jersey Medicaid managed care population: CAHPS® measures of consumer satisfaction with adult health care services

NJ Medicaid Managed Care Population: Adult Survey	Amerigroup				Aetna				Horizon				United Healthcare				WellCare				Overall Plan Average			
	Baseline Average (2011-2012)	Waiver 1 Average (2013-2016)	Waiver 2 Average (2017-2018)	Waiver 2 Performance Relative to:	Baseline Average (2011-2012)	Waiver 1 Average (2013-2016)	Waiver 2 Average (2017-2018)	Waiver 2 Performance Relative to:	Baseline Average (2011-2012)	Waiver 1 Average (2013-2016)	Waiver 2 Average (2017-2018)	Waiver 2 Performance Relative to:	Baseline Average (2011-2012)	Waiver 1 Average (2013-2016)	Waiver 2 Average (2017-2018)	Waiver 2 Performance Relative to:	Baseline Average (2011-2012)	Waiver 1 Average (2013-2016)	Waiver 2 Average (2017-2018)	Waiver 2 Performance Relative to:	Baseline Average* (2011-2012)	Waiver 1 Average* (2013-2016)	Waiver 2 Average (2017-2018)	Waiver 2 Performance Relative to:
Getting Needed Care composite	*n=305*	*n=355*	*n=253*	Baseline	*n/a*	*n=187*	*n=159*	Baseline n/a	*n=368*	*n=414*	*n=351*	Baseline	*n=383*	*n=403*	*n=368*	Baseline	*n/a*	*n=254*	*n=446*	Baseline n/a	*n=1263*	*n=1581*	*n=1577*	Baseline
Always	41%	51%	54%			38%	46%		44%	51%	54%		44%	50%	52%			46%	55%		44%	50%	53%	
Usually	32%	29%	26%	Waiver 1		27%	28%	Waiver 1	32%	31%	27%	Waiver 1	31%	30%	29%	Waiver 1		28%	26%	Waiver 1	30%	29%	27%	Waiver 1
Never/Sometimes	27%	20%	20%			35%	26%		25%	18%	19%		25%	21%	19%			26%	19%		26%	20%	20%	
Getting Care Quickly composite	*n=438*	*n=296*	*n=249*	Baseline	*n/a*	*n=181*	*n=170*	Baseline n/a	*n=529*	*n=388*	*n=349*	Baseline	*n=530*	*n=343*	*n=354*	Baseline	*n/a*	*n=250*	*n=439*	Baseline n/a	*n=1802*	*n=1358*	*n=1560*	Baseline
Always	51%	56%	57%			46%	56%		56%	59%	60%		55%	58%	59%			56%	61%		53%	57%	59%	
Usually	27%	23%	24%	Waiver 1		22%	23%	Waiver 1	25%	23%	19%	Waiver 1	25%	25%	24%	Waiver 1		20%	20%	Waiver 1	26%	23%	22%	Waiver 1
Never/Sometimes	22%	21%	19%			33%	21%		20%	18%	21%		21%	17%	17%			24%	19%		22%	20%	19%	
How Well Doctors Communicate composite	*n=410*	*n=269*	*n=202*	Baseline	*n/a*	*n=150*	*n=122*	Baseline n/a	*n=487*	*n=361*	*n=297*	Baseline	*n=503*	*n=318*	*n=302*	Baseline	*n/a*	*n=217*	*n=384*	Baseline n/a	*n=1695*	*n=1248*	*n=1307*	Baseline
Always	66%	73%	71%			74%	71%		67%	74%	74%		66%	71%	72%			72%	72%		67%	73%	72%	
Usually	24%	19%	19%	Waiver 1		18%	20%	Waiver 1	21%	18%	16%	Waiver 1	24%	21%	19%	Waiver 1		20%	20%	Waiver 1	22%	19%	19%	Waiver 1
Never/Sometimes	10%	8%	10%			7%	9%		13%	8%	10%		11%	8%	9%			9%	8%		11%	8%	9%	
Overall Rating of Personal Doctor	*n=494*	*n=313*	*n=259*	Baseline	*n/a*	*n=181*	*n=158*	Baseline n/a	*n=558*	*n=415*	*n=371*	Baseline	*n=574*	*n=367*	*n=370*	Baseline	*n/a*	*n=238*	*n=440*	Baseline n/a	*n=1960*	*n=1396*	*n=1597*	Baseline
Best Doctor (9-10 Rating)	55%	66%	58%			58%	58%		57%	66%	61%		58%	66%	63%			63%	67%		58%	66%	62%	
7-8 Rating	27%	21%	28%	Waiver 1		22%	29%	Waiver 1	26%	22%	26%	Waiver 1	28%	20%	24%	Waiver 1		23%	22%	Waiver 1	26%	23%	25%	Waiver 1
Worst Doctor (0-6 Rating)	19%	13%	14%			21%	14%		18%	12%	12%		15%	14%	13%			13%	12%		16%	11%	13%	
Ease of Getting Appointments with Specialists	*n=231*	*n=167*	*n=141*	Baseline	*n/a*	*n=94*	*n=75*	Baseline n/a	*n=295*	*n=231*	*n=188*	Baseline	*n=283*	*n=201*	*n=197*	Baseline	*n/a*	*n=119*	*n=257*	Baseline n/a	*n=971*	*n=781*	*n=857*	Baseline
Always	42%	49%	55%			33%	48%		42%	48%	55%		42%	48%	51%			38%	55%		43%	47%	54%	
Usually	31%	28%	21%	Waiver 1		22%	26%	Waiver 1	32%	29%	24%	Waiver 1	30%	28%	27%	Waiver 1		30%	23%	Waiver 1	30%	29%	24%	Waiver 1
Never/Sometimes	28%	23%	24%			45%	26%		27%	23%	21%		28%	23%	22%			32%	21%		29%	25%	22%	
Personal Doctor Informed about Other Providers	*n=187*	*n=123*	*n=108*	Baseline	*n/a*	*n=80*	*n=59*	Baseline n/a	*n=264*	*n=161*	*n=164*	Baseline	*n=251*	*n=137*	*n=167*	Baseline	*n/a*	*n=108*	*n=220*	Baseline n/a	*n=832*	*n=569*	*n=717*	Baseline
Always	46%	53%	50%			46%	50%		49%	51%	53%		48%	48%	59%			48%	58%		48%	50%	55%	
Usually	30%	28%	27%	Waiver 1		26%	31%	Waiver 1	26%	30%	28%	Waiver 1	30%	30%	24%	Waiver 1		31%	26%	Waiver 1	28%	29%	27%	Waiver 1
Never/Sometimes	25%	19%	22%			28%	20%		26%	19%	19%		23%	21%	17%			21%	16%		24%	21%	18%	

*The overall baseline and waiver 1 averages include data for Healthfirst plan that exited the market in 2014.

Note: Shading scheme does not indicate statistically significant differences, only the direction of change (>1%) in point estimates from Waiver 2 to Baseline and Waiver 2 to Waiver 1 as follows:

Improved
No Change or Mixed Trend
Declined

Table 1.6: New Jersey Medicaid managed care population: CAHPS® measures of consumer satisfaction with child health care services

New Jersey Medicaid Managed Care Population: Child Survey	Amerigroup				Aetna				Horizon				United Healthcare				WellCare				Overall Plan Average			
	Baseline Average (2011-2012)	Waiver 1 Average (2013-2016)	Waiver 2 Average (2017-2018)	Waiver 2 Performance Relative to:	Baseline Average (2011-2012)	Waiver 1 Average (2013-2016)	Waiver 2 Average (2017-2018)	Waiver 2 Performance Relative to:	Baseline Average (2011-2012)	Waiver 1 Average (2013-2016)	Waiver 2 Average (2017-2018)	Waiver 2 Performance Relative to:	Baseline Average (2011-2012)	Waiver 1 Average (2013-2016)	Waiver 2 Average (2017-2018)	Waiver 2 Performance Relative to:	Baseline Average (2011-2012)	Waiver 1 Average (2013-2016)	Waiver 2 Average (2017-2018)	Waiver 2 Performance Relative to:	Baseline Average* (2011-2012)	Waiver 1 Average* (2013-2016)	Waiver 2 Average (2017-2018)	Waiver 2 Performance Relative to:
Getting Needed Care composite	*n=219*	*n=316*	*n=384*	Baseline ░	*n/a*	*n=213*	*n=272*	Baseline n/a	*n=282*	*n=369*	*n=381*	Baseline ░	*n=270*	*n=328*	*n=433*	Baseline ░	*n/a*	*n=315*	*n=503*	Baseline n/a	*n=945*	*n=1368*	*n=1972*	Baseline ░
Always	51%	57%	59%			53%	50%		49%	55%	55%		50%	55%	57%			50%	53%		50%	54%	55%	
Usually	29%	23%	23%	Waiver 1 ░		24%	27%	Waiver 1 ▓	31%	26%	26%	Waiver 1 ▒	27%	27%	27%	Waiver 1 ░		25%	26%	Waiver 1 ░	28%	25%	26%	Waiver 1 ▒
Never/Sometimes	21%	20%	18%			22%	23%		22%	20%	20%		24%	19%	17%			25%	21%		23%	21%	19%	
Getting Care Quickly composite	*n=684*	*n=408*	*n=396*	Baseline ░	*n/a*	*n=224*	*n=293*	Baseline n/a	*n=813*	*n=488*	*n=406*	Baseline ▒	*n=829*	*n=441*	*n=441*	Baseline ░	*n/a*	*n=334*	*n=526*	Baseline n/a	*n=2769*	*n=1818*	*n=2061*	Baseline ░
Always	65%	67%	72%			67%	71%		65%	68%	66%		64%	67%	67%			62%	67%		63%	65%	68%	
Usually	16%	16%	15%	Waiver 1 ░		15%	16%	Waiver1 ░	15%	16%	16%	Waiver 1 ▓	18%	17%	19%	Waiver 1 ▒		18%	19%	Waiver 1 ░	17%	17%	17%	Waiver 1 ░
Never/Sometimes	20%	17%	14%			17%	14%		20%	16%	18%		19%	16%	13%			20%	15%		21%	18%	15%	
How Well Doctors Communicate composite	*n=512*	*n=364*	*n=359*	Baseline ▒	*n/a*	*n=183*	*n=259*	Baseline n/a	*n=592*	*n=418*	*n=357*	Baseline ▒	*n=606*	*n=390*	*n=397*	Baseline ▓	*n/a*	*n=313*	*n=481*	Baseline n/a	*n=2211*	*n=1551*	*n=1852*	Baseline ▒
Always	74%	77%	75%			75%	73%		73%	74%	73%		76%	78%	74%			74%	73%		75%	76%	74%	
Usually	19%	17%	16%	Waiver 1 ▓		18%	19%	Waiver 1 ▓	21%	18%	18%	Waiver 1 ▒	18%	16%	18%	Waiver 1 ▓		19%	18%	Waiver 1 ▒	19%	18%	18%	Waiver 1 ▓
Never/Sometimes	7%	6%	9%			7%	8%		8%	8%	9%		7%	7%	8%			7%	8%		7%	7%	8%	
Overall Rating of Personal Doctor	*n=579*	*n=405*	*n=430*	Baseline ░	*n/a*	*n=211*	*n=301*	Baseline n/a	*n=663*	*n=466*	*n=423*	Baseline ░	*n=687*	*n=434*	*n=474*	Baseline ▒	*n/a*	*n=356*	*n=566*	Baseline n/a	*n=2384*	*n=1832*	*n=2193*	Baseline ░
Best Doctor (9-10 Rating)	70%	77%	74%			*71%*	*70%*		68%	*74%*	*73%*		72%	76%	73%			*74%*	*74%*		71%	*75%*	*73%*	
7-8 Rating	22%	17%	20%	Waiver 1 ▓		19%	21%	Waiver 1 ▒	22%	19%	21%	Waiver 1 ▒	21%	19%	21%	Waiver 1 ▓		20%	19%	Waiver 1 ▒	22%	19%	20%	Waiver 1 ▓
Worst Doctor (0-6 Rating)	8%	7%	6%			11%	9%		10%	7%	6%		8%	5%	5%			6%	6%		7%	6%	6%	
Ease of Getting Appointments with Specialists	*n=192*	*n=129*	*n=129*	Baseline ░	*n/a*	*n=50*	*n=75*	Baseline n/a	*n=239*	*n=160*	*n=129*	Baseline ░	*n=263*	*n=180*	*n=155*	Baseline ░	*n/a*	*n=86*	*n=146*	Baseline n/a	*n=822*	*n=586*	*n=634*	Baseline ░
Always	45%	49%	56%			50%	41%		46%	48%	48%		48%	51%	55%			44%	47%		45%	48%	50%	
Usually	32%	23%	21%	Waiver 1 ░		24%	29%	Waiver 1 ▓	30%	28%	28%	Waiver 1 ▒	26%	25%	23%	Waiver 1 ░		22%	27%	Waiver 1 ░	30%	25%	25%	Waiver 1 ░
Never/Sometimes	24%	28%	23%			26%	30%		24%	24%	24%		26%	24%	22%			34%	26%		26%	28%	24%	
Personal Doctor Informed about Other Providers	*n=204*	*n=99*	*n=143*	Baseline ▒	*n/a*	*n=59*	*n=94*	Baseline n/a	*n=236*	*n=127*	*n=149*	Baseline ░	*n=237*	*n=118*	*n=172*	Baseline ░	*n/a*	*n=98*	*n=175*	Baseline n/a	*n=816*	*n=470*	*n=731*	Baseline ░
Always	55%	52%	56%			56%	55%		49%	53%	55%		51%	54%	53%			55%	55%		51%	54%	55%	
Usually	29%	29%	22%	Waiver 1 ░		31%	23%	Waiver 1 ▒	32%	25%	27%	Waiver 1 ░	28%	25%	23%	Waiver 1 ▒		28%	25%	Waiver 1 ▒	31%	27%	24%	Waiver 1 ▒
Never/Sometimes	17%	19%	22%			14%	22%		19%	22%	18%		21%	21%	24%			18%	20%		20%	20%	21%	

*The overall baseline and waiver 1 averages include data for Healthfirst plan that exited the market in 2014.

Note: Shading scheme does not indicate statistically significant differences, only the direction of change (>1%) in point estimates from Waiver 2 to Baseline and Waiver 2 to Waiver 1 as follows:

░ Improved
▒ No Change or Mixed Trend
▓ Declined

Discussion

In this report, we analyzed HEDIS® and CAHPS® managed care performance data for the baseline (2011-2012), the Waiver 1 demonstration period (2013-2016), and two years of the Waiver 2 demonstration period (2017-2018). We assessed differences between these three 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.[13] The available data do not allow for risk adjustment and changes in the managed care population over time could underlie observed differences. Results should be interpreted with this caveat in mind. **With some exceptions, the findings presented in this report support the conclusion that overall quality of care for Medicaid managed care beneficiaries improved for most HEDIS® and CAHPS® measures examined in the Waiver 2 period when compared with the baseline and the Waiver 1 periods.**

In the preventive care quality domain, immunization for adolescents improved from both the baseline and the Waiver 1 periods. For well-care visits, there was nearly a four percentage point drop in the rate of children who had well-child visits with a primary care physician in the first 15 months of life. Moreover, there was a small decrease in access to primary care practitioners for children 12-24 months old. Access for all other age groups (up to 19 years) improved by about 2 percentage points over the demonstration period. Measures related to prenatal and postpartum care, and cervical cancer screening showed a mixed trend. In terms of behavioral health care quality, the number of children following-up with a visit to a practitioner within 30 days of their first prescription of ADHD medication improved. However, the trend did not persist for the continuation and maintenance phase of the ADHD medication, which significantly declined. The largest improvement was seen for the Comprehensive Diabetes Care measures. The HbA1c testing increased by 8 percentage points, HbA1c poor control (>9.0%) improved by decreasing nine percentage points, and the number of people going for eye exam increased by five percentage points during the Waiver 2 period when compared with baseline. Similar trends, but of a smaller scale, were observed for diabetes care when the Waiver 2 period was compared with the Waiver 1 estimates. The CAHPS® metric reflecting whether dental care was received showed that small improvements in rates achieved during the Waiver 1 period were maintained in the Waiver 2 period.

Consumer satisfaction with care showed improvement across health plans when Waiver 2 was compared to the baseline period, and this was consistent across all measures for adults. However, mixed results were seen when compared to the Waiver 1 period. Among children,

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[13] Evaluation of the impact of the managed care expansion on cost of care, which is part of Research Question 1, is not evaluated in this chapter since HEDIS® and CAHPS® metrics do not address this domain.

improvements in satisfaction were also evident, most consistently when Waiver 2 was compared to baseline. The Waiver 2 to Waiver 1 comparison showed either no change or decline for multiple measures.

While examining the findings presented in this chapter, it is important to remember that available data thus far only covers a small portion of the Waiver 2 demonstration period. In addition, estimates are descriptive and do not adjust for beneficiary characteristics. 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 brought individuals with different demographic and health profiles into managed care. CAHPS® metrics are not reported for the population of Medicaid managed care beneficiaries as a whole and the statistical significance of changes in the overall plan average or within plans could not be assessed. Nevertheless, examining unadjusted trends in the metrics presented in this report is an essential part of monitoring progress toward the goals of the Division of Medical Assistance and Health Services (DMAHS) Quality Strategy (DMAHS 2014 & DMAHS 2016) during the Waiver demonstration period. **The evidence from the metrics we examined in this report suggests that quality of care has not been compromised for most managed care beneficiaries during the demonstration period and overall consumer satisfaction in Medicaid has improved since the pre-Waiver period.** These findings could change as additional years of data for the Waiver 2 demonstration period are added in the final evaluation report.

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https://www.state.nj.us/humanservices/dmahs/home/NJCW_Renewal_App_B_Quality_Activities.pdf.

Appendix 1A: CAHPS® Adult and Child Survey Response Rates

CAHPS® Adult Survey	
2011	17.0%
2012	11.6%
2013	13.7%
2014	15.8%
2015	24.4%
2016	24.3%
2017	22.7%
2018	23.7%
CAHPS® Child Survey	
2011	19.1%
2012	14.1%
2013	14.5%
2014	15.9%
2015	24.8%
2016	22.9%
2017	21.9%
2018	26.2%

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,[14] the state updated its Quality Strategy[15] to include 40 measures addressing several aspects of managed long-term services and supports (MLTSS). This chapter will discuss some of these measures, in addition to other relevant data that has been presented in a variety of reports and settings. Three additional reports we authored (Farnham et al. 2015, 2017, & forthcoming) provide more details about MLTSS implementation in New Jersey—in them we discuss stakeholder feedback from providers, consumer advocates, managed care organizations (MCOs) and state officials on MLTSS implementation. 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, an external quality review organization, and state government relating to a post-implementation period spanning 2014 through 2020. Two earlier reports have similar chapters discussing MLTSS-related measures (Chakravarty et al. 2017 & 2016) for the prior waiver. We opted not to try to separate effects from the prior waiver (2012-2017) and the NJ FamilyCare Comprehensive Demonstration (2017-2022) because the transition to MLTSS occurred midway through the first demonstration, and many metrics were only available through 2018, making the periods on either side of 2017 very short to attempt comparisons.

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), the Division of Aging Services (DoAS), and an external quality review organization to discuss details around reporting and ensure comparability. In addition to these

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[14] 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.

[15] 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.

measurement-focused meetings, MCOs and state divisions have more frequent standing meetings to discuss general operational issues. DMAHS maintains a hotline 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 National Core Indicators – Aging and Disabilities (NCI-AD)™ Survey, which involves face-to-face surveys of long-term care consumers.[16] On a quarterly basis, the state reports quality measure data to CMS.[17] It also reports regularly to the Medical Assistance Advisory Committee[18] and reported to the MLTSS Steering Committee until its last meeting in March 2019.

MLTSS members looking to appeal an MCO decision may appeal directly to the MCO, call the state quality hotline, request an independent review in some cases through New Jersey's Division of Banking and Insurance,[19] or file a Medicaid fair hearing request.[20]

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 MLTSS activities* (hospital use, transitions between facilities and community settings, and follow-up after hospitalization for mental illness). We present utilization information in Chapter 4.

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

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[16] See http://nci-ad.org/.

[17] Many of these reports are posted here: https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/Waivers_faceted.html?filterBy=New%20Jersey.

[18] Agendas, Presentations and Meeting Minutes are posted here: http://www.state.nj.us/humanservices/dmahs/boards/maac/.

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

[20] See http://www.state.nj.us/humanservices/dmahs/info/fads.html.

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[21] or the Medical Assistance Advisory Council (MAAC).[22] These additional measures were calculated in response to stakeholder inquiries or as part of state efforts to describe the program and affected populations.

Finally, other relevant data are included in the National Core Indicators – Aging and Disabilities (NCI-AD)™ surveys.

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), reports from New Jersey's external quality review organization, and results on the NCI-AD™ surveys, 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 research questions and evaluation hypotheses, listed below.

Research Question 1. **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?**

Hypothesis 1: **The managed care expansion will improve access to care, the quality, efficiency, and coordination of care, and the cost of care for the overall population in managed care.**

Research Question 2. **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: **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.**

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[21] 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.

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

Table 2.1 describes the types of measures we examine and their sources.

Table 2.1: Secondary metric categories, sources, and descriptions

	Metric category	Metric Source	CSHP's Source	Description
1	Long-term care population by setting	NJ DMAHS, US Census Bureau	NJ FamilyCare Dashboard; population from US Census Bureau	Based on the available numbers of HCBS, PACE, and Nursing Facility Residents, we have calculated the percent of the LTC population every year from July 2014 to July 2020 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, March 2016, April 2017, August 2018, and September 2019
3	Age of NJ Medicaid LTC Enrollees	NJ DMAHS	NJ FamilyCare Dashboard	Shows the ages of participants in Medicaid LTC as of July 2014 and July 2020
4	Assessment Timeliness	NJ OCCO,[23] MCOs	DMAHS reports to CMS	• Number and timeliness of level of care assessments (required to receive MLTSS services), monthly from January 2015 to October 2019 • Percent MCO assessments authorized by OCCO 2015-2019
5	Critical incidents	DoAS	DMAHS reports to CMS	• Number and timeliness (2015-2019) of reported incidents that had or could have adverse effects on members
6	External quality review information	EQRO	EQRO reports	• Trends for 6 HCBS metrics and 5 NF metrics • Most recent compliance information for 13 HCBS metrics and 17 NF metrics
7	Appeals, Grievances Complaints and Service Reductions	MCOs, DMAHS, DOBI	DMAHS reports to CMS, MLTSS Steering Committee presentations, DMAHS MAAC presentations, DMAHS final	• MCO appeals, grievances and complaints 2015-2019 • Types of appeals/grievances in 2019 (Q1 & Q3) • Appeal outcomes in 2015 & 2016. • MCO service reduction reports in Q3, 2015 • Fair hearing dispositions for January-July 2016 and August-December 2016

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[23] NJ Department of Human Services, Division of Aging Services, Office of Community Choice Options.

	Metric category	Metric Source	CSHP's Source	Description
			agency decisions, DOBI IHCAP reports	• Fair hearing outcomes 2014-2020, by MCO • NJ DOBI, Independent Health Care Appeals Program (IHCAP), Jan 2014 to June 2018 (semiannual)
8	Provider network adequacy	MCO reports to DMAHS	DMAHS reports to CMS	• 2016 (2 Qs, 5 MCOs), 2017 (3 Qs, 3 MCOs), 2018 (2 Qs, 5 MCOs)
9	Transitions between nursing facility and community	MCOs, MFP program	DMAHS reports to CMS	• Transitions from NF to community and back to NF within 90 days • Transitions from community to NF, short-term and long-term Annual reports, up to 5 years post MLTSS
10	Quality of life and care	NCI-AD™	NCI-AD™	• Comparison of populations served and 77 outcome metrics in 2018-2019 for: o NJ MLTSS-HCBS with MLTSS-HCBS in 4 other states o Comparison of NJ MLTSS-NF with MLTSS-NF in Tennessee • Comparison of populations in NJ MLTSS-HCBS, MLTSS-NF (FFS for year 1), and Program of All-inclusive Care for the Elderly (PACE) from 2016-2019 • Comparison of NJ MLTSS member profiles and experiences by MCO from 2016-2019

Results

Setting, All LTC Enrollees

New Jersey' long-term care population as discussed here includes individuals enrolled in MLTSS, those remaining in nursing homes on a fee-for-service basis (new nursing home entrants or those who change in level of care are enrolled in MLTSS), and those enrolled in the Program of All-inclusive Care for the Elderly (PACE),[24] which is not part of MLTSS. MLTSS members may reside in community housing, adult family care, nursing homes, assisted living residences, or comprehensive personal care homes. The numbers and share of individuals in each setting from 2014 to 2020 is shown in Table 2.2. Those in assisted living residences and comprehensive personal care homes are counted under "Assisted Living," while those in community-based housing, including adult family care, are included in "Other HCBS." The numbers and share of the New Jersey population receiving long-term care services in home and community-based settings (not including Assisted Living or PACE) grew substantially from 2014 through 2020, increasing in number by 3.7 times (from 8,539 to 31,420 individuals) and in share by 2.6 times (from 21% to 54%). The number of PACE enrollees grew by 38% over the period, but the share of the LTC population enrolled in PACE remained the same at 2%. The number of LTC enrollees residing in Assisted Living remained about the same at around 3,000 people, with the share decreasing from 7% to 5% from 2014 through 2020. The number of LTC enrollees residing in nursing homes also remained relatively stable from 2014 to 2020, down from 2014 by 600-1,300 each year from 2015-2019 but fluctuating up and down each year until the COVID-19 pandemic, when the number dropped by nearly 5,500 from the year before. The share of the LTC population residing in nursing homes decreased substantially from 2014 to 2020, from 71% to 39%.

Table 2.2: NJ Medicaid LTC population by setting, number and percent of total by year, 2014–2020 (July)

Year	Nursing Home (FFS + MLTSS)		Assisted Living		Other HCBS		PACE		Total
	Number	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	
2014	29,304	71%	2,863	7%	8,539	21%	827	2%	41,533
2015	28,026	65%	3,068	7%	10,876	25%	839	2%	42,809
2016	28,736	59%	3,334	7%	15,728	32%	926	2%	48,724
2017	28,372	53%	3,070	6%	20,686	39%	961	2%	53,089
2018	28,734	50%	3,060	5%	24,894	43%	1,069	2%	57,757
2019	28,285	46%	3,080	5%	28,408	47%	1,152	2%	60,925
2020	22,808	39%	2,781	5%	31,420	54%	1,140	2%	58,149

Source: NJ FamilyCare Dashboard, accessed 4/19/21

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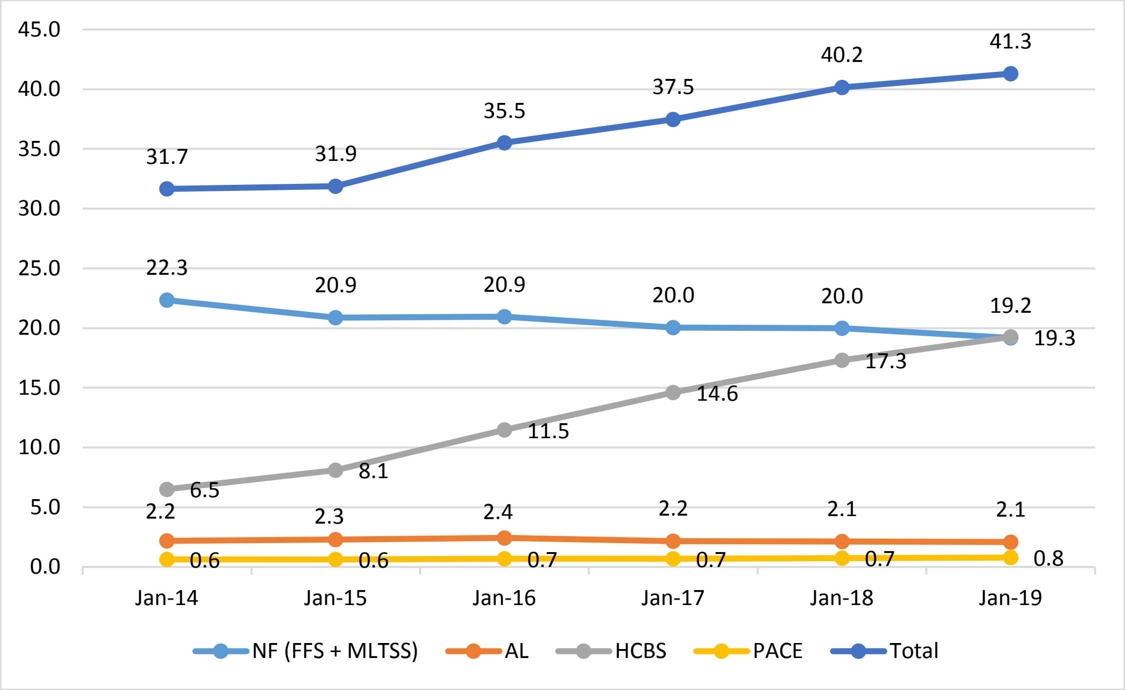
[24] The Program of All-inclusive Care for the Elderly (PACE) enrolls people initially in community settings, but will provide nursing facility care if it becomes necessary. For more information, see http://www.state.nj.us/humanservices/doas/services/pace/ .

Figure 2.1 shows the numbers of enrollees in each setting by year on a per population basis, per 1,000 NJ residents 65 and up. On this per population basis, the number of residents in nursing home settings declined steadily from 2014 to 2019, and the population in HCBS settings other than Assisted Living grew steadily. The total number of enrollees also grew steadily from 2014 until 2019. In 2014, 32 out of 1,000 NJ residents 65 and over were enrolled in Medicaid LTC, with 22 in nursing home settings. By 2019, 41 out of 1,000 NJ residents 65 and over were enrolled in Medicaid LTC, with 19 in nursing home settings. As of 2019, the number of enrollees, the share of enrollees, and the number of enrollees per population in HCBS settings was greater than that in nursing home settings.

Figure 2.1: NJ Medicaid LTC beneficiaries per 1,000 residents 65+, 2014-2019 (July)



Source: Medicaid enrollees from NJ FamilyCare Dashboard, accessed 4/19/21; Population numbers from US Census Bureau, American Community Survey 1 year estimates, Table S0103.

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, 32% were still receiving HCBS services through MLTSS as of September 2019. About 8% were in nursing facilities, and the remaining 58% were 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 2.3 shows the change from November 2015 to

September 2019 in the status of former waiver enrollees (on June 30, 2014 all of these enrollees were receiving HCBS waiver services).

Table 2.3: Current status of former waiver enrollees

Current Service Status	Percent, July 2014	Percent, November 2015	Percent, March 2016	Percent, April 2017	Percent, August 2018	Percent, September 2019
MLTSS HCBS	100%	69%	65%	52%	40%	32%
MLTSS Nursing Facility	n/a	7%	8%	8.5%	9%	8%
No Longer Enrolled	n/a	20%	25%	36%	49%	58%
Other (Non MLTSS Medicaid)	n/a	4%	3%	3%	3%	3%

Sources: MAAC Meeting Presentation 10/24/19 (slide 31), based on "DMAHS Shared Data Warehouse Monthly Eligibility Universe, accessed September 2019"; MAAC Meeting Presentation 10/17/18 (slide 45), based on "DMAHS Shared Data Warehouse Monthly Eligibility Universe, accessed 8/15/18; MAAC Meeting Presentation 4/13/17 (slide 37), based on "DMAHS Shared Data Warehouse Monthly Eligibility Universe, accessed 4/7/17"; MAAC Meeting Presentation 4/20/16, based on "DMAHS Shared Data Warehouse Monthly Eligibility Universe, accessed 3/11/16."; MLTSS Presentation for Steering Committee December 2015 (slide 12), based on "DMAHS Shared Data Warehouse Monthly Eligibility Universe, accessed 11/16/15."

Age of Medicaid LTC Enrollees

Table 2.4 shows the number of Medicaid LTC enrollees by age category in July 2014 and July 2020. By 2020, about 90% of LTC enrollees were in MLTSS for every age group (in 2014, older age groups were somewhat more likely to remain in fee-for-service). All age categories have grown in the number of enrollees from 2014 to 2020, with the slowest growth in the 80 and over category and the highest growth among ages 0-21 and 65-79.

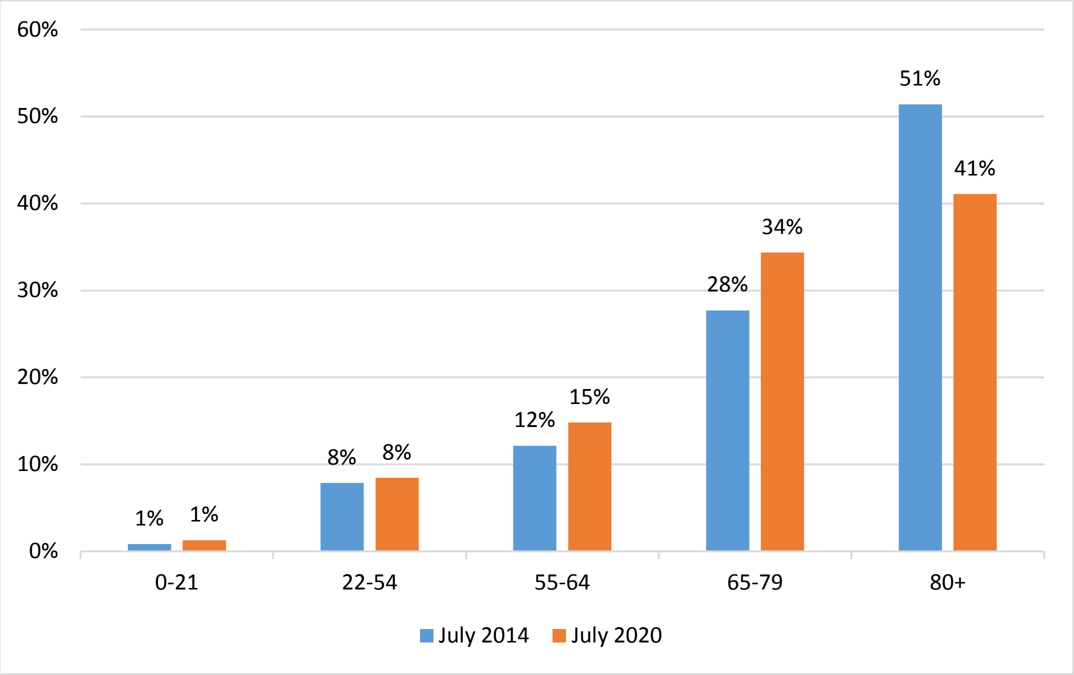
Table 2.4: Age categories of NJ LTC recipients, percent MLTSS, and growth, 2014-2020

Age group	Number of LTC enrollees, July 2014	% of LTC enrollees in MLTSS, 2014	Number of LTC enrollees, July 2020	% of LTC enrollees in MLTSS, 2020	Growth in number of LTC enrollees 2014-2020
0-21	356	40%	740	87%	108%
22-54	3,268	40%	4,915	93%	50%
55-64	5,044	28%	8,611	87%	71%
65-79	11,513	29%	19,990	87%	74%
80+	21,352	25%	23,893	90%	12%
Total	*41,533*	*28%*	*58,149*	*89%*	*40%*

Source: NJ FamilyCare Dashboard

Figure 2.2 shows the distribution across age groups for individuals enrolled in Medicaid LTC in July of 2014 and 2020. About 75% of enrollees are ages 65 and older in both time periods, though the share has shifted away from the 80 and over category and toward those 65-79. Among those under 65, the share has remained the same for those aged 0-21, decreased slightly for those aged 22-54, and increased slightly for those aged 55-64.

Figure 2.2: NJ LTC enrollees (MLTSS and fee-for-service), by age group



Source: NJ FamilyCare Dashboard

Assessment Timeliness

Two of the Quality Strategy measures examine the timeliness of the assessment to determine whether or not a long-term care applicant 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 consumers for whom MCOs conduct the assessment will generally be enrolling in MLTSS. This is less true for OCCO, which 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.[25]

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[25] 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.

The assessment timeliness 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). Table 2.5 shows the monthly assessment timeliness averages and ranges by year for OCCO and the MCOs each year from 2015 through 2019 (data for 2019 was only available for January-April and August-October).

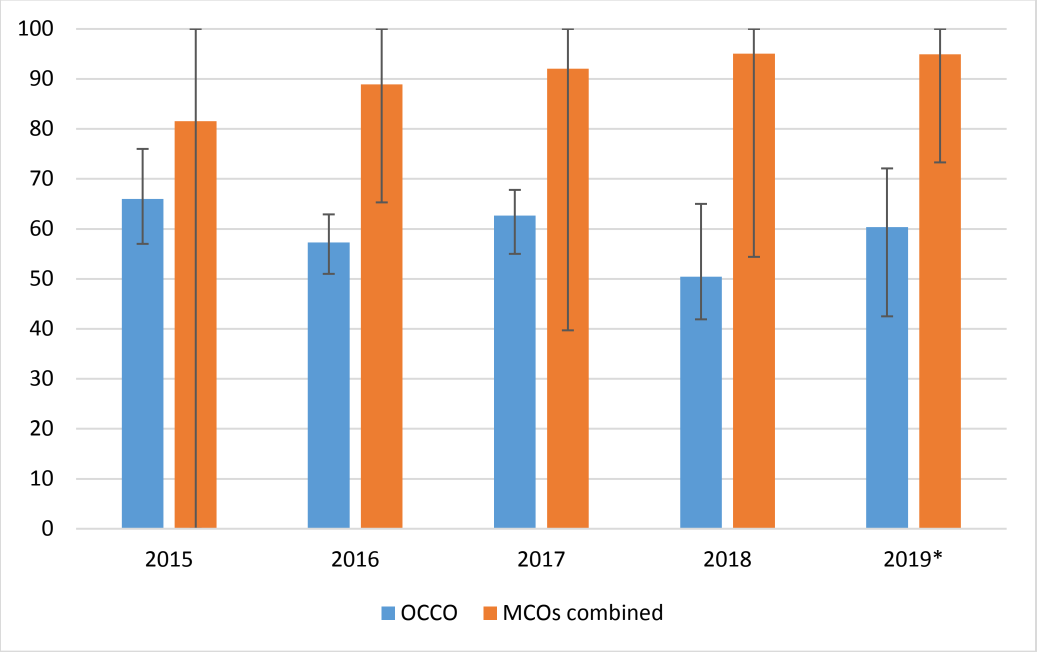
Table 2.5: Monthly assessment timeliness average (% on time) and ranges by year, 2015-2019

	OCCO		MCOs		
Year	Average	Range of monthly averages	Combined average	Range of all-MCO averages	Range, monthly among individual MCOs
2015	66	57-76	82	64-98	0-100
2016	57	51-63	89	80-99	65-100
2017	63	55-68	92	78-95	40-100
2018	50	42-65	95	94-96	54-100
2019*	60	43-72	95	84-96	73-100
Total	*59*		*90*		

*2019 includes Jan-April and Aug-Oct only; Source: DMAHS, MLTSS Performance Measure Reports.

The OCCO monthly average has ranged as low as 42% completed within 30 days to as high as 76% from 2015 to the months for which data were available in 2019. The combined MCO average has ranged from 64% to 99% during this time, but the individual MCOs averages ranged from 0-100%. Figure 2.3 shows the averages and ranges by year for OCCO and the MCOs combined from 2015-the months available in 2019. The colored bars show the averages and the error bars show the ranges. While the combined MCO average is generally higher than the average for OCCO, the ranges overlap in 2015, 2017 and 2018.

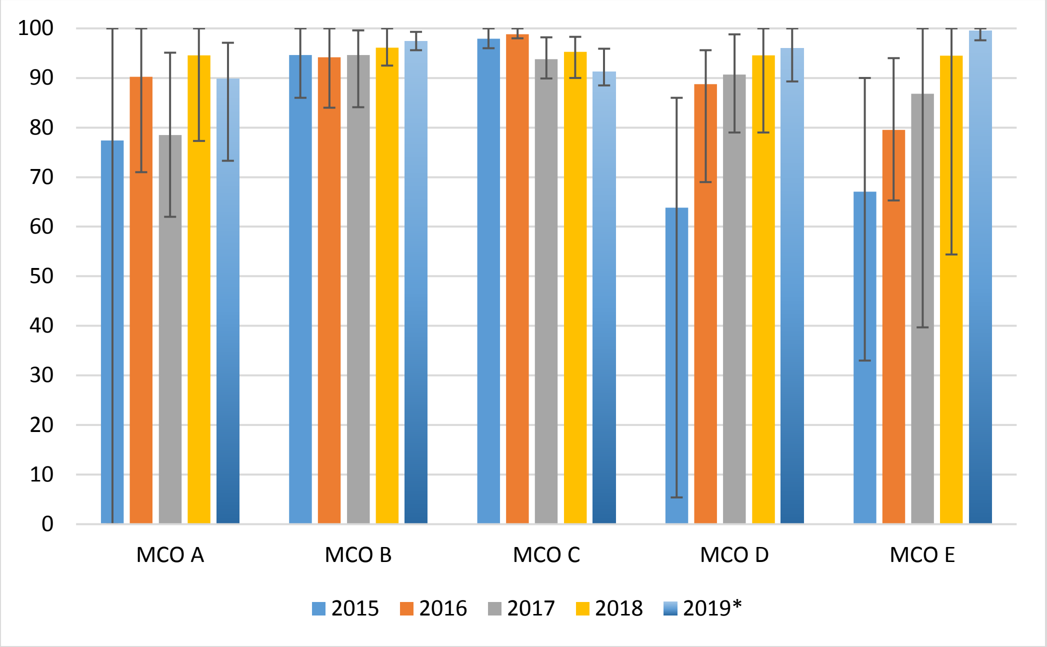
Figure 2.3: Monthly assessment timeliness averages and ranges by year, OCCO and combined MCOs



*2019 includes Jan-April and Aug-Oct only; Source: DMAHS, MLTSS Performance Measure Reports.

Individual MCOs are more variable than the combined average. Figure 2.4 shows the monthly assessment timeliness and ranges for individual MCOs from 2015 to the months available in 2019. The patterns over time are different for the individual MCOs—two have shown mostly steady improvement in timeliness, and another has trended generally upward with some up and down. One started and remained high, decreasing its variability in timeliness in the last two years. Another started with high timeliness and low variability but has declined slightly over time, with increased variability.

Figure 2.4: Monthly assessment timeliness averages and ranges by year and MCO

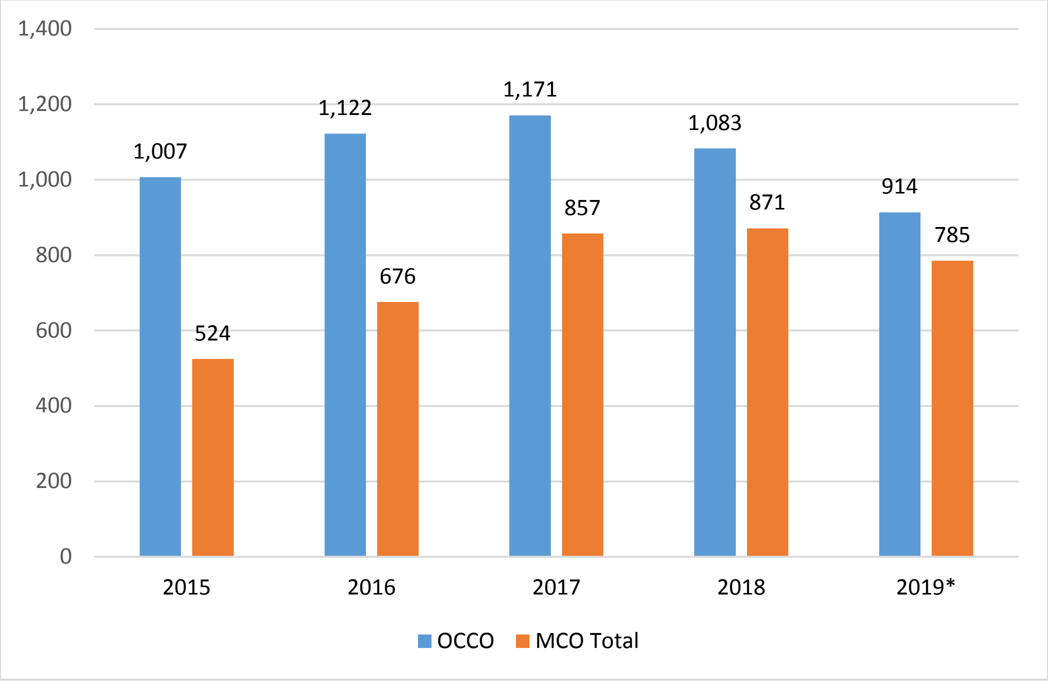


*2019 includes Jan-April and Aug-Oct only; Source: DMAHS, MLTSS Performance Measure Reports.

While high timeliness is desirable, it's not clear what effect timeliness has on consumers. MCO consumers already on Medicaid have personal care assistance and medical day available to them through the state plan while they await MLTSS enrollment, so they may receive some services while waiting. New Medicaid applicants have to pass both financial and clinical eligibility for enrollment, with potential delays in financial determinations as necessary eligibility-related documentation is located by applicants, and potentially a penalty period delaying eligibility if they are found to have transferred financial assets during the 5 years preceding the application.

Figure 2.5 shows the average number of monthly assessments completed for each year from 2015 through 2019 for new applicants to MLTSS (data for 2019 was only available for January-April and August-October). OCCO still exceeded the total MCO average each year, though the gap narrowed a bit over time. In 2015, OCCO conducted almost twice as many assessments; in 2019 (for the 7 months available), OCCO conducted 16% more assessments than all MCOs. OCCO sometimes has to conduct reassessments of MCO members if the MCO assessment does not provide OCCO enough information to determine whether to authorize clinical eligibility. The percentage of these has been at or below 5% of MCO submissions since fiscal 2016.

Figure 2.5: Average monthly assessments completed for new MLTSS applicants, by year, OCCO and MCOs combined

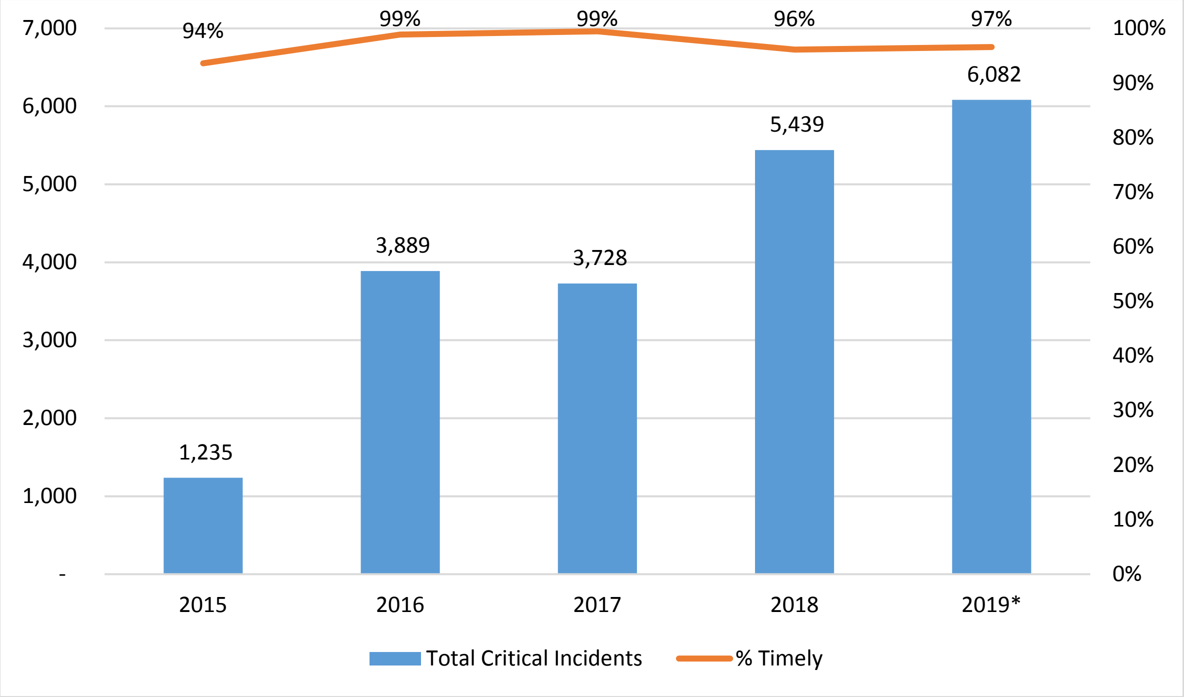


*2019 includes Jan-April and Aug-Oct only; Source: DMAHS, MLTSS Performance Measure Reports.

Critical Incident Reporting

DoAS monitors critical incident reporting on MLTSS enrollees from the MCOs and reports numbers and timeliness for each month. Anything less than 100% timeliness as defined in the MCO contract requires a corrective action plan from the MCO. As shown in Figure 2.6, timeliness has been high over the course of the program (94% or higher each year), and the number of reports has generally grown along with enrollees. Though the same enrollee may generate multiple reports, a rough estimate of the share of enrollees can be calculated based on a percent of enrollees each year. Using July enrollee numbers, the number of critical incident reports has ranged from 7% of enrollees in 2015 to 18% of enrollees in the 8 months for which data are available in 2019, and the average number of reports per month has ranged from 103 in 2015 to 760 for the 8 months for which data are available in 2019. DoAS also looks at trends based on 30 categories of incidents covering various types of situations resulting in need for medical treatment, various types of neglect/abuse/exploitation, adverse impacts to members' living situations, inability to contact the member, unexpected deaths, a variety of dangers to members such as elopement (i.e., absent from residence without appropriate safety measures), inappropriate provider conduct, and failure of backup plans, and an "other" category for situations not adequately captured in the list. Generally, the most common critical incidents are medical emergencies or falls that require medical treatment.

Figure 2.6: Critical incident numbers and timeliness, 2015-2019



*2019 includes Jan-April and Aug-Oct only; Source: DMAHS, MLTSS Performance Measure Reports (authors combined monthly information into annual categories.

External Quality Review

Overview. An external quality review organization (EQRO) audits MCO records (based on a random sample of about 100 from each of the participating MCOs), reports contract-related data and calculates metrics based on several aspects of consumers' care plans. Care management audits of MLTSS HCBS recipients were done twice during the first year of MLTSS (with results combined to get an annual average), and annually thereafter. Annual care management audits of nursing facility MLTSS recipients began in 2016 and require at least 6 consecutive months of residence in the nursing home (enrollees who transferred in or out during the period are included, as long as they had at least 6 consecutive months of residence). Audits are completed with a standardized audit tool and ongoing communication and coordination among the review team to ensure interrater reliability. Audits involve MCO records only, with no interaction with members or caregivers.

The 2014 and 2015 HCBS samples included people who transitioned from fee-for-service LTSS, MLTSS members new to managed care and those who were previous Medicaid managed care members (but had not enrolled in MLTSS). The 2016 sample included MLTSS members new to

Medicaid managed care and those who were previous Medicaid managed care (but not in MLTSS). In 2017, they added ongoing MLTSS enrollees as another group to audit. The 2020 audit included a random selection of up to 10 TBI members.[26] All audited files in all years had to be of beneficiaries who were continuously enrolled with the MCO for the period of time audited plus some time before to allow for file selection. Thus, members who switch MCOs or have a gap in enrollment (for instance, if they were already in Medicaid but let their financial eligibility lapse) will not be included among the audited files. The last report, covering July 2019 through February 2020, notes that a change in the audit tool meant that they did not believe the numbers were strictly comparable from the previous period. We have noted that in our figures below, but the variability didn't look unusual in this last period, so we include it for the sake of completeness.

<u>HCBS metrics.</u> We include in this section the MCO HCBS metrics that have been investigated over time for the MLTSS-HCBS population and that had denominators of 40 or higher in 2016 (that is, 40 or more files where the outcome was expected, whether or not the outcome was found).[27] 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%.

The 2020 report includes values for several audit categories: assessment, outreach, face-to-face visits, initial plan of care (including backup), ongoing care management, and gaps in care/critical incidents. The report does not include detailed category definitions or the number of files included in the calculations. Our earlier report (Chakravarty et al., 2017) presented a chart of the frequency of face-to-face visits. Due to flexibilities granted during the pandemic, we are not sure how comparable the information in the 2020 report is to the earlier information, so we have not presented it here.

Timeliness of care plan completion. Care plans completed within 30 days of enrollment into MLTSS/HCBS in 2015 and 2016 and within 45 days of enrollment thereafter are considered timely. Figure 2.7 shows the percentage for each plan and the total over the period. While all plans increased in their timeliness from 2015 to 2016, trajectories have been more mixed since then. One plan has been at or above 85% for 4 of the 6 periods, another for 2 periods, 2 others for 1 period, and one for none of the 5 periods for which it has been audited. In our last report we were able to examine care plan completion within 30 days and establishment of services within 30 days and we saw that there wasn't a straightforward relationship there--3 MCOs were

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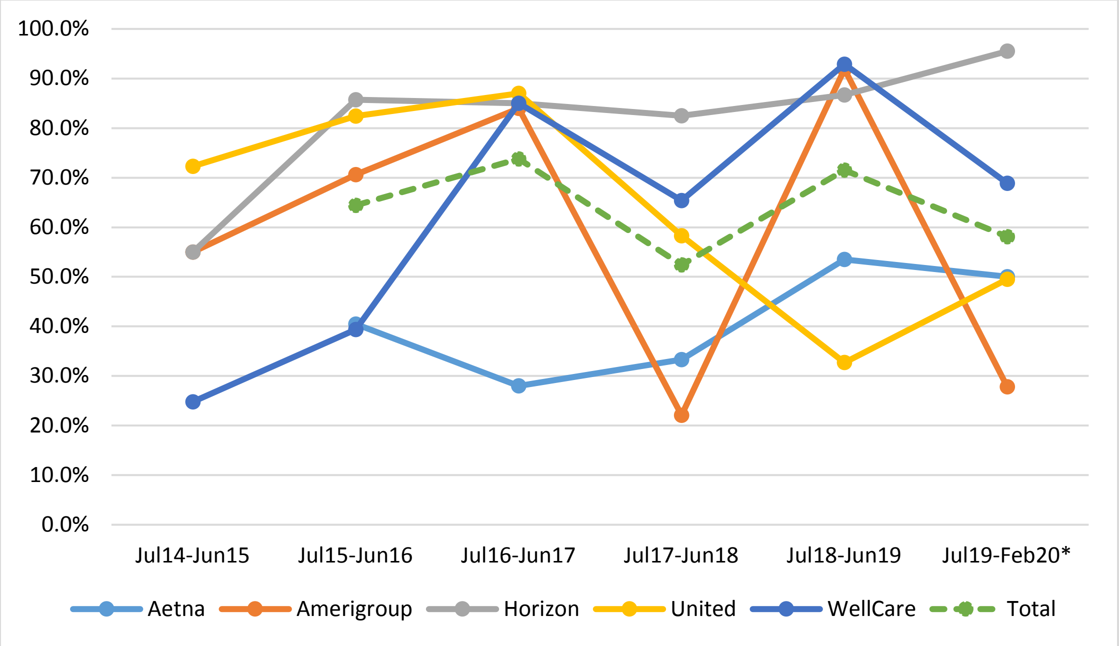
[26] Where fewer than 10 met inclusion criteria, all eligible enrollees were included.

[27] In periods after 2016 this information was not available, but it seemed reasonable that it would be similar. Measures with small denominators can be subject to high variability, making them unreliable. Measures of annual/as necessary review of plans of care and plan of care amendments based on change in condition had about 30 in the denominator for all MCOs in 2016 and showed high variability by MCO, so we are not discussing these.

more likely to show services established within 30 days than to complete care plans within 30 days, and the two MCOs exhibiting higher compliance with care plan completion were less likely than two of the less compliant plans to show services established within 30 days (Chakravarty et al., 2017).[28] Some MLTSS-related services are state plan services (personal care assistance and adult medical daycare). Individuals who are enrolled in managed care prior to MLTSS may be getting these services already through their MCO. In addition, as we note in our report in stakeholder feedback on MLTSS (Farnham, Chakravarty & Lloyd, 2017), new Medicaid enrollees may enroll in state plan services on a fee-for-service basis prior to their MCO enrollment. If they do so, that could facilitate the MCO initiating services. Finally, MLTSS enrollees in assisted living or other community alternative residential settings who are new to Medicaid may be in their place of service prior to MLTSS enrollment, which facilitates the MCO establishing services quickly.

Figure 2.7: MCO care plan completion within 30 (2015, 2016) or 45 (2017-2020) days of MLTSS enrollment, EQRO HCBS audits



*Source notes that this period should not be compared directly with previous due to change in audit tool
Sources: IPRO, MCO MLTSS Care Management Audits, 2015, Jan & June 2016; Core Medicaid and MLTSS Quality Technical Reports (2017-2020).

Aligned with needs. This measure looks at the percentage of plans of care that were aligned with assessment results of the NJ Choice[29] in type, scope, amount, frequency and duration. As shown

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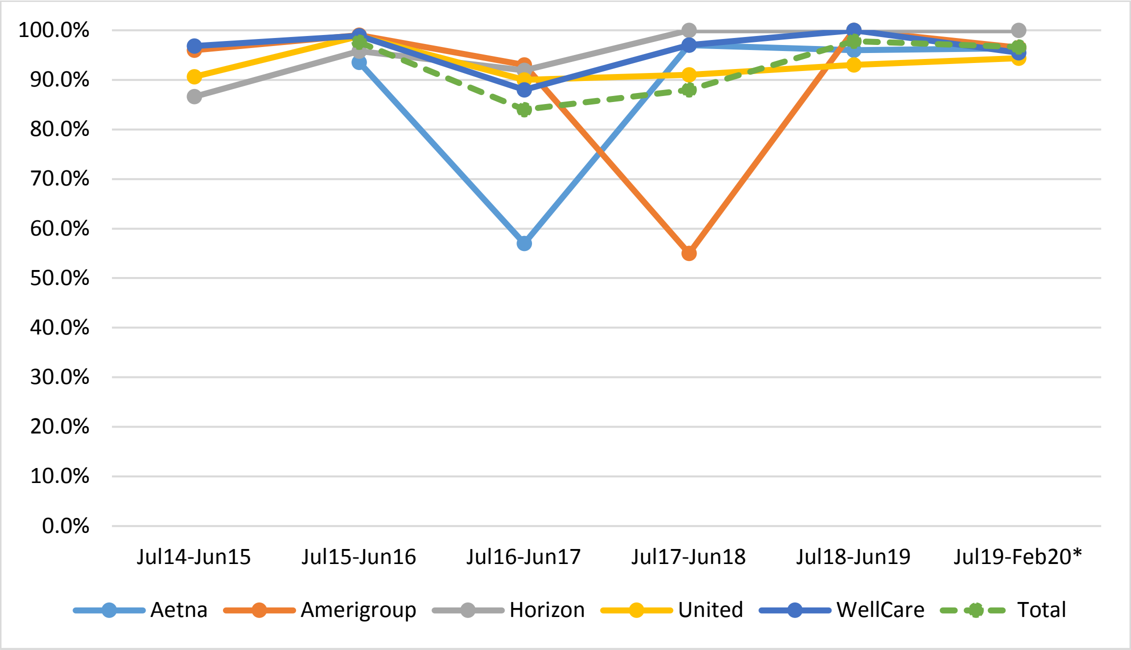
[28] This information on timeliness of service establishment is not included in subsequent reports.

[29] NJ Choice is an assessment tool used by OCCO and MCOs to determine whether a consumer meets a nursing facility level of care. See

in Figure 2.8 all MCOs were at 88% or higher for 4 of the 6 periods, though two different MCOs dipped below by about 30 points, one in 2018 and another in 2019. Only files with both items present are included in the measure. Our last report showed some variability by MCO in the extent to which this was the case, with three MCOs having both items present 90% or more of the time and two others less (Chakravarty et al., 2017). The more recent EQRO reports do not have detailed information about exclusion for this reason, though comments in the reports indicate this is sometimes an issue.

Figure 2.8: MCO plan of care aligned with NJ Choice, EQRO HCBS audits 2015-2020



*Source notes that this period should not be compared directly with previous due to change in audit tool
Sources: IPRO, MCO MLTSS Care Management Audits, 2015, Jan & June 2016; Core Medicaid and MLTSS Quality Technical Reports (2017-2020).

Person-centered principles. This measure examines whether plans of care were developed using person-centered principles, which was determined by looking at the goals to see if they were member specific and demonstrating member involvement in their development and modification.[30] All MCOs have showed large differences over time in this measure, without a clear linear trend, as shown in Figure 2.9. The largest average overall was in 2017, though none of the MCOs met the 85% standard in that year. In 2015 one MCO met the standard, in 2019 2 MCOs

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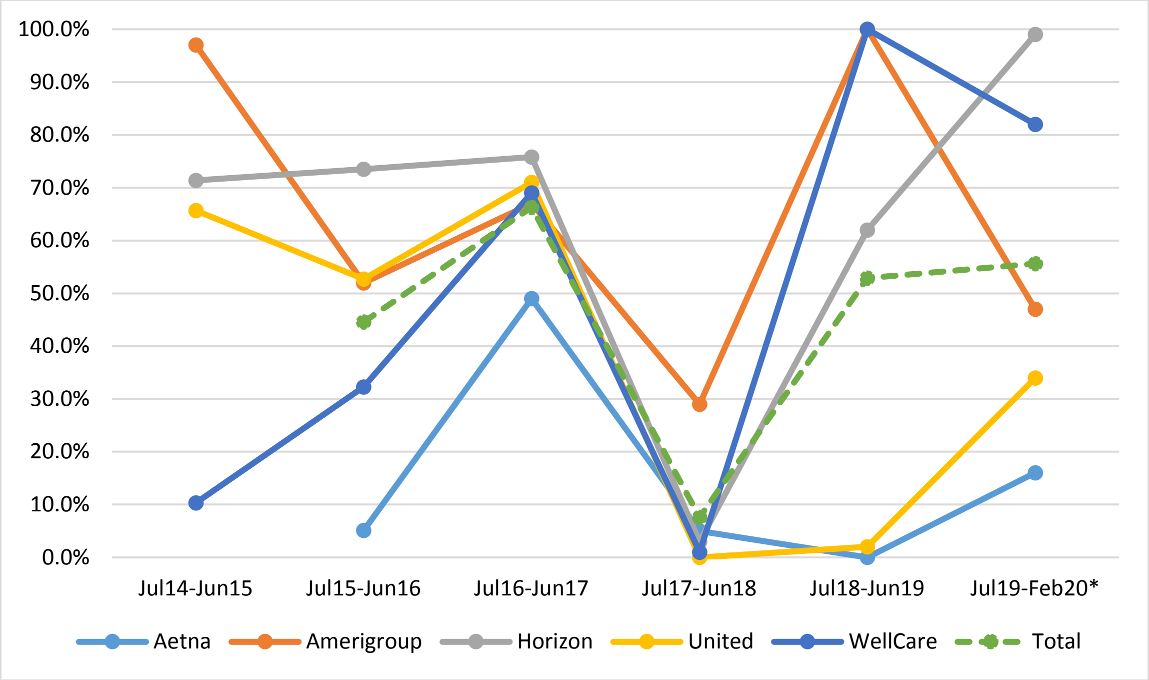
http://www.state.nj.us/humanservices/dmahs/home/NJ_Level_of_Care_and_Assessment_Training.pdf for more details.

[30] Based on "NJ EQRO HMO Care Management Audit, Review of Care Management Files—Home Community Based Services (HCBS)" received from DMAHS personnel.

met the standard (one of which had met it in 2015), and in 2020 one MCO met the standard. Only one MCO met the standard in more than one year.

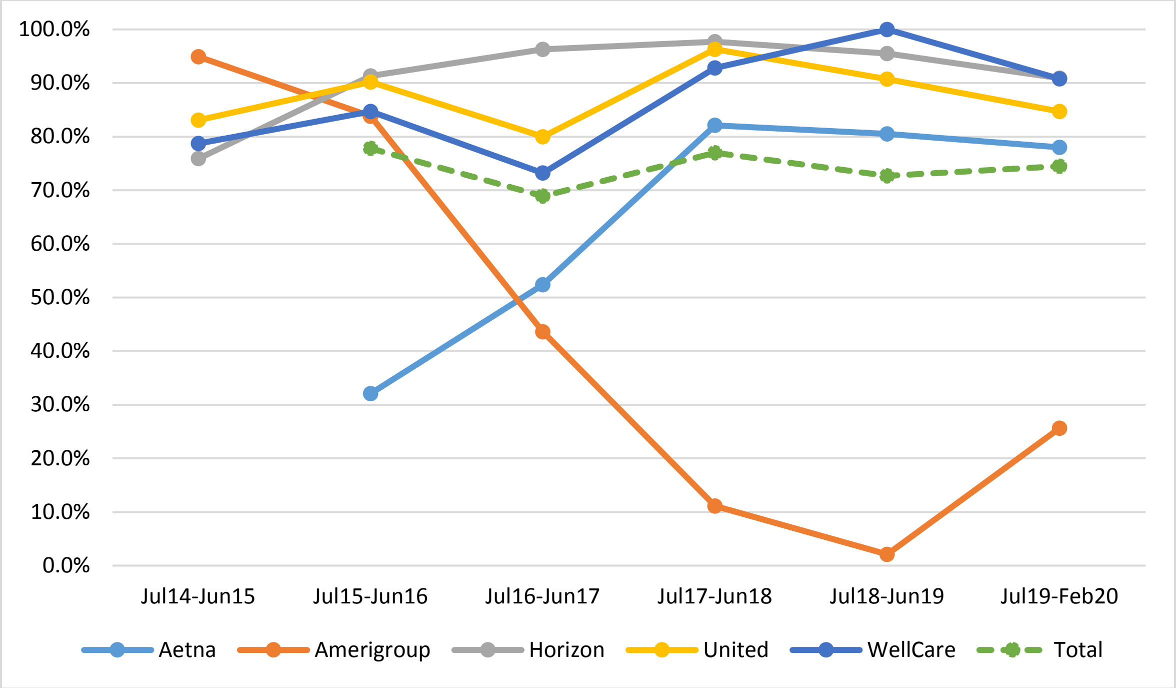
Figure 2.9: MCO plan of care developed using person-centered principles, EQRO HCBS audits 2015-2020



*Source notes that this period should not be compared directly with previous due to change in audit tool
Sources: IPRO, MCO MLTSS Care Management Audits, 2015, Jan & June 2016; Core Medicaid and MLTSS Quality Technical Reports (2017-2020).

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 . As implemented in the initial audit, this was calculated for all files selected, rather than just those in an HCBS setting without regular staffing, so changes from Year 1 to Year 2 partially reflect differential file selection. In the Year 2 audit, there were 329 of 499 files selected (66%) for audit of this measure—for three of the plans (Aetna, Amerigroup, and Horizon), about 70% of their cases were audited for this measure; about 40% of United's cases were included and for WellCare it was 86%. This may indicate some differences in the types of members served by different MCOs, which may be based somewhat on provider network relationships. Subsequent reports do not list the numbers of files selected, so we don't know if this difference continued. As shown in Figure 2.10, three of the plans achieved the 85% minimum 4 or more times. One plan, though improving through its first two audits into the 80% range, still has not achieved the minimum. The fifth plan started at 95% but declined after the first audit. The overall average has never reached the minimum threshold.

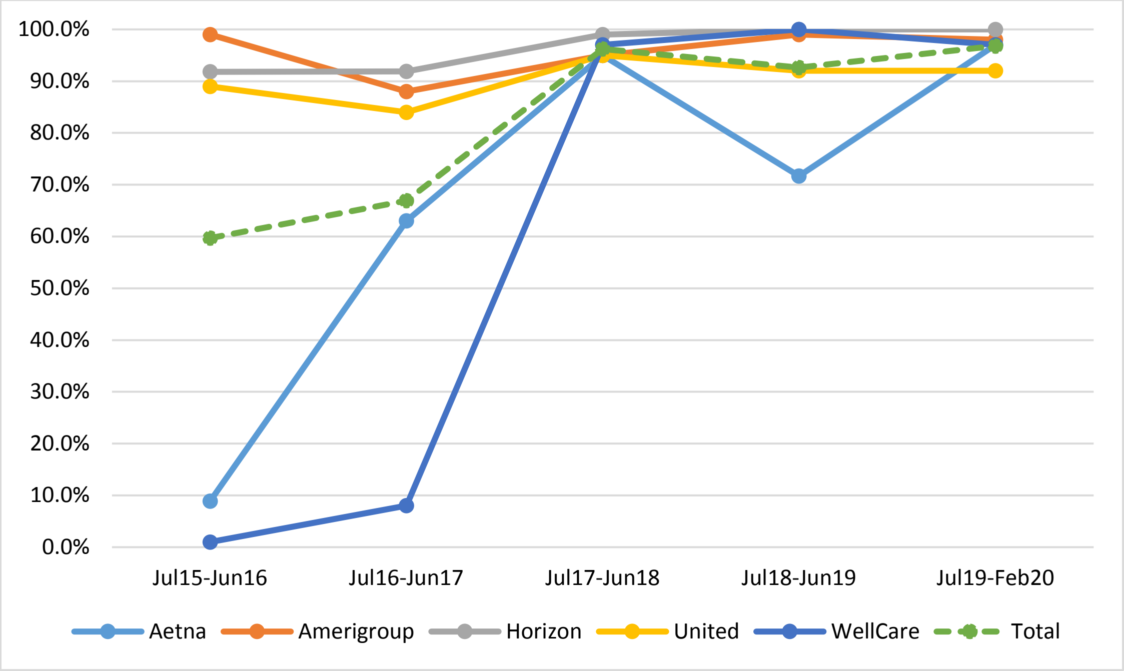
Figure 2.10: MCO plan of care has backup plan, EQRO HCBS audits 2015-2020



*Source notes that this period should not be compared directly with previous due to change in audit tool
Sources: IPRO, MCO MLTSS Care Management Audits, 2015, Jan & June 2016; Core Medicaid and MLTSS Quality Technical Reports (2017-2020).

Critical incident training. Beginning with year 2, the audit included information on whether it was documented in the MCO file that the MLTSS member or authorized representative had received information and education on identifying and reporting abuse, neglect, and/or exploitation at least annually. As shown in Figure 2.11, 3 MCOs met the 85% standard in 2016, 2 in 2017, 5 in 2018, 4 in 2019 and 5 in 2020. So, overall MCOs have been consistently high or shown general improvement for this measure.

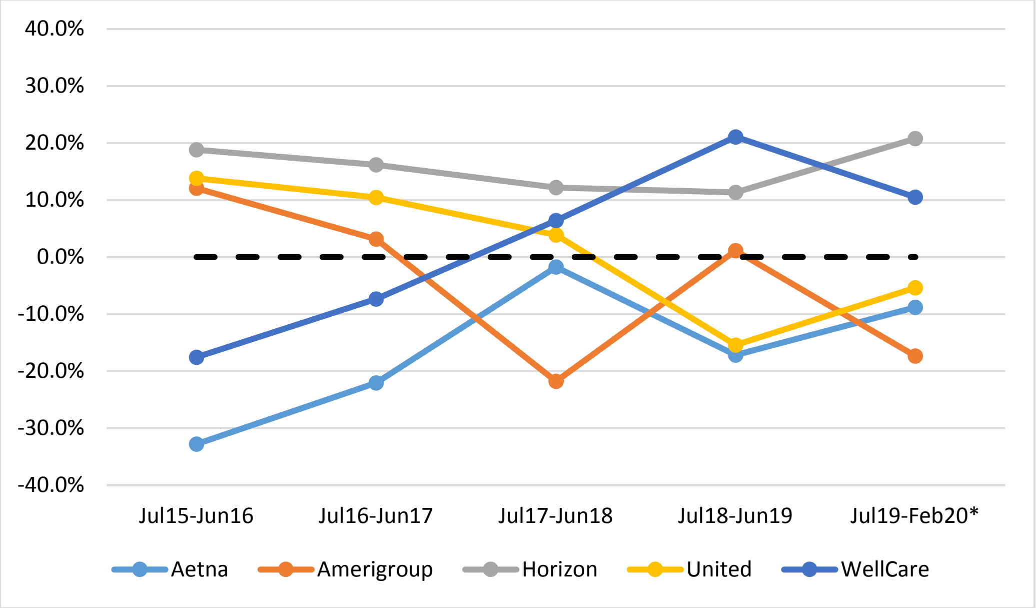
Figure 2.11: Cases with evidence of critical incident training, EQRO HCBS audits 2016-2020



*Source notes that this period should not be compared directly with previous due to change in audit tool
Sources: IPRO, MCO MLTSS Care Management Audits, June 2016; Core Medicaid and MLTSS Quality Technical Reports (2017-2020).

MCO average differences from total. For the 5 measures just presented, we looked to see how different each MCO was from the total average for the 5 periods for which a total average was given and got an overall average difference for each MCO for the combined measures. An MCO exactly at average would have a value of 0, with positive values if they were above average and negative values if they were below. As shown in Figure 2.12, considering these 5 measures, one MCO was above average in all periods, one began below average and rose above, two started above average and declined, and one stayed below average, although it did show a general trajectory of increase.

Figure 2.12: MCO average difference from total average, 5 measures, EQRO HCBS audits 2016-2020**

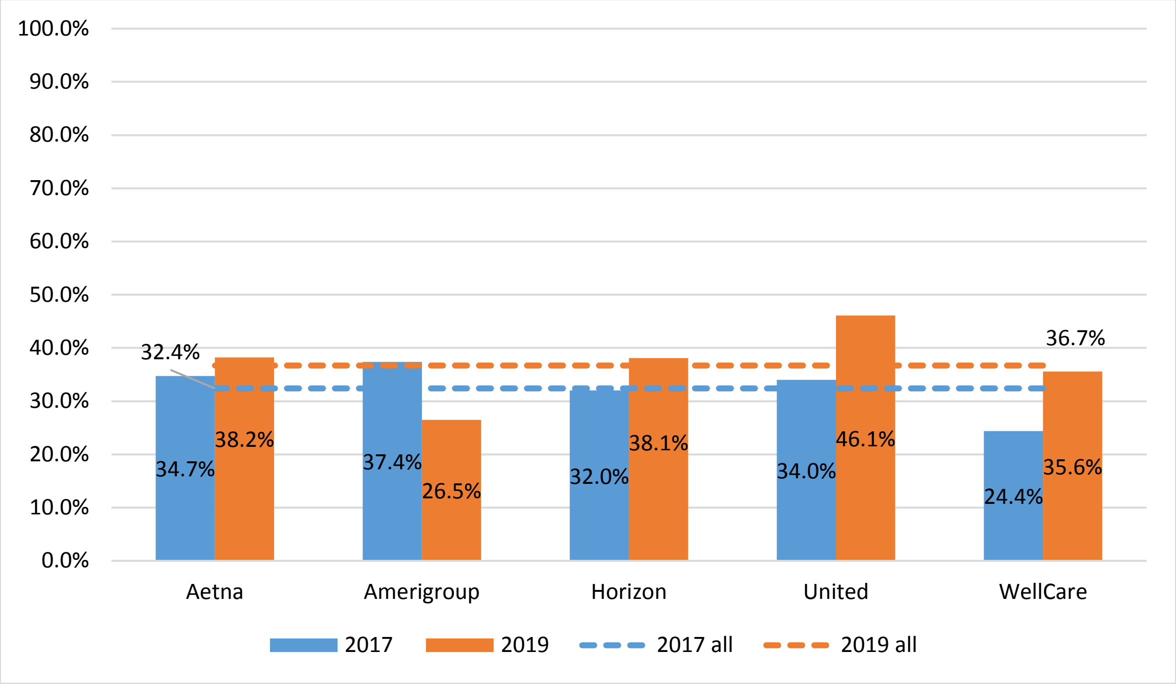


*Source notes that this period should not be compared directly with previous due to change in audit tool
**The 5 measures are: 1) care plan completed within 30 (2016) or 45 (2017-2020) days; 2) care plan aligned with NJ Choice; 3) care plan developed with person-centered principles; 4) care plan has back-up plan; 5) evidence of critical incident training.
Sources: calculated by authors from information in IPRO, Core Medicaid and MLTSS Quality Technical Reports (2017-2020).

Services delivered in type, scope, amount, frequency in duration as per care plan. The 2020 report examines service delivery in 2017 and 2019. Services included were those delivered on a regular basis and included the following 10: adult family care, assisted living services/programs, chore services, community residential services, home delivered meals, medical day services, medication dispensing device monthly monitoring, PCA/home based supportive care, PERS monitoring, and private duty nursing. MCOs submitted plans of care, claims and black-out period information for sampled cases of members enrolled in MLTSS HCBS for the period to the EQRO, which compared a timeline of expected services listed in the plan of care with the claims record. Partial weeks or months were excluded, as were black-out periods, which included those "during which services were suspended due to member request or member absence from home due to hospitalizations or non-custodial rehabilitation stays." MCOs are not always informed of such events. Claims for each week or month were examined separately, such than an overage in one period would not offset a deficiency in another. To be judged compliant, at least 95% of the expected service amount had to be shown delivered in the claims. For cases that did not meet the standard, there is no information about what percentage of services was delivered. So, we are not able to show the percentage of services actually delivered, but just the percent that met the 95% standard. Unless every case that did not meet the 95% standard had nearly zero services delivered, the percentage of services actually delivered would be higher than what is shown in this section. A sample of 110 cases was drawn for each MCO; the number of included cases ranged from 72-97 in 2017 and 89-104 in 2019. Records could be excluded for a number of reasons: no care plan submitted in the file, care plan submitted did not have the necessary information to produce quantifiable expected services, and care plan documented only services that were not evaluated (i.e., those other than the 10 mentioned above). The report notes that "United and Aetna had the lowest final sample sizes due to the high number of cases with no POC. United had 18 members with no POC submitted in the file, while Aetna had 17 cases with no POC" (IPRO, 2020, p.47).

As shown in Figure 2.13, 32.4% of cases showed 95% or more of all services delivered in 2017 and 36.7% in 2019, with a range of 24.4%-37.4% in 2017 and 26.5%-46.1% in 2019. Four MCOs improved in the measure and one declined (from the highest in 2017 to the lowest in 2019). There is no further investigation or information noted about cases in which 95% or more of services were not delivered in terms of any outcomes for the beneficiary. It is likely that the average percentage of services actually delivered for the audited group is higher than the results shown here.[31]

Figure 2.13: Percent of MCO files in EQRO HCBS audits with at least 95% of 10 expected services delivered for MLTSS enrollees, 2017 and 2019



Source: IPRO, Core Medicaid and MLTSS Quality Technical Report (2020), "2020 MLTSS Performance Measure #13"

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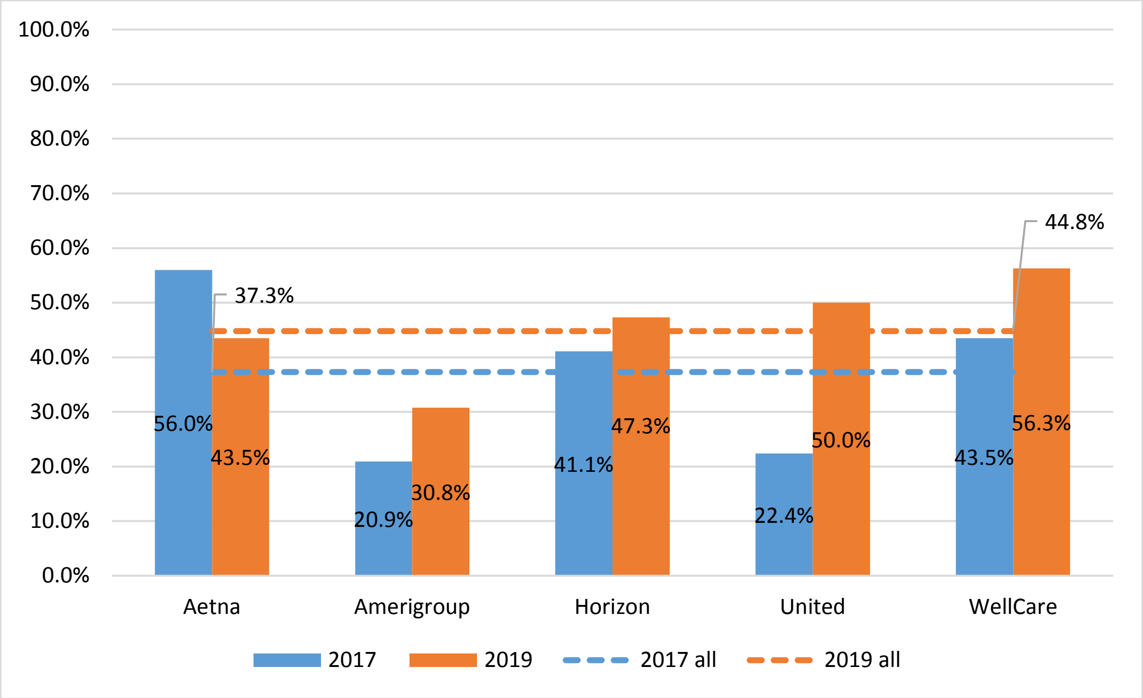
[31] For example, if 37% of a hypothetical group got 95% of their services and the other 63% got 50% of their services on average, the group as a whole would have received, on average, 67% of their services.

Services include: adult family care, assisted living services/programs, chore services, community residential services, home delivered meals, medical day services, medication dispensing device monthly monitoring, PCA/home based supportive care, PERS monitoring, and private duty nursing.

Figure 2.14 shows just personal care assistance/home based supportive care (the most frequently encountered service in the audits), where the patterns are somewhat different than for all measures together. Compliance rates for this service were higher than for all services together--37.3% in 2017 and 44.8% in 2019. The MCO that had declined on all measures combined improved with respect to this service, though it was considerably below the overall average in both years. Four MCOs improved with this service and one declined, but the one that declined went from the highest in 2017 (and about 19% above the overall average) to 1.3% below the average.

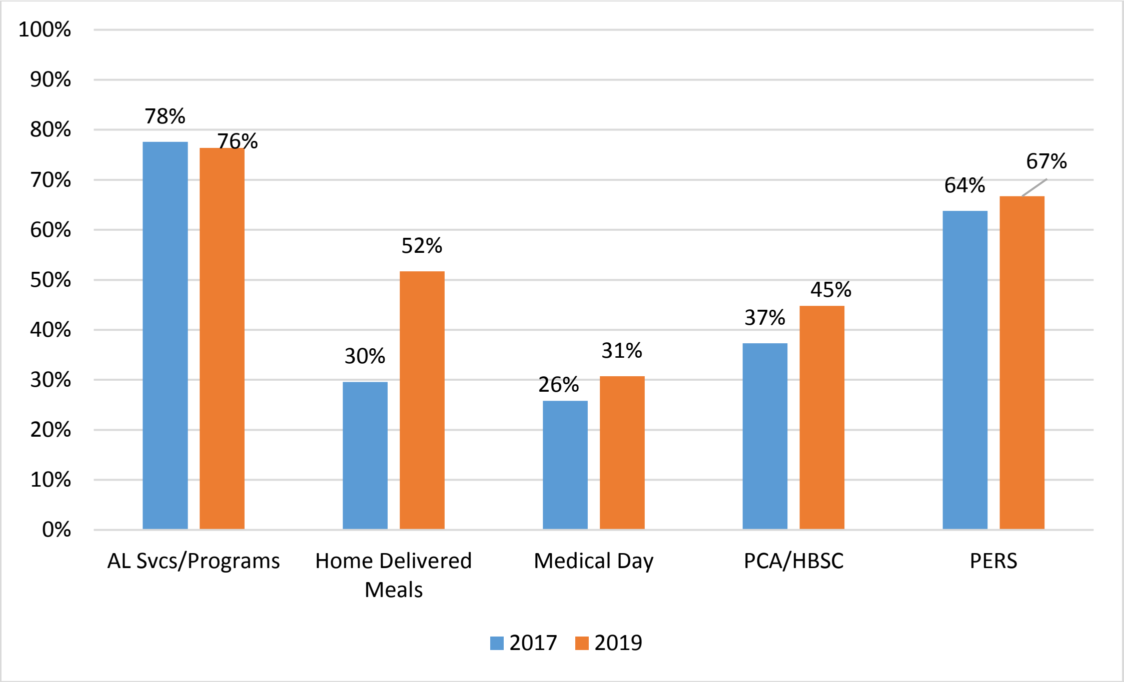
Figure 2.14: Percent of MCO files in EQRO HCBS audits with at least 95% of expected PCA services delivered for MLTSS enrollees, 2017 and 2019



Source: IPRO, Core Medicaid and MLTSS Quality Technical Report (2020), "2020 MLTSS Performance Measure #13"

Figure 2.15 charts the rates in 2017 and 2019 for the 5 services that had more than 10 cases audited. The percent of audited cases that had a 95% or higher service delivery rate increased by 22% for home delivered meals, 8% for personal care assistance/home based supportive care (PCA/HBSC), 5% for medical day and 3% for personal emergency response system (PERS) monitoring. Assisted living services/programs saw a decline of 1%. Only for assisted living programs and PERS monitoring did more than half the audited cases have a 95% or higher service delivery rate in both years. Home delivered meals reached 52% in 2019, with PCA/HBSC next at 45%.

Figure 2.15: Percent of MCO files in EQRO HCBS audits with at least 95% of expected PCA services delivered for MLTSS enrollees, by service, 2017 and 2019



Source: IPRO, Core Medicaid and MLTSS Quality Technical Report (2020), “2020 MLTSS Performance Measure #13”
AL: Assisted Living; PCA: Personal Care Assistance; HBSC: Home Based Supportive Care; PERS: Personal Emergency Response System.

Table 2.6 shows the number of files audited for each service, the number and percent that reached the 95% threshold, and the change from 2017 to 2019 for all plans combined for each service audited. Adult family care, chore services and community residential services had 3 or fewer cases in each year. Private duty nursing had 5 cases in 2017 and 10 in 2019.

Table 2.6: MCO files in EQRO service audits for MLTSS enrollees, all MCOs by service type, 2017 and 2019

	2017			**2019**			
	Number		***Percent***	***Number***		***Percent***	
Services	**Audited**	**95% or more delivered**	**95% or more delivered**	**Audited**	**95% or more delivered**	**95% or more delivered**	**Change 2017-2019**
Adult Family Care	0			0			
Assisted Living Services/Programs	85	66	77.6%	55	42	76.4%	-1.2%
Chore Services	1	0	0.0%	0			

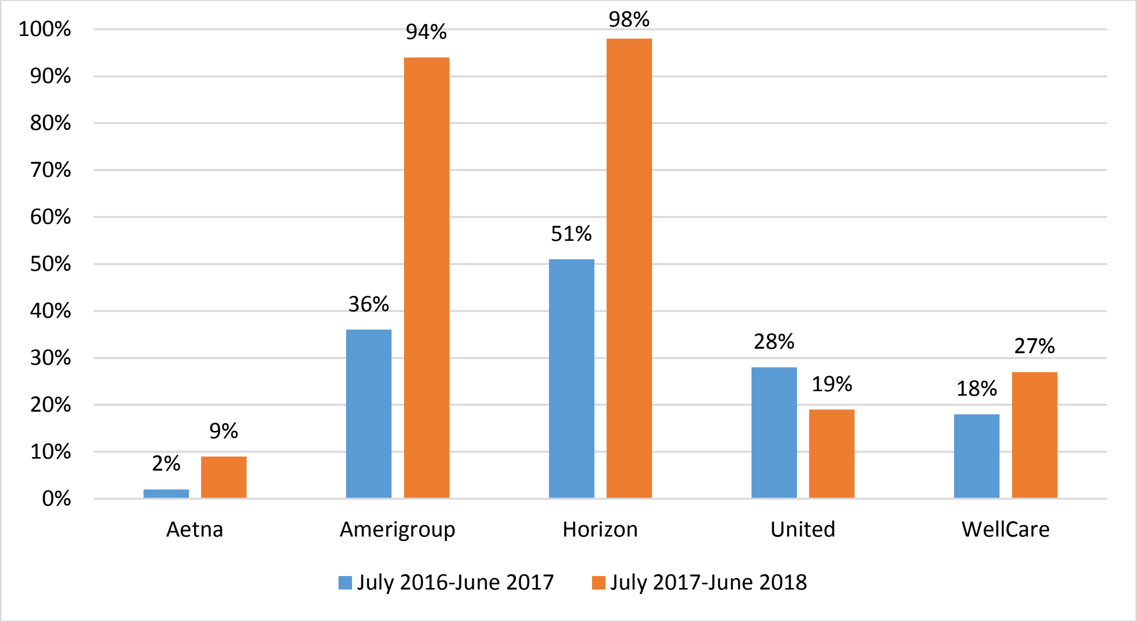
Services	2017			2019			Change 2017-2019
	Number		*Percent*	*Number*		*Percent*	
	Audited	95% or more delivered	95% or more delivered	Audited	95% or more delivered	95% or more delivered	
Community Residential Services	2	1	50.0%	0			
Home Delivered Meals	135	40	29.6%	120	62	51.7%	22.1%
Medical Day Services	93	24	25.8%	137	42	30.7%	4.9%
Medication Dispensing Device Monthly Monitoring	1	0	0.0%	3	1	33.3%	33.3%
PCA/Home Based Supportive Care	244	91	37.3%	270	121	44.8%	7.5%
PERS Monitoring	207	132	63.8%	249	166	66.7%	2.9%
Private Duty Nursing	5	0	0.0%	10	3	30.0%	30.0%

Source: IPRO, Core Medicaid and MLTSS Quality Technical Report (2020), “2020 MLTSS Performance Measure #13”
PCA: Personal Care Assistance; PERS: Personal Emergency Response System.

NF Metrics. As noted earlier, annual care management audits of nursing facility MLTSS recipients began in 2016 (though some metrics began in 2017) and require at least 6 consecutive months of residence in the nursing home (enrollees who transferred in or out during the period are included, as long as they had at least 6 consecutive months of residence). No nursing home audits were done in 2020 because of the COVID-19 pandemic (IPRO, 2020). As with HCBS, audits involve MCO records only, with no interaction with members or caregivers. Some metrics are similar to the HCBS metrics, and some are unique to nursing homes. The NF audits show more metrics in the report than the HCBS audits. The 2017 report lists 30 metrics (7 regarding the plan of care, 9 regarding NF/SCNF members transferred to HCBS, and 14 regarding HCBS members transferred to an NF/SCNF). The last two categories have very small denominators. The 2018 report lists 32 metrics (22 regarding the plan of care, some of which were moved from the other categories), 8 regarding NF/SCNF members transferred to HCBS, and 2 regarding HCBS members transferred to an NF/SCNF). The 2019 report lists 32 metrics (3 regarding the facility/MCO plan of care, 6 about care plan development, 6 about transition planning, 5 about care plan reassessment and critical incident reporting, 4 about communication for transitions to or from an NF/SCNF, and 8 about NF/SCNF members transferred to HCBS). For our presentation here, we chose metrics that were common across reports, were similar to HCBS metrics, and/or had denominators indicating that they applied to most cases. There was no overall average calculated for NF metrics in the IPRO reports, and we did not calculate one because we weren’t sure we could weight it correctly.

Timeliness of care plan completion. Figure 2.16 shows the percent of care plans done within 45 days of enrollment by MCO for 2017 and 2018 for MLTSS nursing home enrollees. All were below the 85% standard in 2017, but two increased above it in 2018. Compared with their values on the HCBS metric as discussed earlier, one MCO was consistently lower in the nursing home setting (Aetna), and two were consistently higher in the nursing home setting (United and WellCare). The other two MCOs (Amerigroup and Horizon) were lower in the nursing home setting in 2017 but higher in 2018.

Figure 2.16: MCO care plan completion within 45 days of MLTSS enrollment, EQRO NF audits 2017 and 2018



Sources: IPRO, Core Medicaid and MLTSS Quality Technical Reports (2017-2019).

Person-centered principles. This measure examines whether plans of care were developed using person-centered principles, which was judged by whether care plan "POC documentation reflected a member-centric approach demonstrating the involvement of the member and/or representative in the development of his/her goals" (IPRO, 2019, p.58).[32] Figure 2.17 shows the percent of care plans developed with person-centered principles by MCO for 2017 and 2018 for MLTSS nursing home enrollees. One MCO met the 85% standard in 2017 and 3 met it in 2018. Two MCOs were consistently higher in the nursing home setting audits than the HCBS audits on this measure (Aetna and Horizon). The other three were lower than HCBS in the nursing home setting in 2017 but higher in 2018.

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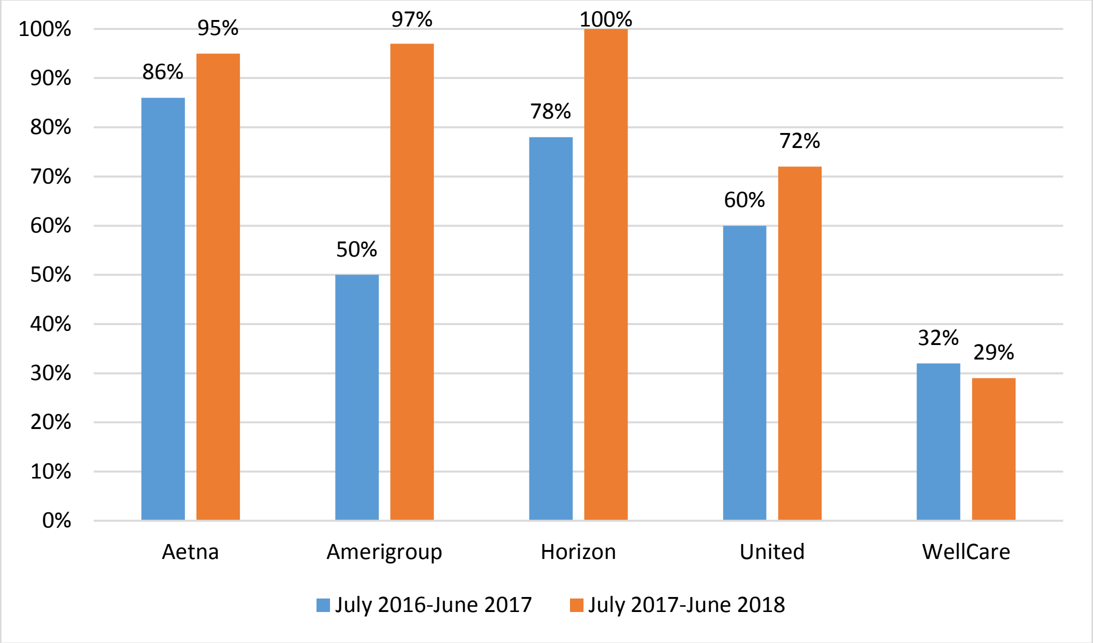
[32] This is similar to the definition for HCBS noted earlier.

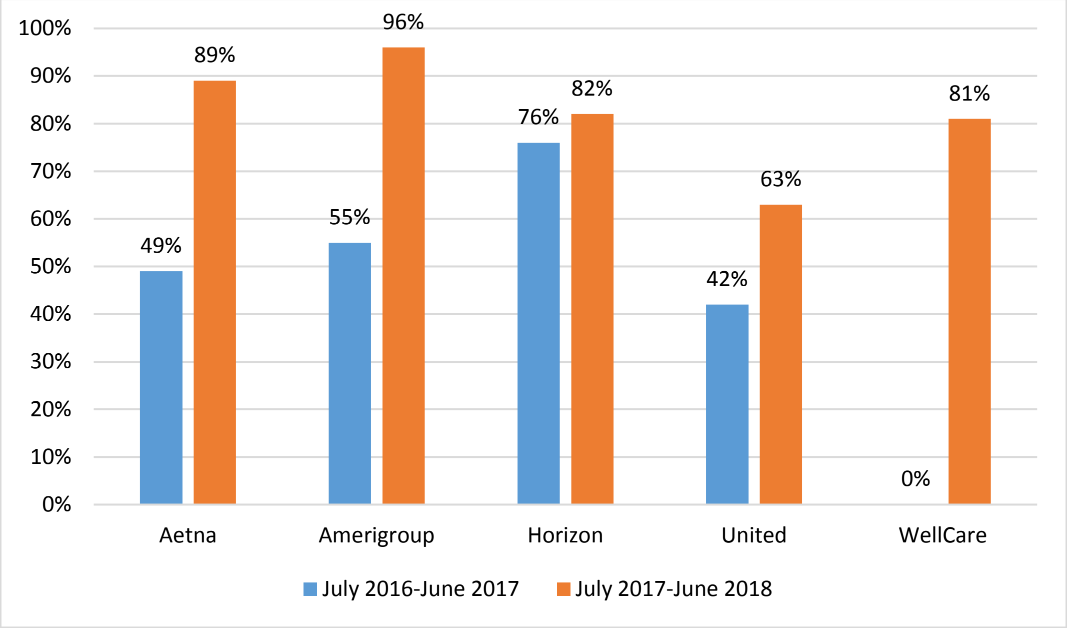
Figure 2.17: MCO plan of care developed using person-centered principles, EQRO NF audits 2017 and 2018



Sources: IPRO, Core Medicaid and MLTSS Quality Technical Reports (2017-2019).

Critical incident training. As noted earlier, this metric indicates whether it was documented in the MCO file that the MLTSS member or authorized representative had received information and education on identifying and reporting abuse, neglect, and/or exploitation at least annually. Figure 2.18 shows the percent of audited files with evidence of training. None of the MCOs met the 85% standard in 2017. Two met the standard in 2018 and two more were within 4 points of the standard. All MCOs were either higher or the same on this metric in the nursing home setting compared with their scores in the HCBS setting.

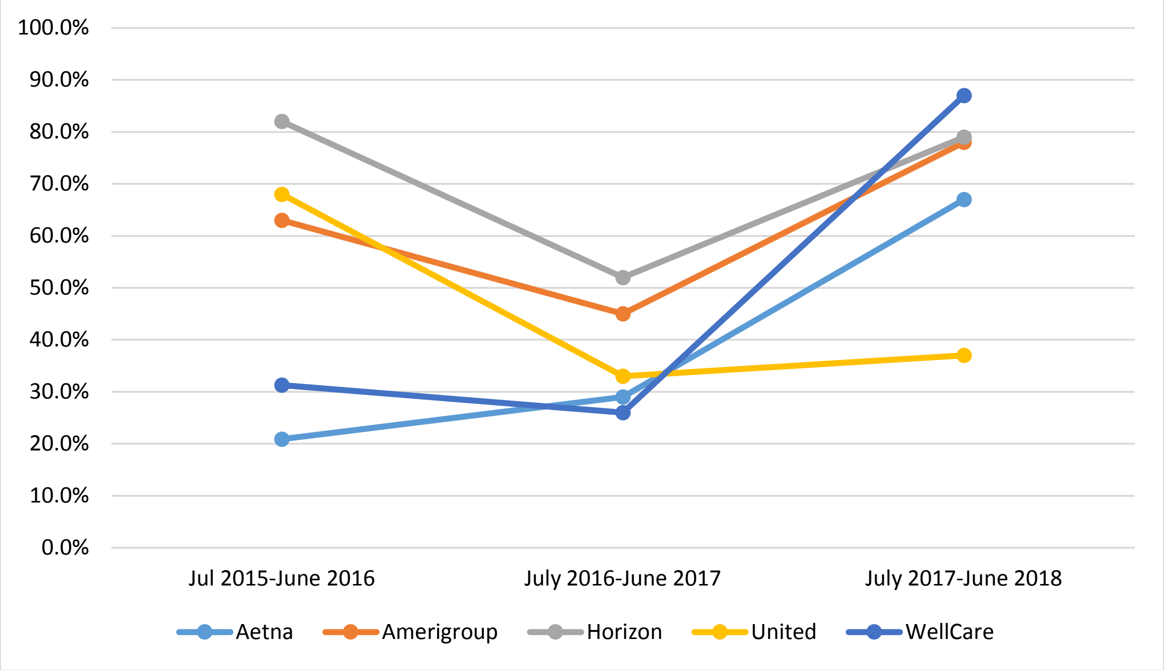
Figure 2.18: Cases with evidence of critical incident training, EQRO NF audits 2017 and 2018



Sources: IPRO, Core Medicaid and MLTSS Quality Technical Reports (2017-2019).

Review of facility plan of care; timely onsite review of member placement/services. These metrics apply only to nursing home settings. Figure 2.19 shows whether there is documentation that the MCO care manager reviewed the facility plan of care for the enrollee. One MCO met the 85% standard in 2018. In general, scores were lower in 2017 than in 2016, but rebounded in 2018, with all MCOs improving their 2017 scores. Three MCOs increased their score between 2016 and 2018, one stayed about the same, and one decreased.

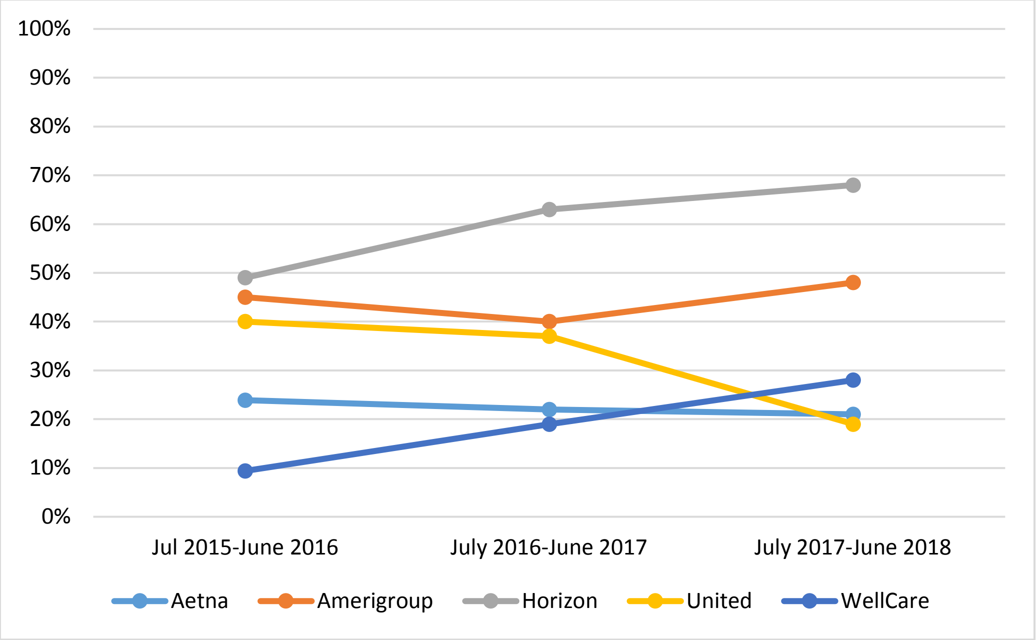
Figure 2.19: Cases with evidence of MCO review of facility plan of care, EQRO NF audits 2016-2018



Sources: IPRO, Core Medicaid and MLTSS Quality Technical Reports (2017-2019).

Figure 2.20 shows the extent to which audited cases had evidence of timely onsite review of member placement and services (meaning within at least 180 days for non-pediatric SCNF/NF members and 90 days for pediatric SCNF members). None of the MCOs met the 85% standard in any of the periods. Two MCOs improved their results over the periods, one stayed about the same, one declined by 3% and another declined by 21% over the periods.

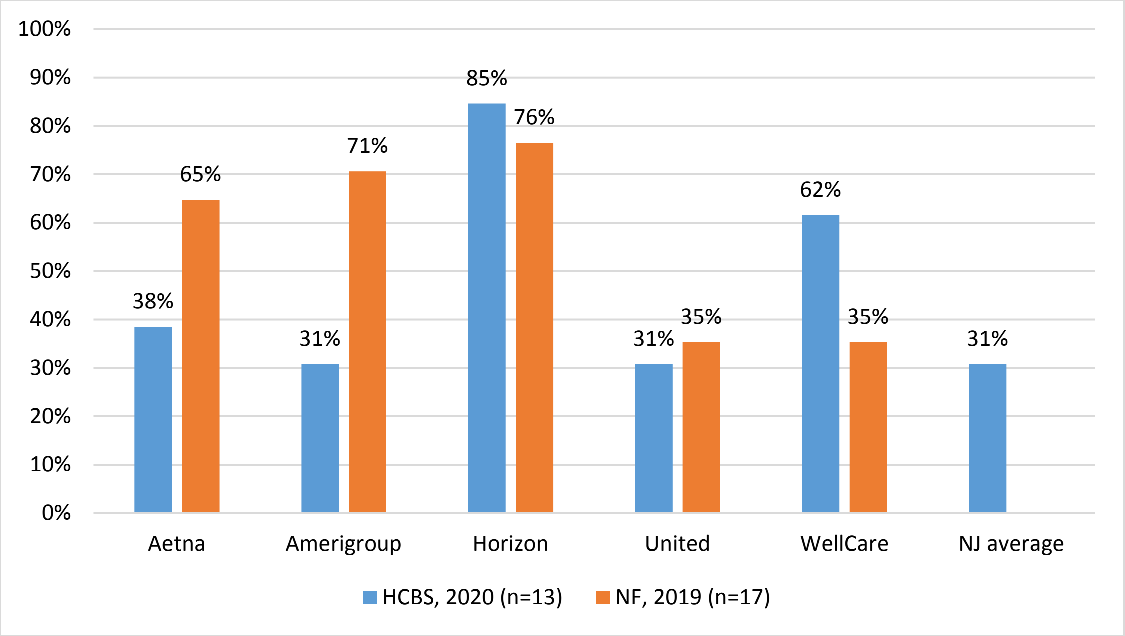
Figure 2.20: Cases with evidence of timely MCO onsite review of member placement and services, EQRO NF audits 2016-2018



Sources: IPRO, Core Medicaid and MLTSS Quality Technical Reports (2017-2019).

<ins>Frequency of meeting audit standards, most recent EQRO report</ins>. The 2020 report examines the extent to which MCOs met 14 HCBS standards, and the 2019 report lists 32 metrics for nursing facilities. Audits of nursing facility enrollees were not done in 2020. Because the 2019 report only includes 7 HCBS standards, we decided to use the 2020 report for HCBS. We excluded measures with small denominators, leaving 13 HCBS measures (shown in Appendix Table A2.1) and 17 nursing facility measures (shown in Appendix Table A2.2). Figure 2.21 shows the percent of these EQRO measures that met the 85% standard for each MCO. It also shows the weighted average for New Jersey calculated by IPRO for HCBS (they did not calculate a New Jersey average for nursing facilities). For HCBS measures, MCOs met the standard for between 31% and 85% of the measures (or 4 and 11 of the 13 measures), with a state average of 31% (4 measures). Two MCOs met standards on 4 HCBS measures (31%), 1 each met 5 (38%) and 8 measures (62%), and one met 11 (85%). For nursing facility measures, MCOs met the standard for between 35% and 76% of the measures (6 to 13 of the 17 measures).

Figure 2.21: Percent of measures meeting 85% standard, EQRO audits of HCBS (2020) and NF (2019)



Sources: IPRO, Core Medicaid and MLTSS Quality Technical Reports (2019, 2020).

Table 2.7 summarizes the measures by how many MCOs met the 85% standard, starting with measures met by all the MCOs and ending with the measures met by none of the MCOs. Of the 13 HCBS measures, four were met by all 5 MCOs and 9 were met by two or fewer MCOs. Of the 17 nursing facility measures, five measures were met by 4-5 MCOs, four measures by 3 MCOs, and six by two or fewer MCOs. For more detail on the measures, see Appendix Tables A2.2 and A2.3.

Table 2.7: Number of MCOs measures meeting 85% standard for each measure, EQRO audits of HCBS (2020) and NF (2019)

MCOs At 85%+	HCBS measures	NF measures
5	1) #9. Care plan reviewed annually within 30 days of the member's anniversary and as necessary 2) #10. Care plan aligned with member needs based on NJ Choice Assessment 3) #16. Member training on identifying/reporting critical incidents 4) Gaps in Care/Critical Incidents	1) MLTSS plan of care includes information from facility plan of care 2) Member identified for transfer to HCBS and offered options, including transfer to the community
4		1) Member had a NJ Choice Assessment completed during the review period 2) NJ Choice Assessment completed for members newly enrolled in managed care and newly eligible for MLTSS during the review period

MCOs At 85%+	HCBS measures	NF measures
		3) NJ Choice Assessment completed for members enrolled in MLTSS with the MCO prior to the review period
3		1) Member Goals Include 5 Components 2) Plan of Care Addresses Formal and Informal Services 3) Plan of Care Developed with Person-Centered Principles 4) Member/representative participated in goal development
2	1) #12. MLTSS HCBS Plans of Care that contain a Back-up Plan 2) Outreach 3) Face-to-Face visits 4) Initial Plan of Care (Including Back-up Plans)	1) Completion of Initial Plan of Care in 45 days 2) Agreement/Disagreement statements from the plan(s) of care were reviewed with the member and/or representative at each visit
1	1) #8. Initial Plan of Care established within 45 days of enrollment into MLTSS/HCBS 2) #11. Plans of Care developed using "person-centered principles" 3) Assessment 4) Ongoing Care Management	1) Member record contained copies of facility plans of care 2) Documented review of facility plan of care 3) Care manager participation in at least one facility interdisciplinary team (IDT) meeting during review period
0	1) #13. MLTSS HCBS delivered in accordance with the POC, including the type, scope, amount, frequency, and duration	1) Timely Onsite Review of Member Placement and Services

Sources: IPRO, Core Medicaid and MLTSS Quality Technical Reports (2019, 2020)

Appeals, Grievances and Complaints

MCOs are required to report Appeals and Grievances related to MLTSS enrollees.[33] An appeal is a request for review of an action and may be initiated by the member or a provider acting on their behalf, with their written permission. A grievance "means an expression of dissatisfaction about any matter, a complaint, or a protest by an enrollee or provider as to the conduct by the Contractor or any agent of the Contractor, or an act or failure to act by the Contractor or any agent of the Contractor, or any other matter in which an enrollee or provider feels aggrieved by the Contractor, that is communicated to the Contractor either verbally or in writing. Grievances are to be resolved as required by the exigencies of the situation, but no later than 30 days after receipt."[34] Prior to 2019, DMAHS separated complaints that could be resolved within 5 business days from appeals and grievances, which were reported together. Beginning in 2019, reporting

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[33] See detailed definitions in Article 1 of the Managed Care Contract, 01/2021 Accepted, accessed March 11, 2021 from http://www.state.nj.us/humanservices/dmahs/info/resources/care/hmo-contract.pdf.

[34] See Article 1, p. 15 of MCO contract: accessed March 11, 2021 from http://www.state.nj.us/humanservices/dmahs/info/resources/care/hmo-contract.pdf

was changed to a classification of appeals related to utilization management (i.e., denials by the MCO) and non-utilization management grievances, and they were further classified into 36 types of appeals and 43 types of grievances. Appeals and grievance policies, procedures and files are subject to review by an external quality review organization.[35]

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 and grievances they receive, members must be able to reach the MCO, communicate their issue, and the MCO must then document and report the issue An MCO with fewer reported issues may actually have fewer issues, or there may be communication barriers such that they do not receive reports about issues that exist. In addition, some members may be more likely to complain or to be able to complain, and this kind of reporting does not adjust for these factors. A DMAHS investigation of the relationship of service reductions to appeals or other measures in 2015 showed that a small number of reductions resulted in appeals.[36]

DMAHS looks at the timeliness of response[37] to appeals and grievances, which is generally quite high. MCOs report appeals and grievances as a quarterly measure; we have calculated an appeal/grievance rate for each MCO by quarter by looking at the number of appeals and grievances relative to enrollment, and then averaged the quarterly rates over each year to get a sense of how the MCOs have varied over time in their appeal/grievance volume relative to membership. We believe that members can file more than one appeal/grievance, so this is not a measure of how many unduplicated members filed appeals/grievances, but just the overall rate of appeal/grievance filings relative to the MCOs membership. The rate has been below 1% over time from 2015 to 2019. By 2018, all MCOs had more than 100 appeals/grievances/complaints per year, with the highest at 739 (in 2015, one MCO had only one documented appeal/grievance/complaint, and the highest number was 398). Figure 2.22 shows the annual averages of quarterly rates for the 5 MCOs as well as the total MCO average. One MCO has been consistently below the average and other consistently above by a small amount. Others have

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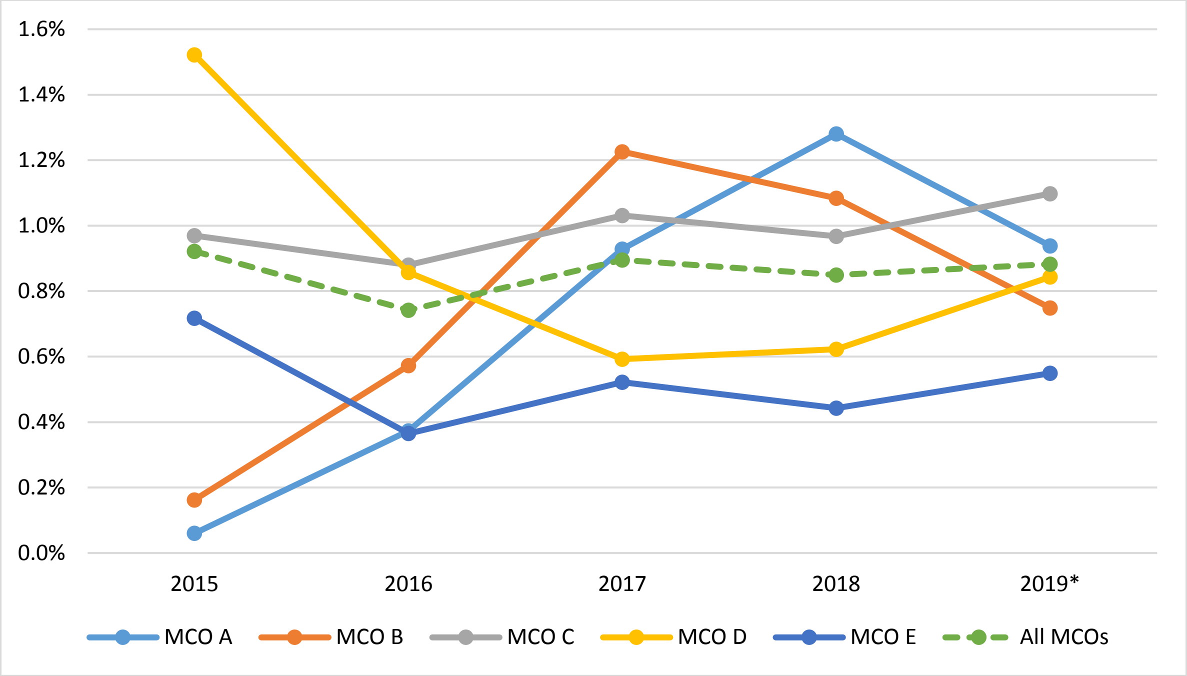
[35] See latest report at https://www.nj.gov/humanservices/dmahs/news/Medicaid_MLTSS_Quality_Report_2020.pdf (accessed May 3, 2021).

[36] Of 50 reductions, 4 went to a first level appeal, 1 to a second level appeal, and 1 to a fair hearing (Chakravarty et al., 2017).

[37] Though the metric discussed here is timeliness, we wanted to define what a response means—the response may be either to uphold the MCO's original position or to change it in favor of the member's appeal/grievance. Our 2017 evaluation report noted DMAHS investigations of appeal outcomes in 2015 and 2016, which found that MCOs upheld their decisions 92-100% of the time (Chakravarty et al. 2017).

varied, one starting out above average but coming below and two others starting very low and then increasing.

Figure 2.22: Annual averages of quarterly rates, MCO-reported appeals, grievances & complaints (numbers relative to membership)

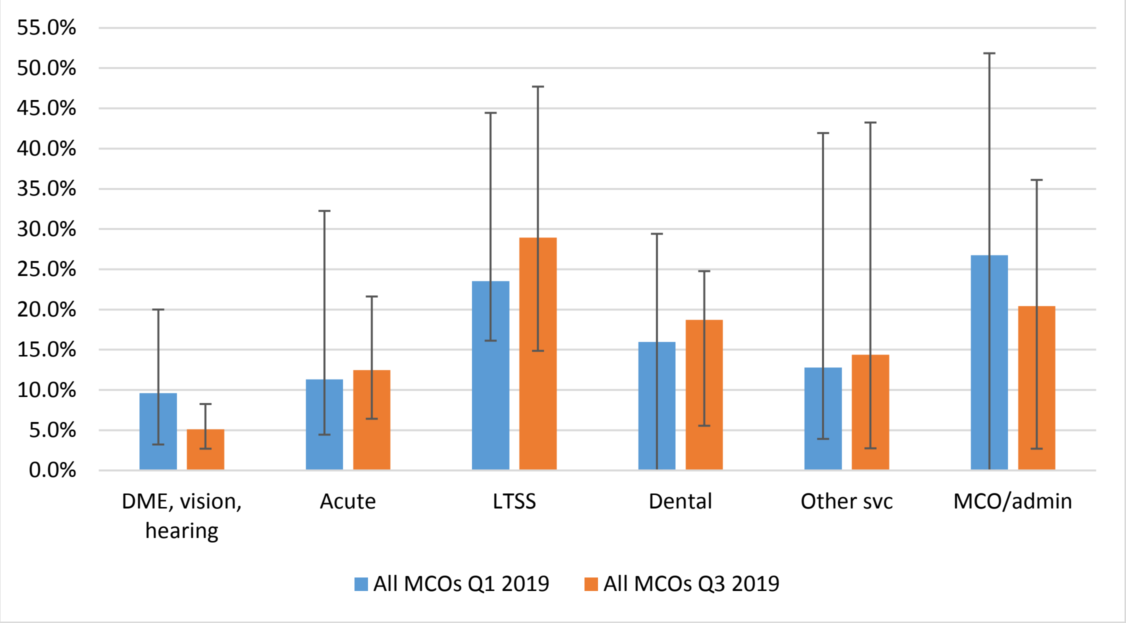


*2019 is Jan-Mar and July-Sep only. Sources: DMAHS, MLTSS Quarterly Performance Measure Reports for number of appeals/grievances/complaints (PM19); denominators from PM20 for 2015-Sep 2018 and NJFamilyCare Dashboard after that.

Types of appeals/grievances

Beginning in 2019, MCOs classified the types of appeals and grievances into 36 types of appeals related to utilization management (i.e., denials by the MCO) and 43 types of grievances related to non-utilization management issues. We have classified these appeal/grievance types by subject, creating 6 categories: 1) Durable medical equipment (DME), vision or hearing service-related (7 codes); 2) Acute service/provider related (19 codes); 3) LTSS service/provider related (22 codes); 4) Dental service/provider related (3 codes); 5) Other service/provider related (mental health, SUD, transportation, otherwise unclear if LTSS or acute) (20 codes); and 6) MCO/administrative issues (8 codes). Appendix Table A2.3 has a detailed list of code classifications and frequencies for 2019, showing the number of times each code was cited across all MCOs. Figure 2.23 shows the percentage frequency for the types of appeals/grievances for all MCOs (the colored bars in the figure) as well as the range of individual MCO frequencies (the error bars in the figure) for the two reported quarters in 2019. In the later quarter, LTSS issues were the most frequent as measured by both the overall average and the upper individual range—that is, individual MCOs ranged from 15% to 48% of appeals/grievances in the LTSS category; the average across MCOs was 28%. In the earlier quarter, MCO/administrative issues were the most frequent by both the overall average and the individual range). The largest number of complaints under MCO/administrative issues were dissatisfaction with marketing/member services/ member handbook (n=62), dissatisfaction with provider office administration (n=50, which were generally complaints from members about Medicaid providers billing them incorrectly or other issues) and reimbursement problems/unpaid claims (n=50, generally providers complaining about the MCO not reimbursing them). Under LTSS, the most frequent complaints had to do with either 1) personal care assistance (PCA, n=126)--through denial by the MCO (n=87), difficulty accessing the service (n=16 regular, n=4 self-directed), or dissatisfaction with the service (n=19); and 2) private duty nursing (PDN)—through denial by the MCO (n=39), difficulty accessing (n=2), or dissatisfaction with (n=1). Problems with dental services were also frequent, involving appealed denial of dental services by the MCO (n= 134), difficulty obtaining referrals (n=2), and dissatisfaction with dental services (n=18).

Figure 2.23: Frequency (all MCOs, colored bars) and range (individual MCOs, error bars) of appeal/grievance codes in Q1 and Q3 of 2019



Note: only Q1 (Jan-Mar) and Q3 (July-Sep) are available. Source: DMAHS, MLTSS Quarterly Performance Measure Reports for number and detailed categorization of appeals/grievances (PM19); authors have created summary categories above (see detail in Appendix 2.1).

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., a frequent 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 2.8 shows the number of final agency decisions by MCO for each year from 2014-2020, as well as the number of cases that DMAHS transmitted to the Office of Administrative Law (OAL) in 2016, along with information on the number of Medicaid enrollees and MLTSS enrollees. 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 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 more vigorous efforts by an MCO to inform members could result in more fair hearing requests. In the MAAC meeting in April of 2016, 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.[38] For 2016, the share of cases sent to OAL is very similar to the share of final agency decisions when broken out by MCO for 3 of the MCOs, which would appear to indicate that, for 2016, cases in each of these MCOs were about equally likely to proceed from a filing to a final decision. DMAHS presented information about fair hearing dispositions at the October 2016 and January 2017 MAAC meetings. From January through July of 2016, 592 of 3,069 fair hearing requests (19%) involved an adverse decision by an MCO (MLTSS or any other Medicaid program).[39] For the MCO-related hearings that are filed, 5% to 10% of cases proceed to an initial or final decision, 11% of the time complainants fail to appear (no reason why known), and 60% are withdrawn (no reason why known). The remaining percentage (19-24%) was not explained, and these cases were probably still pending.[40] From August through December of 2016, 370 of 1,934 fair hearing requests (19%) were MCO-related. As of mid-January of 2017, 4% had resulted

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[38] See pdf page 28, internal page 97, lines 6-13 in http://www.state.nj.us/humanservices/dmahs/boards/maac/MAAC_Mtg_Minutes_4_20_16.pdf (accessed May 21, 2021).

[39] Most decisions that are appealed involve financial eligibility for Medicaid.

[40] These data are based on notes taken by J Farnham at the MAAC meeting on October 19, 2016. The presentation was verbal only by Carol Grant; some of the information is in the minutes at http://www.state.nj.us/humanservices/dmahs/boards/maac/MAAC_Mtg_Minutes_10_19_16.pdf (beginning at pdf page 9, internal page 25, accessed May 21, 2021).

in an initial or final decision, 8% involved failure to appear for the hearing, and 47% were withdrawn. Presumably the remaining 41% were still pending.[41]

Table 2.8: Fair hearing information and enrollment by MCO

MCO	# of DMAHS Final Agency Decisions***								# Cases Sent to OAL, 2016**	Average December Medicaid Enrollees, 2014-2020*	Average December MLTSS Enrollees, 2014-2020*
	2014	2015	2016	2017	2018	2019	2020	*Total 2014-2020*			
Aetna	0	0	0	0	0	0	1	*1*	2	52,040	2,552
Amerigroup	1	2	5	3	22	25	6	*74*	101	204,339	6,149
Horizon	1	11	40	11	5	28	8	*119*	882	873,820	15,843
United	4	27	28	13	16	13	12	*131*	566	457,606	7,109
WellCare	0	0	1	0	1	2	1	*7*	3	68,632	6,408
Total MCO	6	40	74	27	44	68	28	*332*	1,554	1,656,437	38,062

* For Aetna, the average is from 2015-2020. All data are from http://www.njfamilycare.org/analytics/home.html
**Cases sent to OAL accessed May 21, 2021 from http://www.state.nj.us/humanservices/dmahs/boards/maac/MAAC_Mtg_Minutes_1_23_17.pdf (pdf page 14, internal page 42); the source noted that there were a handful of cases for Aetna and Wellcare that were not included in the total.
***DMAHS Final Agency Decisions accessed February 19, 2021 from https://www.state.nj.us/humanservices/dmahs/info/fads.html

All MCOs have small numbers of final agency decisions relative to the size of their enrollment. Figure 2.24 shows the number of final agency decisions per 100,000 members for each MCO for the years 2014-2020 (December enrollment used). The number of decisions per 100,000 members during this time ranged from 0 to 13.3. All MCOs have varied over time. United led the other MCOs in the number of agency decisions per member from 2014-2016 and again in 2020. From 2017 through 2019, Amerigroup had the highest rate. Because of the small number of cases, potential for duplicate cases in the data, and other issues mentioned that could affect the number of cases filed, we would expect the potential for large variability over time.

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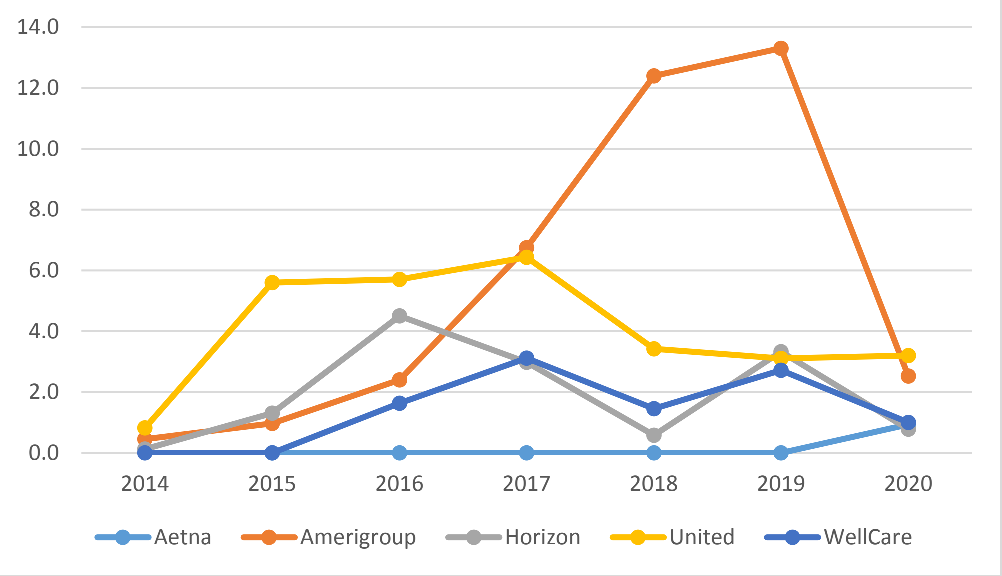
[41] Accessed May 21, 2021 from http://www.state.nj.us/humanservices/dmahs/boards/maac/MAAC_Mtg_Minutes_1_23_17.pdf (pdf page 14, internal page 42)

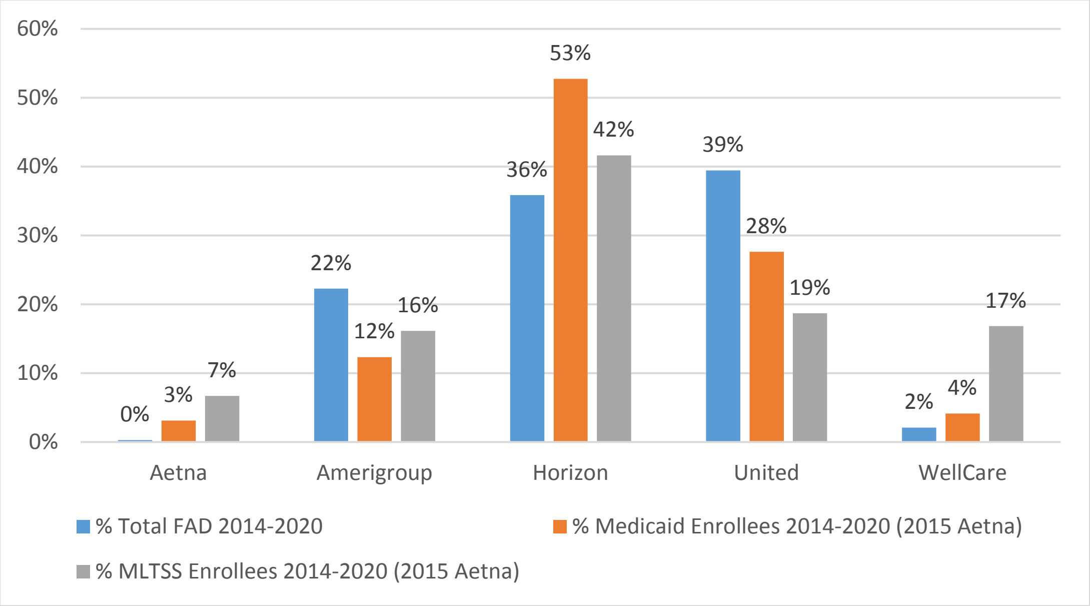
Figure 2.24: Final agency decisions per 100,000 members by MCO, 2014-2020



Sources: DMAHS Final Agency Decisions accessed February 19, 2021 from https://www.state.nj.us/humanservices/dmahs/info/fads.html; Medicaid enrollment 2014-2020 (December-Aetna starting in 2015) from http://www.njfamilycare.org/analytics/home.html

For the period 2014-2020, the share of final agency decisions exceeded the average share of Medicaid and MLTSS enrollees for two MCOs—United and Amerigroup, as shown in Figure 2.25.

Figure 2.25: Share of final agency decisions, Medicaid and MLTSS enrollment by MCO, 2014-2020



Sources: DMAHS Final Agency Decisions accessed February 19, 2021 from https://www.state.nj.us/humanservices/dmahs/info/fads.html; Medicaid and MLTSS enrollment 2014-2020 (December-Aetna starting in 2015) from http://www.njfamilycare.org/analytics/home.html

The fair hearing results appear to match reasonably well with the pattern of MCO-reported appeals, complaints, and grievances 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.

Independent Health Care Appeals Program (IHCAP)

IHCAP[42] 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.

Advocates tell us that the only MLTSS service that is appealable through IHCAP is private duty nursing, and we have heard that members file multiple appeals over time because MCOs reduce hours upon subsequent reassessments, even if an IURO has previously ruled in the member's favor. The reports do not explicitly address multiple appeals but we believe each appeal would count in these reports. It was only in early 2015 that DOBI began listing the services appealed with specific frequency numbers. In the report for the first half of 2015, denial of home health care is the top category (32 appeals, 12% of the total), and the report notes "These denials involved the reduction of private duty nursing services by Medicaid HMOs."[43] Figure 2.26 shows the number of home health appeals, their percentage of the total number of appeals, and the percentile of the rank order of home health appeals to give a sense of how this category has varied over time and how it compares with other categories over 9 semiannual periods. It appears from these data that there was an increase in these types of cases during 2015, but the frequency

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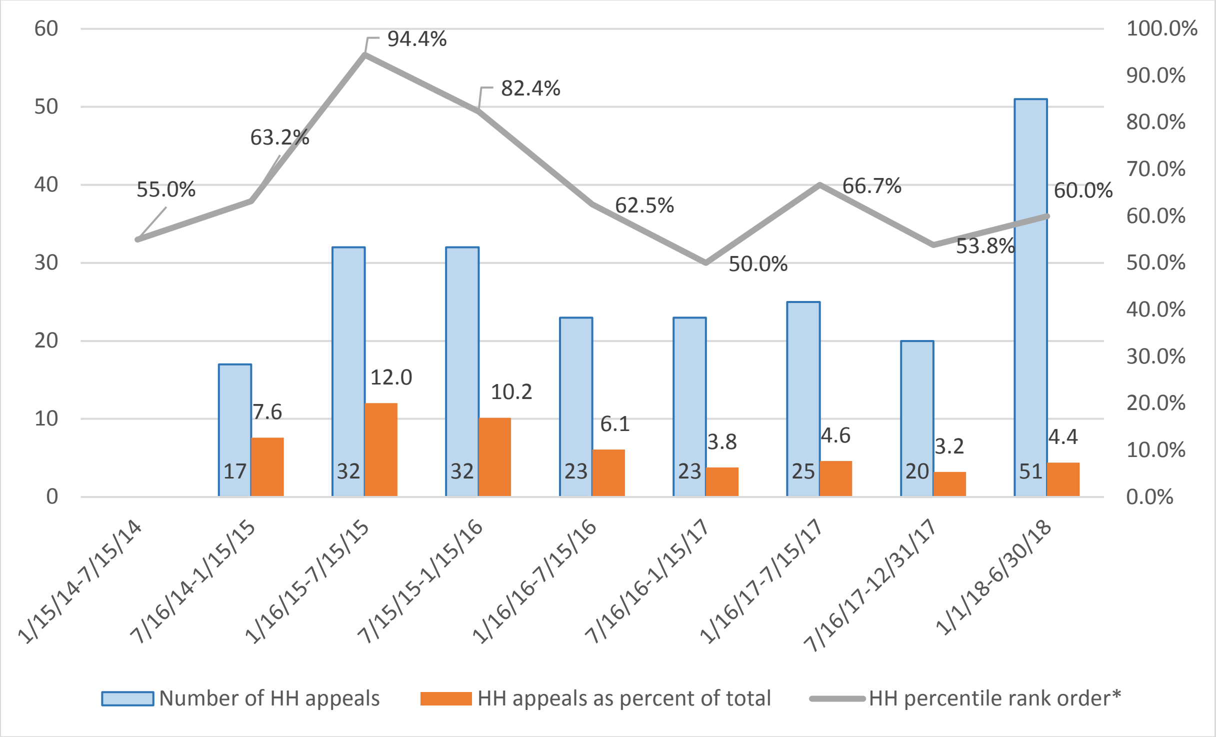
[42] See http://www.state.nj.us/dobi/division_insurance/managedcare/ihcap.htm.

[43] See http://www.state.nj.us/dobi/division_insurance/managedcare/omc/34thihcaprpt.pdf.

of cases to some degree and their share of total appeals to a greater degree seems to have decreased in 2016 and held steady in 2017. The first half of 2018 showed a large jump in the number of home health appeals, though the shift is not dramatic relative to past years when looking at the percent of total or the rank order of these appeals (i.e., the total number of all appeals jumped dramatically in 2018, and home health appeals remained in the middle in term of the number of appeals in that category compared with other categories).

Figure 2.26: Home health IHCAP appeals by semiannual period



*This is calculated as the percent of categories ranked below home health. For the first period, home health ranked 9 out of 20 categories, the second—7th of 19, the third—1st of 18, the fourth—3rd of 17, the fifth—6th of 16, the sixth—8th of 16, the seventh--4th of 12, the eighth—6th of 13, and the ninth—6th of 15.
Source: Semi-annual legislative reports (32nd through 40th), Independent Health Care Appeals Program, Department of Banking and Insurance, accessed April 6, 2021 from http://www.state.nj.us/dobi/division_insurance/managedcare/ihcapreports.htm.

It is not possible to calculate a precise number of MLTSS enrollees who filed an appeal, based on the data we have, because Medicaid enrollees outside MLTSS can get PDN,[44] members may file more than one appeal,[45] and appeals may also be filed by individuals who believe they have a case for private duty nursing but who are ultimately denied without Medicaid ever paying for the service. With that caveat, we were able to look at how many MLTSS enrollees had at least one

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[44] The Supports plus PDN option was created so that adults with intellectual and developmental disabilities (IDD) could access programming designed for consumers with IDD as well as PDN.

[45] Discussion at the February, 2020 MAAC meeting featured a number of advocates noting a cycle of multiple cuts and appeals (https://www.state.nj.us/humanservices/dmahs/boards/maac/MAAC_Summary_02-05-20.pdf)

PDN claim to compare with the number of appeals for each year and get some sense of the relative values. This comparison is shown in Table 2.9. Our claims data show that increasing numbers of enrollees received PDN services each year from 2016-2019, with the number almost doubling in that time, though the increase from 2018-2019 was very small. The largest number of appeals relative to enrollees was in 2015, though 2018 is incomplete with only 6 months of appeals data (though even if it were to double, it would not reach the 2015 level in terms of the number of appeals relative to MLTSS enrollees). Data on MCO internal appeals discussed earlier shows 39 relating to PDN in 2019 (such a categorization is not available for earlier years).

Table 2.9: MLTSS PDN consumers and home health IHCAP appeals by year

Year	1+ PDN claim, MLTSS**	Annual growth in number of PDN enrollees	ICHAP HH appeals
2015	343		64
2016	444	29%	46
2017	516	16%	45
2018*	612	19%	51*
2019	616	1%	n/a

*2018 HH appeals only go through June, while PDN services are for the whole year. This number may increase once the July-December data are in; Sources: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2015-2019 for PDN claims (analysis by Rutgers Center for State Health Policy); semi-annual legislative reports (32nd through 40th), Independent Health Care Appeals Program, Department of Banking and Insurance, accessed April 6, 2021 from http://www.state.nj.us/dobi/division_insurance/managedcare/ihcapreports.htm.
**Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2015-2019; Analysis by Rutgers Center for State Health Policy

Network Adequacy

The New Jersey Comprehensive Waiver Demonstration Section 1115 Annual Reports generally include GeoAccess reports for all Medicaid enrollees (not just MLTSS) across 17 acute care provider types.[46] 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

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[46] Figures for 2018 are not yet posted on the CMS site but were shared with us. For 2017 and 2016 See Section VII and Attachment D for year 5, https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/nj/Comprehensive-Waiver/nj-1115-request-Annl-rpt-demo-yr5-20180108.pdf; year 4, https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/nj/Comprehensive-Waiver/nj-1115-request-Annl-rpt-demo-yr4-12072016.pdf. In our last evaluation report we also included 2015: 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 .

member's county but must be willing and able to serve residents of that county.[47] Presumably for this reason, GeoAccess reports are not available for MLTSS services. However, the contract requires that MCOs monitor claims activity and do spot check surveys to verify the accuracy of their networks. DMAHS analyzes network adequacy quarterly to assess gaps and opportunities. New Jersey's EQRO supports this activity through high-level review of material MCOs submit to DMAHS during the annual assessment.. Quality reports from the EQRO do not summarize by MCO but sometimes highlight particular issues. According to these reports, single case agreements are used with nonparticipating providers, or MCOs arrange for transportation to a participating provider.[48] We do not know how often this occurs. The 2020 quality report suggests that social adult day is a service for which MCOs have trouble finding providers.[49] Detailed grievance information for 2019 shown in Figure 2.23 and Appendix A2.3 does not seem to suggest provider network adequacy as a large factor in member complaints (52 of 873, or 6%, of complaints mention trouble with access, but it's not clear whether that trouble is with adequacy of the network or other issues). The DY5 report for the period of July 2016-June 2017 notes that MCO care managers report trouble finding providers for non-medical transportation or chore services (DMAHS, 2018). A claim summary for the DY7 report for the period of July 1, 2018 through March 31, 2019 shows 39 claims for chore services and 2 claims for non-emergency transportation (DMAHS, 2019), which is quite low compared with most other services. Social adult day care is not noted in this report.

Table A2.4 in the appendix shows the sample quarters presented in the waiver annual reports shared with us for 2016, 2017 and 2018 regarding the acute care network monitored for all Medicaid enrollees (not limited to MLTSS). Though we do not know how representative these quarters are of the entire period, these data suggest that coverage worsened slightly over the period for dentists, primary care providers (both regular and pediatric), endocrinologists, oral surgeons, and hospitals. Coverage remained very high for other specialties. Coverage gaps tended to be concentrated in particular counties, often (though not always) those with less dense populations where the standard mileage metric was presumably harder to achieve. The following counties had less than a 90% average coverage rate across all MCOs serving them in 2018 (meaning that fewer than 90% of enrollees had access to a participating provider based on estimated distance). This average is not weighted for the number of enrollees but counts each MCO equally in the average, so it is a measure of the average MCO rather than the number of affected enrollees, and it is not specific to MLTSS.

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[47] See Section 4.8.10 MLTSS Network Requirements (Article 4, p.127 of the 01/2021 Accepted contract – with similar language in previous years), http://www.state.nj.us/humanservices/dmahs/info/resources/care/hmo-contract.pdf.

[48] See "Medicaid and MLTSS Quality Report" various years, https://www.state.nj.us/humanservices/dmahs/news/

[49] See https://www.state.nj.us/humanservices/dmahs/news/Medicaid_MLTSS_Quality_Report_2020.pdf

Counties with less than a 90% average coverage rate across all MCOs, 2018

- Dentists (2 in 6 miles): Morris, Sussex
- Primary care providers, non-pediatric (2 in 6 miles): Hunterdon
- Endocrinologists (1 in 45 miles): Somerset
- Oral surgeons (1 in 45 miles): Mercer, Somerset, Union
- Hospitals (1 in 15 miles): Cumberland, Hunterdon, Salem, Somerset, Sussex, Warren

The accuracy of provider directories, on which these data are based, has been questioned nationally and in New Jersey. One examination notes that New Jersey is among the most strict group of states with respect to provider directory requirements.[50] It is unclear whether changes to requirements have been 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.[51]

Transitions between Nursing Facility and Community[52]

The reporting of member transitions between nursing facility and community settings is complicated by members who may pass away or switch between MCOs, so we have also drawn upon reports from the state's Money Follows the Person program[53] as documented in waiver annual reports, which discusses numbers of overall transitions for people who have been in a nursing home for at least 60 days.

1. Overall Transitions out of Nursing Facilities: The state's Money Follows the Person program reported that the number of transitions in the first two years after MLTSS implementation increased from 248 to 435. The annualized number was above 600 for both DY5 and DY7.[54]
2. Transitions from Nursing Facility to Community and Back within 90 Days: MCOs report on a quarterly and annual basis the number of MLTSS members who have transitioned from a nursing facility to a community setting, and those who come back to the nursing home within 90 days. MCOs reported 227 transitions out of nursing facilities in the first year of

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[50] 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.

[51] Mental Health Association in New Jersey. July 2013. Managed Care Network Adequacy Report. https://files.ctctcdn.com/6046ddd7001/22439124-309f-46db-a15d-cbe378949fe3.pdf .

[52] Sources for this section are DMAHS, MLTSS Performance Measure Reports (measures 21, 23, 24 and 25) and annual Demonstration reports.

[53] See https://www.ichoosehome.nj.gov/

[54] The DY7 (July 2017-June 2018) report is based on a 15 month period, based on a reporting change from state to federal fiscal years. The number of reported transitions for the 15 month period was 765.

MLTSS and 371 in the second year. Subsequent years have remained above 300. In all years, the percent of members returning to a nursing home within 90 days is 12% or lower.

3. <u>Transitions from Community to Nursing Facility, Short-Term (less than or equal to 180 days) and Long-Term (greater than 180 days):</u> Despite greatly increasing numbers of HCBS members in MLTSS, the number of members transitioning into a nursing home each year has remained close to 1,000, with the largest number in the first year of MLTSS (1,199). The majority of members who transition remain in facilities for more than 180 days; the percent of members with short-term facility stays declined from 43% in the first year of MLTSS (July 2014-June 2015) to 11% in DY7 (July 2017 – June 2018). Given the increase in the HCBS population, this may reflect success in keeping people in HCBS settings. There were some differences by MCO, which may result from differences in the population served given their geographic area or differing provider networks.

<u>NCI-AD (National Core Indicators, Aging and Disabilities™)</u>

The NCI-AD™ is an annual in-person, face-to-face survey with questions developed by experts in long-term care, carried out by each state that implements it. NJ has participated each year since the survey was first launched in 2015, surveying between 700 and 900 people each year. All interviewers are trained with the involvement of the National Association of States United for Aging and Disabilities (NASUAD) and the Human Services Research Institute (HSRI). Table 2.10 shows details on the dates and populations surveyed. Generally about 100 are surveyed for each program of interest. The first two waves of the survey included recipients of Older Americans Act services through county Areas on Aging in addition to MLTSS enrollees in HCBS settings and nursing home residents. We presume that these individuals were not enrolled in MLTSS, though they may have been enrolled in Medicaid. Individuals surveyed had to have at least 6 months continuous enrollment in their program prior to a cutoff date prior to the start of the surveying period. A proxy version of the survey is available for respondents who request a proxy or if they are unable to complete any of the survey.

Table 2.10: NCI-AD™ survey dates and details

Fielding dates (report dates)	Population (number surveyed)	Total Surveyed (% proxy)	Interviewers
July-October 2015 (2015-2016 Report)	• 4 MCOs-HCBS MLTSS (99-111 each; 415 total) • PACE (101) • Older Americans Act (104) • Nursing Home-FFS (104)	727 (25%)	75 interviewers from state and county offices

Fielding dates (report dates)	Population (number surveyed)	Total Surveyed (% proxy)	Interviewers
October 2016-May 2017 (2016-2017 Report)	• 5 MCOs (95-131 each; 567 total) • PACE (101) • Older Americans Act (149) • Nursing Home-MLTSS, any MCO (102)	917[55] (21%)	54 interviewers from state and county offices
February 2018-June 2018 (2017-2018 Report)	• 5 MCOs (107-141 each; 606 total) • PACE (111) • Nursing Home-MLTSS, any MCO (120)	844 (27%) (program missing from 7 cases)	57 interviewers from state offices and an outside agency contracted by the External Quality Review Organization
November 2018-May 2019 (2018-2019 Report)	• 5 MCOs (103-116 each; 549 total) • PACE (101) • Nursing Home-MLTSS, any MCO (101)	751 (26%)	37 interviewers from state offices

Sources: Reports from https://nci-ad.org/states/NJ/

Other than the size of the overall population from which the samples are drawn, the sampling procedures and the composition of the sample relative to the composition of its population are unclear. The reports do not provide any information about response rates. So, while there is a lot of rich information in the survey about the enrollees who are included, it is not clear to what extent these results can be generalized to the populations from which they are drawn. That is, differences among MCOs or programs in the NCI-AD™ survey may or may not reflect differences in the entire population. For this reason, it is also not clear whether trend information over time reflects changes in the programs over time, or whether samples may just have a different concentration from year to year. It is important to keep this in mind when considering survey results.

NCI-AD™ has 18 core areas of inquiry: community participation, choice and decision-making, relationships, satisfaction (with living environment, paid support staff, daily activities), service coordination, care coordination, access (to transportation, assistive equipment and information in language of choice), safety, health care, wellness, medications, rights and respect, self-direction of care, work, everyday living, affordability of food, planning for the future, and feelings

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[55] Report says 921 but numbers of subgroups add to 917. Subsequent year notes that some cases were missing the program, which is probably the explanation here.

of control. For the 2017-2018 and 2018-2019 surveys, New Jersey added about a dozen additional questions regarding the need for housing assistance, satisfaction with home delivered meals (including whether a choice was given for daily prepared versus bulk frozen options), whether care managers change more frequently than desired and whether any care manager change affects service delivery, access to financial resources, awareness of information about addressing dependency (substance use) issues, and permission to combine survey responses with services/needs data. New Jersey also piloted the NCI-AD™ new optional module on person-centered planning in 2017-2018 and included it in the 2018-2019 survey.

We will discuss selected results here, focusing on areas where New Jersey's MLTSS results differed from other states, how MLTSS compared with other long term care programs in New Jersey, and variation among individual New Jersey MCOs.

New Jersey MLTSS Compared with Other States.[56] Because there has been variation over time in participating states, we will only discuss the most recent report (2018-2019). States surveying MLTSS HCBS samples in addition to New Jersey in 2018-2019 included Kansas, Ohio, Tennessee, and Wisconsin. Only New Jersey and Tennessee surveyed their MLTSS NF populations. Where noted, results are risk adjusted "using the following 15 characteristics: age, gender, race, rurality, living arrangement (whether the person lives in his/her own home versus somewhere else), whether the person lives alone, mobility, amount of assistance needed for everyday activities, amount of assistance needed for self-care, overall health, level of hearing, level of vision, presence of a mental health diagnosis, whether the person has been forgetting things, and whether the Proxy version of the survey was used" (NCI-AD™ 2018-2019 National, Part 2, p.18). For most measures, New Jersey was somewhere in the middle. To judge difference, we used a margin of error of 4% comparing NJ to the HCBS MLTSS average, and 10% for the NF MLTSS average (based on Figure 4, p.56).[57]

Member Differences. There were several items that seemed to indicate relevant differences between New Jersey MLTSS members and those in the other states.

- Differences reported at state level only (not by program): NJ respondents were less likely to be white (44% NJ, 63-70% others, Table 4) and speak English (65% NJ, 88-99% others, Table 6) and more likely to be in a metropolitan area (98% NJ, 60-75% others, Table 7). They had less length of LTSS services in their current program (31% NJ, 47-64% others, Table 18).

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[56] Page numbers and table references in this section refer to the NCI-AD 2018-2019 National Report. We have compared states with similar programs to New Jersey's, as classified by NCI-AD for the purpose of allowing "meaningful comparisons between states" (p.51).

[57] Since NJ is included in the average, this is a conservative method. Because we were working off of tables rather than the raw data, there was no easy way to remove NJ from the average.

- HCBS population differences: NJ vs. average of KS, NJ, OH, TN, WI
    - NJ HCBS enrollees appeared more at-risk than average on the following measures:
        - Older (Tables 1 & 2)
        - More concerned with falling or being unstable (Table 55)
        - Less able to get to safely quickly in case of a house fire (Table 77)
        - More likely to report poor health (Table 89)
        - More likely to have poor hearing (Table 90)
        - More likely to need at least some assistance with self-care (bathing, dressing, toileting, eating, mobility) (Table 115)
    - NJ HCBS enrollees appeared less at-risk than average on the following measures:
        - Less likely to have had a recent address change (Table 10)
        - Less likely to describe their vision as poor (Table 95)
- NF population differences: NJ vs. TN
    - NJ MLTSS NF enrollees were older than those in TN (26% were 90 and older vs. 14% in TN).
    - NJ MLTSS NF enrollees were less likely to have dementia (44% in NJ vs. 54% in TN, Table 12)
    - NJ MLTSS NF enrollees had more concerns about falling or being unstable (56% vs. 44% in TN, Table 55)

Access to primary care, equipment/modifications, and ED use. There are 24 measures dealing with access to primary care, equipment/modifications, and ED use. On 17 of them, New Jersey's HCBS MLTSS members were about the same as the average for the states reporting these measures (the measures where NJ was similar to the average were: able to get appointment with primary care doctor when needed, had flu shot in last year, access to grab bars, specialized beds, other home modifications, walker, wheelchair, hearing aids, glasses, CPAP machine, personal emergency response system, oxygen machine, or other assistive device, ED visit for any reason in the past year as well as ED visits for falling/balance, tooth/mouth pain or being unable to see their primary care doctor). The items showing a difference are shown in Table 2.11a. On 6 items New Jersey scored above the national average, and on one item New Jersey scored below the average (based on simple differences and not statistical testing). New Jersey particularly stood out with regard to access to primary care, and was 10 or more points above the average for dental, hearing and vision exams in the past year.

Table 2.11a: Access to primary care, equipment and modifications, HCBS MLTSS members, NCI-AD™ 2018–2019 National

Survey Item	New Jersey HCBS	Average (KS, NJ, OH, TN, WI) HCBS	NCI-AD™ Table Number
New Jersey above average			
Need bathroom modifications (other than grab bars) but do not have them	5	10	60
Need a scooter but do not have it	3	7	65
Have had a physical exam or wellness visit in the past year	92	87	84
Have had a hearing exam in the past year	39	27	85
Have had a vision exam in the past year	71	61	86
Have had a dental visit in the past year	49	37	88
New Jersey below average			
Need a ramp or stair lift in or outside the home but do not have it	10	6	62

Notes—included here are measures where New Jersey appeared different than the average of all states offering HCBS MLTSS (the average included NJ; no statistical testing was done--we considered differences of 4 or more percentage points to be significant based on the margin of error information in Figure 4, p.56 of https://nci-ad.org/upload/reports/NCI-AD_2018-2019_National_Report_Part_2_Final.pdf).
Source: Accessed May 10, 2021 from https://nci-ad.org/upload/reports/NCI-AD_2018-2019_National_Report_Part_1_Final.pdf .

For NF MLTSS members, New Jersey and Tennessee were similar with respect to all equipment and modifications and for ED visits due to falling/balance, tooth/mouth pain or lack of access to primary care (18 measures). New Jersey exceeded Tennessee in the frequency of all type of primary care visits in the past year, and had fewer reported emergency room visits. However, New Jersey lagged Tennessee in respondents who could get an appointment with their primary care doctor when needed. Items with differences are shown in Table 2.11b.

Table 2.11b: Access to primary care, equipment and modifications, MLTSS NF members, NCI-AD™ 2018–2019 National

Survey Item	New Jersey NF	Tennessee NF	NCI-AD™ Table Number
New Jersey above Tennessee			
Have had a physical exam or wellness visit in the past year	87	75	84
Have had a hearing exam in the past year	58	30	85
Have had a vision exam in the past year	75	51	86
Have had a dental visit in the past year	66	42	88

Survey Item	New Jersey NF	Tennessee NF	NCI-AD™ Table Number
Visited emergency room any reason, past year	24	36	78
New Jersey below Tennessee			
Can get an appointment to see their primary care doctor when they need to	76	87	82

Notes—included here are measures where New Jersey appeared different than Tennessee, the only other state reporting on MLTSS NF members (no statistical testing was done; we considered differences of 10 or more percentage points to be significant based on the margin of error information in Figure 4, p.56 of https://nci-ad.org/upload/reports/NCI-AD_2018-2019_National_Report_Part_2_Final.pdf).
Source: Accessed May 10, 2021 from https://nci-ad.org/upload/reports/NCI-AD_2018-2019_National_Report_Part_1_Final.pdf .

As noted earlier, dental services were a frequent category in MCO reported appeals and grievances, and access to dentists for Medicaid enrollees lags access to other providers. However, it appears that access in NJ for MLTSS members exceeds its peers. The proportion of respondents who reported dental and hearing exam visits in the past year is quite low in an absolute sense, however, particularly among those in community settings, where fewer than half reported a visit.

Choices, quality of life, care management/services. There are 53 items measuring various aspects of respondent choices, quality of life and care management/services. For 29 of the items, NJ MLTSS HCBS respondents were similar to other states (including activity in the community, doing things outside their home, eating meals when desired, able to see/talk to friends/family when desired, like where they are living, like how they spend time during the day, know whom to contact to make services changes or if they have a complaint or need help, able to reach their care manager, LTSS meet current needs/goals or care manager talked to them about services for unmet needs, had follow-up after hospital/rehab discharge, know how to manage chronic conditions, have medical/nonmedical transportation, feel safe at home, feel safe with paid support staff, feel sad/depressed, talked to someone about sadness/depression if applicable, health getting better, permission is asked for entry in group setting, visitors can come any time in group setting, can access food at all times in group setting, can choose/change paid support staff, had someone talk to them about job options if desired, get enough assistance with everyday activities and self-care, having to skip a meal due to financial worries, and feeling in control of their lives).

Table 2.12a notes the items where NJ differed from the average of MLTSS HCBS states. There were 17 items where NJ was better than the national average and 7 where it was worse. On the positive side, the largest differences between NJ and the national average were in the extent to which 1) paid staff changed too often, 2) people had discussed forgetting things more often with a doctor or nurse (where applicable), 3) people wanted to live elsewhere, 4) paid support staff showed up and left when desired, 5) people who had concerns about falling or being unstable had someone talk/work with them to reduce the risk, 6) people had an emergency backup plan, 7) people's money was taken or used without their permission in the past year, and 8) people in group settings were able to lock the doors to their room if desired. On the negative side, the largest differences were 1) people in group settings with roommates who can choose their roommates, 2) people receiving information in the language they prefer (if not English)[58], 3) people in group settings who have enough privacy, and 4) people in group settings who are able to furnish/decorate how they want. For the HCBS population, then, NJ lagged particularly with regard to group settings—of 7 questions asked on this topic, NJ was better than average on 1, the same on 3, and worse on 3.

Table 2.12a: MLTSS choices, quality of life, care management/services, MLTSS HCBS members, NCI-AD™ 2018–2019 National

Survey Item	New Jersey HCBS	Average (KS, NJ, OH, TN, WI) HCBS	NCI-AD™ Table Number
New Jersey above average			
Would prefer to live somewhere else (risk-adjusted)	25	33	31
Paid support staff change too often	19	32	34
Paid support staff do things the way they want them done	84	79	35
Paid support staff show up and leave when they are supposed to	90	83	39
Have an emergency plan in place	84	78	40
Have a backup plan if their paid support staff do not show up	79	75	49
Felt comfortable and supported enough to go home (or where they live) after being discharged from a hospital or rehabilitation facility in the past year	89	85	52
Had concerns about falling or being unstable & had somebody talk to them or work with them to reduce the risk	90	83	56
Are ever worried for the security of their personal belongings (risk-adjusted)	15	19	75
Money was taken or used without their permission in the last 12 months	2	8	76
Discussed their forgetting things more often than before with a doctor or a nurse	73	63	92
Have access to healthy foods if they want them	89	85	96

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[58] NJ likely has a wider variety of languages than other states, which could make it harder to score highly on this measure. Table 6 shows NJ higher than other states on both Spanish and other (non-English) speakers.

Survey Item	New Jersey HCBS	Average (KS, NJ, OH, TN, WI) HCBS	NCI-AD™ Table Number
Understand what they take their prescription medications for	82	78	98
Paid support staff treat them with respect	93	89	99
Able to lock the doors to their room if they want to (if in group setting)	76	70	101
Would like a job (if not currently employed) (risk-adjusted)	16	20	109
Would like to do volunteer work (if not currently volunteering) (risk-adjusted)	16	21	112
NJ below average			
Able to choose their roommate (if in group setting and have roommates)	10	29	23
Get up and go to bed when they want to	87	92	24
Able to furnish and decorate their room however they want to (if in group setting)	85	92	26
Receive information about their services in the language they prefer (if non-English)	64	81	50
Have enough privacy where they live (if in group setting)	69	81	102
Can choose or change what kind of services they get (risk-adjusted)	66	72	105
Can choose or change when and how often they get their services (risk-adjusted)	63	69	106

Notes— included here are measures where New Jersey appeared different than the average of all states offering HCBS MLTSS (the average included NJ; no statistical testing was done--we considered differences of 4 or more percentage points to be significant based on the margin of error information in Figure 4, p.56 of https://nci-ad.org/upload/reports/NCI-AD_2018-2019_National_Report_Part_2_Final.pdf). Risk adjustment considers "age, gender, race, rurality, living arrangement (whether the person lives in his/her own home versus somewhere else), whether the person lives alone, mobility, amount of assistance needed for everyday activities, amount of assistance needed for self-care, overall health, level of hearing, level of vision, presence of a mental health diagnosis, whether the person has been forgetting things, and whether the Proxy version of the survey was used" (NCI-AD™ 2018-2019 National, Part 2, p.18)
Source: Accessed May 10, 2021 from https://nci-ad.org/upload/reports/NCI-AD_2018-2019_National_Report_Part_1_Final.pdf .

Table 2.12b notes the items where New Jersey's MLTSS NF respondents differed from Tennessee's. Of the 53 items measuring various aspects of respondent choices, quality of life and care management/services, New Jersey's MLTSS NF respondents were similar to Tennessee's on 43. New Jersey was above Tennessee for 4 measures and below Tennessee on 6 measures. The positive items were all close to the margin of error threshold of 10 percent, with the largest difference being in the extent to which respondents reported discussing forgetfulness with a doctor or nurse. NJ MLTSS NF respondents were also less likely to think their paid support staff changed too often. On the negative side, the highest items were people whose visitors are able to come any time, paid support staff doing things the way people want them done, and paid support staff treating people with respect. The items where NJ NF MLTSS participants were lower suggest less control over their environment and staff than in Tennessee, although NJ respondents were less likely to say they would prefer to live elsewhere, and about equally likely to say they felt in control of their lives.

Table 2.12b: MLTSS choices, quality of life, care management/services, MLTSS NF members, NCI-AD™ 2018–2019 National

Survey Item	New Jersey NF	Tennessee NF	NCI-AD™ Table Number
New Jersey above Tennessee			
Would prefer to live somewhere else (risk-adjusted)	25	35	31
Paid support staff change too often	32	43	34
Had concerns about falling or being unstable & had somebody talk to them or work with them to reduce the risk	90	80	56
Discussed their forgetting things more often than before with a doctor or a nurse	78	65	92
NJ below Tennessee			
Can eat their meals when they want to	57	67	25
Paid support staff do things the way they want them done	58	83	35
Paid support staff show up and leave when they are supposed to	82	92	39
Paid support staff treat them with respect	68	89	99
Visitors are able to come at any time (if in group setting)	60	90	103
Can choose or change their paid support staff if they want to (risk-adjusted)	70	81	107

Notes—included here are measures where New Jersey appeared different than Tennessee, the only other state reporting on MLTSS NF members (no statistical testing was done; we considered differences of 10 or more percentage points to be significant based on the margin of error information in Figure 4, p.56 of https://nci-ad.org/upload/reports/NCI-AD_2018-2019_National_Report_Part_2_Final.pdf). Risk adjustment considers "age, gender, race, rurality, living arrangement (whether the person lives in his/her own home versus somewhere else), whether the person lives alone, mobility, amount of assistance needed for everyday activities, amount of assistance needed for self-care, overall health, level of hearing, level of vision, presence of a mental health diagnosis, whether the person has been forgetting things, and whether the Proxy version of the survey was used" (NCI-AD™ 2018-2019 National, Part 2, p.18)
Source: Accessed May 10, 2021 from https://nci-ad.org/upload/reports/NCI-AD_2018-2019_National_Report_Part_1_Final.pdf .

Differences among New Jersey's Long-Term Care Programs. The national reports offer the opportunity to compare MLTSS respondents as a group with those from New Jersey's other long-term care programs, with risk adjustment for some measures. Because Older Americans Act HCBS recipients were only included in the first two surveys, we do not discuss those results here. A brief description of the other groups:

- MLTSS-HCBS – Individuals who are financially eligible for Medicaid and clinically eligible for nursing home care who remain in community settings (including private residences as well as adult family care, assisted living, or comprehensive personal care homes) and receive a variety of HCBS through a plan of care coordinated and reviewed regularly by an MCO care manager.
- PACE (Program of All-inclusive Care for the Elderly) – individuals who are 55 or older, clinically eligible for nursing home care, and reside within a zip code served by one of New Jersey's 6 PACE organizations.[59] Participants may pay privately or participate through Medicare or Medicaid and are served by an interdisciplinary team at a community center and in their home or a nursing home if needed. Transportation and nutrition are provided in addition to medical/dental services and personal care.
- Nursing Facility residents- The 2015-2016 survey sampled nursing home residents who were Medicaid fee-for-service; subsequent surveys sampled nursing home residents enrolled in MLTSS.[60] Thus, the 2016-2017 and later surveys would involve nursing home residents who began living there in after mid-2014, while the 2015-2016 survey could have included longer-term residents. Nursing home residents enrolled in MLTSS have an MCO care manager charged with creating a care plan and working to transition the member if they wish to return to the community. Fee-for-service nursing home residents do not have a regularly assigned MCO care manager, but can work with the state's Money Follows the Person program for transition, whereby they will be enrolled into MLTSS and assigned care manager prior to transition.[61]

As we will show in the next section, there is some variability by MCO in participant profiles and experiences. This is undoubtedly true for the other categories as well—PACE may differ from site to site, as may the experiences of those in nursing homes, and so changes from year to year could reflect different sampling as well as changes by providers.

Each survey includes about 100 participants from each MCO, and from PACE and nursing home residents. Margins of error for estimates are about 4% for MLTSS and about 9% for the other categories each year, which means that it is difficult to say that there is a true difference among categories unless it is a large difference.[62]

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[59] The number of PACE agencies has grown from 2 in 2009 to 3 in 2010, 4 in 2011, 5 in 2015 and 6 in 2017 (https://www.state.nj.us/humanservices/doas/services/pace/)

[60] In the July 2014 shift to MLTSS, existing fee-for-service nursing home residents remained in that system unless they changed levels of care, while new nursing home residents were enrolled in MLTSS.

[61] See https://www.ichoosehome.nj.gov/ooie/ichoose/whatisIChoose.shtml

[62] See p.55 in http://nci-ad.org/upload/reports/NCI-AD_2015-2016_National_Report_FINAL.pdf.

Table 2.13a shows selected enrollee characteristics of MLTSS HCBS (M-HCBS), PACE, and nursing facility (NF) survey participants. We selected characteristics that differ across the three programs. As noted earlier, we do not know to what degree differences among survey participants represent differences in the programs themselves, but they could certainly influence differences in survey results.

Race: PACE survey participants were more likely to be Black than MLTSS HCBS or NF survey participants in each of the four survey periods. The percentage of survey respondents who are white has declined steadily from 61% to 37% among MLTSS-HCBS respondents, dropped slightly among nursing home residents from about 2/3 in the first 3 surveys to 54% in the last, and increased steadily among PACE respondents from 28% to 45%. Differences in participation by other races was not as large.

Living situation: PACE respondents were more likely than MLTSS-HCBS respondents in each survey year to live alone and/or in their own or a family home.Around 1/3 of MLTSS-HCBS respondents lived alone in each survey year compared with around 60% of PACE respondents. Though MLTSS-HCBS respondents most often lived in their own or a family home (more than 2/3 in all years), they were more likely than PACE respondents to live in group settings (16-30% for MLTSS respondents versus 4-8% for PACE respondents). Initial PACE enrollment can only occur for individuals who are able to reside safely in non-group community settings, while MLTSS enrollees may be in Assisted Living or another group setting.

Types of disability: In general, nursing home residents were the most likely to report either physical or cognitive disability, and PACE respondents were the least likely to report either disability. In 3 out of 4 surveys, PACE respondents were less likely to have a physical disability than MLTSS-HCBS or nursing home respondents, and in all years PACE respondents were less likely to be nonambulatory than either MLTSS or nursing home respondents. In all 4 surveys, nursing home respondents were more likely than PACE or MLTSS-HCBS respondents to have Alzheimer's or dementia. MLTSS-HCBS respondents were generally more likely to report Alzheimer's/dementia than PACE respondents.

Table 2.13a: Selected enrollee characteristics of survey participants, NJ LTSS programs (NCI-AD™ surveys, 2016-2019)

Enrollee Characteristics	Program	Survey Year 2015-16	2016-17	2017-18	2018-19
White	M-HCBS	61%	50%	48%	37%
	PACE	28%	34%	40%	45%
	NF	66%	70%	63%	54%
Black	M-HCBS	19%	21%	18%	22%

Enrollee Characteristics	Program	Survey Year			
		2015-16	2016-17	2017-18	2018-19
	PACE	46%	51%	40%	44%
	NF	17%	19%	23%	25%
Lives alone	M-HCBS	37%	36%	34%	35%
	PACE	57%	59%	68%	58%
Lives in own/family home	M-HCBS	68%	71%	73%	82%
	PACE	92%	89%	92%	89%
Lives in group setting/AL	M-HCBS	30%	28%	25%	16%
	PACE	4%	4%	4%	8%
Physical disability	M-HCBS	70%	65%	62%	74%
	PACE	44%	58%	65%	61%
	NF	65%	67%	81%	72%
Alzheimer's/dementia	M-HCBS	23%	17%	23%	22%
	PACE	20%	9%	6%	13%
	NF	41%	29%	43%	44%
Nonambulatory	M-HCBS	27%	14%	10%	9%
	PACE	8%	1%	3%	1%
	NF	31%	22%	31%	24%

Source: NCI-AD™ surveys https://nci-ad.org/reports/

Quality of life measures. It is important to note that LTSS recipients in both nursing homes and particularly in community settings may receive some care through natural supports such as family and friends as well as those received through their LTSS program. Their quality of life reflects all of these factors, not just the LTSS program services. Table 2.13b shows selected quality of life measures for survey participants across the three programs for the four survey periods. Measures were selected to illustrate differences across programs (which could reflect differences in populations surveyed) and/or because of our judgement of their substantive importance. We have omitted the risk-adjusted measures from the last survey because of inconsistencies with previous years (see note after Table 2.13b for more information).

- Prefer to live elsewhere – Nursing home residents were always highest on this measure, with 39-48% preferring to live elsewhere. PACE and MLTSS-HCBS varied from 19-37%, though MLTSS-HCBS were more often lowest. This is most meaningful with respect to nursing homes, where people are living in the setting that is providing their services.
- Transportation (nonmedical) – Nursing home residents were less likely in two of the survey years to have such transportation. MLTSS-HCBS and PACE recipients were the same in two years and took turns being higher in the other two years. The measure ranged from 54% for nursing home residents in the last survey up to 76-77% for M-HCBS and PACE residents in the middle two surveys.

- Physical exam/wellness visit in past year – this measure was high for all groups in all survey years (80-93%). In the first two surveys, nursing facility residents were less likely than either MLTSS-HCBS or PACE recipients to have had a visit (about 80% versus about 90%), but in the last two surveys they were equally likely.
- Dental visit in the past year – PACE was the highest in all years with this measure, with 59-86% of respondents reporting a dental visit. NJ PACE provides participants with meals and medical/dental services on-site at the PACE center which increases both access and identification of potential dental problems. MLTSS-HCBS recipients were generally the lowest on this measure, ranging from 45-52%. Nursing home residents ranged from 55-71%. There was a large contrast with having had a physical health visit, which was 80% or higher in all groups. We saw some indication earlier of some issues with network access to dentists in Medicaid MCOs, and relatively large numbers of complaints about denial of dental benefits in Medicaid MCOs. We're not sure if these issues could be driving the disparity between the high frequency of a physical health visit and the much lower frequency of a dental visit.
- Eating meals when desired – nursing home residents were always lowest on this measure (from 42-57%). PACE ranged from 89-96% and MLTSS-HCBS from 77-89%, with PACE being higher in two survey years and equal to MLTSS-HCBS the other two.
- Liking how they usually spent time during the day (risk-adjusted) – this is an important quality of life measure. The 2015-2016 survey collapsed the risk-adjusted version of this measure differently than the other years. In the two surveys for which we have risk-adjusted measures, from 46% to 62% of respondents always or almost-always liked how they spent their time during the day. In the last survey, nursing home residents were lower than MLTSS-HCBS and PACE (46% versus 58-62%).
- Paid support staff changes – nursing home residents were generally most likely to think their staff changed too often (32-49%, versus 19-43% for PACE and MLTSS-HCBS), though in the last survey PACE and nursing homes were statistically the same (32% and 37%), while MLTSS-HCBS was lower at 19%. In the first survey, MLTSS-HCBS was higher than PACE (43% versus 33%). MLTSS-HCBS has shown the greatest range over time on this measure. We don't have a measure of how often staff actually changed, so we can't know whether changes are due to sampling differences, an actual difference in staff changes, or a change in perception levels of what is "too often."
- Services meet all needs/goals (risk-adjusted) – in the first two years of the survey, nursing home residents were less likely to feel their services met all their needs and goals compared with PACE and MLTSS-HCBS respondents (56-59% versus 66-78%). In the third survey, PACE exceeded both MLTSS-HCBS and nursing facility residents (86% versus 72% and 78%).

- Always getting enough assistance with self-care and other everyday activities (risk-adjusted) – at least 76% (and as many as 96%) of respondents across all groups have felt that they always get enough needed help with self-care and other daily activities across the first three survey years. In the third survey year, nursing home respondents were lower than PACE. MLTSS-HCBS was between nursing homes and PACE, but was not clearly different from either of them considering the margin of error of 9% for the latter two groups.

Table 2.13b: Selected quality of life measures for survey participants, NJ LTSS programs (NCI-AD™ surveys, 2016-2019)

Quality of life measures	Program	Survey Year 2015-16	 2016-17	 2017-18	 2018-19
Prefer to live elsewhere	M-HCBS	28%	24%	23%	20%
	PACE	19%	35%	25%	37%
	NF	48%	46%	39%	44%
Have transportation to do things outside home (other than medical appointments)	M-HCBS	69%	71%	76%	69%
	PACE	67%	77%	64%	63%
	NF	69%	58%	60%	54%
Had a physical exam/wellness visit past year	M-HCBS	89%	93%	91%	92%
	PACE	93%	89%	90%	86%
	NF	80%	81%	87%	87%
Had a dental visit past year (2015-2017 "routine")	M-HCBS	45%	48%	52%	49%
	PACE	79%	59%	69%	86%
	NF	71%	55%	59%	66%
Eat meals when they want	M-HCBS	77%	83%	89%	88%
	PACE	93%	96%	92%	89%
	NF	45%	52%	42%	57%
Like how they usually spend time during the day (risk adjusted exc. 2015-2016)	M-HCBS	68%	61%	62%	*
	PACE	65%	57%	58%	*
	NF	67%	52%	46%	*
Paid support staff change too often	M-HCBS	43%	22%	24%	19%
	PACE	33%	25%	29%	37%
	NF	15%	47%	38%	32%
Services meet all needs/goals (risk adjusted)	M-HCBS	71%	76%	72%	*
	PACE	66%	78%	86%	*
	NF	56%	59%	78%	*
Get enough assistance with everyday activities (IADL, risk adjusted)	M-HCBS	83%	84%	85%	*
	PACE	80%	88%	91%	*
	NF	80%	76%	81%	*
Get enough assistance with self-care (ADL, risk adjusted)	M-HCBS	84%	84%	88%	*
	PACE	81%	87%	96%	*
	NF	87%	79%	82%	*

Notes: Risk adjustment considers "age, gender, race, rurality, living arrangement (whether the person lives in his/her own home versus somewhere else), whether the person lives alone, mobility, amount of assistance needed for everyday activities, amount of assistance needed for self-care, overall health, level of hearing, level of vision, presence of a mental health diagnosis, whether the person has been forgetting things, and whether the Proxy version of the survey was used" (NCI-AD™ 2018-2019 National, Part 2, p.18)
*Risk adjustment in the 2018-2019 report eliminated all differences across LTSS programs in all states. Though the unadjusted results in 2018-2019 were similar to the previous year, the adjusted results were very different. We inquired with NCI-AD about this and they were still investigating as of the time we submitted this report. Unadjusted results can be seen in the state report.
Source: NCI-AD™ surveys https://nci-ad.org/reports/

Differences among MCOs. Table 2.14 shows selected beneficiary characteristics and quality of life measures for survey participants across the managed care organizations (MCOs) for the four survey periods. There were 4 MCOs (Amerigroup, Horizon, United, and WellCare) in the 2015-2016 survey and 5 MCOs (the former group plus Aetna) in the subsequent surveys. We examined both beneficiary characteristics and quality of life measures to identify notable variation across MCOs and over time, and also discuss the metrics we see as crucial overall descriptors of MLTSS enrollee experiences.

The variability we see in demographic characteristics from one period to the next both within and among MCOs leads us to believe that samples may not be representative of the MCOs' general MLTSS population and likely are not strictly comparable over time for the purpose of identifying trends in the larger population.[63] As noted earlier, NCI-AD™ reports do not provide response rates or a comparison of samples to the populations from which they are drawn. Still, the data provide valuable information about the participating beneficiaries.

Race. The percent of beneficiaries surveyed who are white has decreased over time, from 61% on average in 2015-2016 (74% for the MCO with the largest value) to 37% on average in 2018-2019 (47% for the MCO with the largest value). The percentage of beneficiaries surveyed who are Black has stayed about the same over the period at around 20% on average (with a range of 8%-33% across MCOs). The percentage of beneficiaries who are Hispanic increased in 2018-2019 to 26% on average surveyed (19%-35% for individual MCOs) after being a little under 20% (9%-36% for individual MCOs) in the earlier surveys. This reflects an increase across several MCOs. The percentage of beneficiaries surveyed who are Asian varies greatly across MCOs in the last 3 surveys (from 1% to 29% of the MCO's sample).

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[63] For example, WellCare's Asian population is 4% of its sample in the 2015-2016 survey, 22% in the 2016-2017 survey, 4% in the 2017-2018 survey, and 29% in the 2018-2019 survey. United's Asian population is 3% or less of its sample in all years except 2017-2018, when it is 26%. These kinds of fluctuations in the overall population seem unlikely.

Language: The percent of beneficiaries surveyed who speak English declined in the 2018-2019 survey, from 70% or higher on average to 55% on average. The largest value among MCOs for this measure declined from 91% to 70%. The percentage of beneficiaries surveyed who speak Spanish increased in the 2018-2019 survey to 27%, with the smallest percentage going from 8% to 16%. Other languages have shown increasing variability with each survey, going from a 5% range in the 2015-2016 survey between the MCOs with the highest and lowest values to a 46% range in 2018-2019.

Living arrangement: All surveys have shown a wide range in living arrangement among individual MCO respondents. In the most recent survey, the percent surveyed living in their own or a family home (including senior living), ranged from 65% to 97%, while the percent in a group setting ranged from 3-28%. Other years have had a wider range, with different MCOs having 47% in group settings in the two preceding survey years.

Disability/condition: Generally, the majority of respondents report a physical disability for all MCOs.[64] The percentage of those with Alzheimer's disease or other dementia is around 20%, varying between 10-31% over the surveys. The percentage of respondents with traumatic brain injury (TBI) has varied from 1-44% over the surveys, with some years having fairly highly percentages for some MCOs, though not generally the same MCO from year to year. The percentage of survey respondents who are not ambulatory has ranged from 6%-21% over the years and different MCOs.

Quality of life measures. It is important to note that these figures are not risk adjusted. In addition, MLTSS enrollees are often getting some care through natural supports such as family and friends, and other services through providers contracted by their MCO. Their quality of life reflects all of these factors, not just the MCO-provided services. For all the quality of life measures, we looked to see if individual MCO patterns were similar over the survey years and with the exception of enrollees liking how they spent time during the day, we did not find any individual MCOs that consistently led or lagged on any of the measures.

- Transportation (nonmedical) – while access to medical transportation was high and showed low variability among MCOs, access to nonmedical transportation was lower and more variable, with an average around 70% of survey respondents having access, varying from 54%-79% over the years and different MCOs.

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[64] For the MCO showing only 32% with a physical disability in the 2017-2018 survey, another question asking about participant self-identification as having a physical disability had a 70% positive rate, the largest difference of an MCO between the reported rate and the self-identified rate. The self-identification question was not asked every year.

- <u>Dental visit in the past year </u>– this varied from 32% of respondents to 62%, but was generally around half (more often slightly below) of respondents. There was a large contrast with having had a physical health visit, which was generally above 90%, with little variability among MCOs. As noted in the previous section, MLTSS-HCBS generally lagged both PACE and nursing homes on this measure. While this measure did not show a pattern by MCO, there did appear to be a relationship with access to nonmedical transportation—in 7 of 19 comparisons, MCOs had an identical rank on the two measures and in 10 of 19 cases MCOs were within one rank difference on this measure, and in no cases was the rank difference more than 3 places (the maximum rank difference would be 4). ModivCare, the Medicaid transportation provider, will schedule rides to dentists as well as health care providers, so participants without other transportation should be able to access it this way. We did see some indication earlier of some issues with network access to dentists, and relatively large numbers of complaints about denial of dental benefits. We're not sure to what degree these issues could be driving the disparity between the high frequency of a physical health visit and the much lower frequency of a dental visit.
- <u>Eating meals when desired</u> – this is an important measure of respondent choice and one that was always at least 76% for individual MCOs, with averages from 77%-88% over the survey years.
- <u>Liking how they usually spent time during the day (always or almost always)</u> – this is an important quality of life measure. The highest scores were in the first survey with an overall average of 68%, declining to55% in the last survey, with some variability across MCOs in this measure (as low as 39% and as high as 61% in the 2018-2019 survey). WellCare consistently ranked highly on this measure, which could reflect differences in the populations surveyed across MCOs as well as the providers contracted by the MCOs.
- <u>Paid support staff changes </u>– there was a bit of variability across MCOs for this measure, though none stood out consistently in any direction. Between 13% and 47% of survey respondents felt their paid staff changed too often across the years and MCOs. This was the staffing-related measure with the most variability, and there was a difference in survey responses on this in 2015-2016 (when 31-47% thought staff changed too often) compared with subsequent years (when 13-35% thought staff changed too often). We don't have a measure of how often staff actually changed, so we can't know whether this apparent reduction is due to sampling differences, an actual difference in staff changes, or a change in perception levels of what is "too often."
- <u>Services meet all needs/goals </u>– at least 65% (and as many as 78%) of individual MCO respondents have felt that their services are meeting all their needs and goals across all years of the survey, with the risk-adjusted average for MLTSS-HCBS ranging from 71% to 76%. This is a high bar, with "mostly," "somewhat," and "not at all" being other options.

- <u>Always getting enough assistance with self care and other everyday activities</u> – at least 78% (and as many as 93%) of individual MCO respondents have felt that they always get enough needed help with self-care and other daily activities across all MCOs and years. The risk adjusted averages range from 83% to 88% for MLTSS-HCBS for these measures. This is a binary response option where respondents report always getting enough help or not always getting it.

Table 2.14: Selected beneficiary characteristics and quality of life measures for MLTSS survey participants among NJ managed care organizations (NCI-AD™ surveys, 2016-2019)

	2015-16 (4 MCOs)		2016-17 (5 MCOs)		2017-18 (5 MCOs)		2018-19 (5 MCOs)	
	Average	Range	Average	Range	Average	Range	Average	Range
Beneficiary Characteristics								
White	61%	38-74%	50%	27-64%	48%	17-63%	37%	18-47%
Black	19%	15-23%	21%	13-27%	18%	8-25%	22%	10-33%
Hispanic	17%	9-36%	18%	11-31%	19%	13-34%	26%	19-35%
Asian	3%	1-4%	6%	2-22%	7%	1-26%	9%	1-29%
English language	77%	56-88%	73%	38-91%	70%	23-90%	55%	20-70%
Spanish language	17%	8-35%	16%	8-31%	16%	9-34%	27%	16-37%
Other language	7%	4-9%	11%	1-32%	13%	1-43%	18%	4-50%
Lives in own/family house/senior living	68%	56-88%	71%	51-92%	73%	35-82%	82%	65-97%
Lives in group setting/AL	30%	12-41%	27%	6-47%	25%	3-47%	16%	3-28%
Physical disability	70%	53-76%	66%	58-74%	66%	32-85%	75%	64-93%
Alzheimer's/dementia	23%	20-34%	20%	11-28%	21%	10-31%	24%	18-27%
TBI	9%	6-15%	18%	5-38%	19%	4-44%	4%	1-5%
Nonambulatory	15%	8-21%	14%	10-18%	10%	7-12%	9%	6-11%
Quality of life measures								
Have transportation to do things outside home (other than medical appointments)	70%	59-74%	71%	67-78%	76%	68-79%	69%	54-78%
Had a dental visit past year (2015-2017 "routine")	45%	43-47%	48%	32-50%	52%	44-57%	49%	39-62%
Eat meals when they want	77%	76-87%	83%	79-96%	89%	84-95%	88%	85-92%

	2015-16 (4 MCOs)		2016-17 (5 MCOs)		2017-18 (5 MCOs)		2018-19 (5 MCOs)	
	Average	**Range**	**Average**	**Range**	**Average**	**Range**	**Average**	**Range**
Like how they usually spend time during the day (always/almost always)	68%	59-76%	61%	57-70%	62%	57-71%	55%	39-61%
Paid support staff change too often	43%	31-47%	22%	13-30%	24%	14-35%	19%	13-31%
Services meet all needs/goals	71%	65-70%	76%	70-78%	72%	68-77%	74%	65-76%
Gets enough assistance with everyday activities (IADL)	83%	79-89%	84%	80-90%	85%	79-89%	83%	79-86%
Gets enough assistance with self-care (ADL)	84%	79-93%	84%	79-88%	88%	82-89%	83%	78-85%

Notes: Averages were taken from the national reports, where available. If averages were not available in the national report, we calculated the simple average of the participating MCOs from the state reports.

Sources: NCI-AD^{TM} surveys https://nci-ad.org/reports/

Discussion

The extent to which the Medicaid population receives long-term services and supports in community settings (rather than in nursing homes) has increased steadily since MLTSS implementation both in terms of shares of enrollees and on a per population basis for adults 65 and over, and few individuals enrolled in former HCBS waiver programs who transitioned to MLTSS have moved to nursing homes. Thus, **it appears that MLTSS has been successful in expanding access to LTSS in community settings in terms of enrolling beneficiaries. In addition, the number of MLTSS members transitioned from nursing facilities to community settings has grown after the first year of MLTSS implementation.**

Once enrolled, beneficiaries must be able to access services. **Provider networks are not well-measured for LTSS providers** because the services are frequently brought to the beneficiary by providers not working out of a fixed office location, meaning that the typical network access method of measuring the number of providers within a certain number of miles of each beneficiary does not apply. There are anecdotal reports of problems with some types of services: social adult day, chore services, and nonmedical transportation.[65] Limited network information for acute care providers serving all Medicaid enrollees[66] suggests that coverage may have worsened slightly from 2016-2018 for dentists, primary care providers (both regular and pediatric), endocrinologists, oral surgeons, and hospitals. Coverage remained very high for other specialties. Coverage gaps tended to be concentrated in particular counties, often (though not always) those with less dense populations where the standard mileage metric was presumably harder to achieve. Access factors are not a large share of beneficiary complaints. Quality audits of the extent of service delivery show that, despite improvements from 2017 to 2019, several key services are still not delivered to the level authorized most of the time. The reasons for this and effect of this on consumers have not been analyzed in this evaluation.

Quality is more complicated to measure than access. Critical incidents, appeals/grievances/complaints, and fair hearings appear to affect relatively small numbers of enrollees. Critical incidents are reported in a timely fashion. Appeals/grievances and complaints filed internally with MCOs appear to be responded to in a timely way, but MCOs overwhelmingly uphold their original decisions (more than 90% of the time). Appeals by individuals using or requesting private duty nursing services may be more prevalent than other types of appeals, but it is not possible to calculate an exact percentage.

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[65] See, for example, DMAHS (2018) on nonmedical transportation and chore services, IPRO (2020) on social adult day and CSHP interviews (Farnham et. al. forthcoming, 2017, 2015) on general perceptions of service gaps.

[66] That is, the network is providers that serve all Medicaid enrollees, not just MLTSS enrollees.

Performance metrics have mixed results, with some evidence of improvement over time, and involve MCO or state records only, with no interaction with members or caregivers. Results are often a binary indicator of whether an MCO or the state has met a certain benchmark, without information about the extent of deficiencies aside from the benchmark. For these reasons, it is difficult to ascertain what effect quality problems have on consumers. For instance, for those assessments not done within 30 or 45 days, how long is the delay, and are services delayed? In cases where consumers did not receive at least 95% of the services they were assessed to need, what percent did they get, and to what degree was any shortfall a matter of consumer choice (e.g., the consumer declined services for some reason)?

The NCI-AD™ consumer survey shows that in 2018-2019, New Jersey was mostly similar to other states, but stood out particularly favorably with regard to access to primary care/vision/dental/hearing. New Jersey lagged other states in satisfaction with group settings. Comparing MLTSS-HCBS with PACE and nursing home residents over 4 years of survey data, MLTSS-HCBS seemed to lag on dental visits. Overall service adequacy measures were high for MLTSS-HCBS respondents, with more than 2/3 feeling their services met all their needs and goals and more than 80% saying that they always got enough assistance with daily activities and self-care over all 4 survey periods. At least 3/4 reported being able to eat meals when they wanted to, and more than half always or almost always liked how they spent their time during the day over all 4 survey periods. **While it is difficult to assess the extent to which the NCI-AD™ surveys can be generalized to the entire MLTSS population, used to determine trends over time, or compare MCO performance, there have been more than 2,000 MLTSS-HCBS surveys done over 4 years, and the results are reassuring. While nursing home residents are less positive about their care, there have been more than 300 MLTSS-NF surveys done over 3 years, and at least 3/4 have reported that they always get enough assistance with daily activities and self-care over all 3 survey periods.**

Appendix Table A2.1: EQRO MLTSS HCBS measures from most recent audit (7/1/2019-2/29/20, 13 measures)

Audit Measure	**Aetna**	**Amerigroup**	**Horizon**	**United**	**WellCare**	**NJ average**	**MCOs meeting 85% standard**
#8. Initial Plan of Care established within 45 days of enrollment into MLTSS/HCBS	50.0%	27.8%	**95.5%**	49.5%	68.9%	58.1%	1
#9. Member's Plan of Care is reviewed annually within 30 days of the member's anniversary and as necessary	**92.3%**	**100.0%**	**100.0%**	**100.0%**	**85.7%**	**96.0%**	5
#10. Plans of Care are aligned with members needs based on the results of the NJ Choice Assessment	**96.4%**	**96.5%**	**100.0%**	**94.4%**	**95.5%**	**96.6%**	5
#11. Plans of Care developed using "person- centered principles"	16.0%	47.0%	**99.0%**	34.0%	82.0%	55.6%	1
#12. MLTSS Home and Community Based Services (HCBS) Plans of Care that contain a Back-up Plan	78.0%	25.6%	**90.9%**	84.7%	**90.8%**	74.5%	2
#16. Member training on identifying/reporting critical incidents	**97.0%**	**98.0%**	**100.0%**	**92.0%**	**97.0%**	**96.8%**	5
#13. MLTSS HCBS are delivered in accordance with the POC, including the type, scope, amount, frequency, and duration	38.2%	26.5%	38.1%	46.1%	35.6%	36.7%	0
Assessment (presence/consistency of NJ Choice and PCA)	74.0%	81.5%	**94.4%**	77.9%	70.4%	79.7%	1
Outreach (date of outreach vs. enrollment date)	**100.0%**	81.5%	78.5%	68.2%	**86.2%**	83.1%	2
Face-to-Face visits documented	79.4%	49.6%	**91.1%**	71.9%	**87.8%**	76.0%	2
Initial Plan of Care (Including Back-up Plans) presence/complete	80.3%	75.6%	**96.9%**	81.8%	**88.0%**	84.6%	2
Ongoing Care Management (visits, review of plan, counseling)	63.6%	74.0%	**85.2%**	72.8%	72.4%	73.8%	1
Gaps in Care/Critical Incidents (process for reporting)	**98.4%**	**98.9%**	**100.0%**	**92.6%**	**97.0%**	**97.3%**	5
Number of measures meeting 85% standard	*5*	*4*	*11*	*4*	*8*	*4*	
Percent of measures meeting 85% standard	*38%*	*31%*	*85%*	*31%*	*62%*	*31%*	
Average number of MCOs meeting 85% standard	*2.5*						

Results at or above the 85% standard are shown in **boldface type**.

Source: IPRO, Core Medicaid and MLTSS Quality Technical Report, 2020; IPRO MLTSS Care Management Audit 2016 for definitions of last 6 measures ("Assessment"-"Gaps in Care/Critical incidents")

Appendix Table A2.2: EQRO MLTSS Nursing Facility measures from most recent audit (7/1/2017-6/30/18, 17 measures)

Categories and Measures	**Aetna**	**Amerigroup**	**Horizon**	**United**	**WellCare**	**MCOs meeting 85% standard**
Facility and MCO Plan of Care						
Member's record contained copies of facility plans of care	77%	78%	79%	66%	**87%**	1
Documented review of facility plan of care by care manager	67%	78%	79%	37%	**87%**	1
MLTSS plan of care includes information from facility plan of care	**100%**	**99%**	**99%**	**98%**	**100%**	5
Plan of Care Development						
Completion of Initial Plan of Care – completed, signed plan of care provided to the member/representative within 45 calendar days of enrollment into MLTSS (for members newly enrolled in managed care and newly eligible for MLTSS during the review period)	9%	**94%**	**98%**	19%	27%	2
Agreement/Disagreement statements from the plan(s) of care were reviewed with the member and/or representative at each visit	59%	**97%**	**97%**	70%	30%	2
Written Member Goals Include 5 Components:1- member specific, 2-measurable, 3- specified plan of action/intervention, 4 – timeframe, and 5 – reviewed at each visit, documented progress)	**95%**	**95%**	**100%**	64%	32%	3
Plan of Care Addresses Formal and Informal Services: Member was given the opportunity to express his/her needs or preferences, and these were acknowledged and addressed, including the coordination of formal and informal services	**95%**	**98%**	**100%**	83%	30%	3
Plan of Care Developed with Person-Centered Principles: documentation reflected a member-centric approach demonstrating the involvement of the member/representative in the development of goals	**95%**	**97%**	**100%**	72%	29%	3
Member/representative participated in goal development	**95%**	**97%**	**100%**	76%	29%	3
Transition Planning						
Member was identified for transfer to HCBS and was offered options, including transfer to the community	**97%**	**100%**	**100%**	**93%**	**86%**	**5**
Care manager participation in at least one facility interdisciplinary team (IDT) meeting during review period (may be substituted for one member visit)	12%	33%	**94%**	11%	75%	1

Categories and Measures	**Aetna**	**Amerigroup**	**Horizon**	**United**	**WellCare**	**MCOs meeting 85% standard**
Timely Onsite Review of Member Placement and Services: Onsite visits were timely, within at least 180 calendar days for non-pediatric SCNF/NF members; at least 90 calendar days for pediatric SCNF members. (Member's presence at these visits was required)	21%	48%	68%	19%	28%	0
Member was present at each onsite visit or had involvement from authorized representative regarding care plan (n/a if member was not able to participate in an onsite visit and did not have a representative)	**100%**	**99%**	**100%**	**100%**	**97%**	**5**
Reassessment of the POC and Critical Incident Reporting						
Member had a New Jersey Choice Assessment completed during the review period	**93%**	**91%**	**100%**	**89%**	74%	4
NJCA completed for members newly enrolled in managed care and newly eligible for MLTSS during the review period	**94%**	84%	**100%**	**93%**	**89%**	**4**
NJCA completed for members enrolled in MLTSS with the MCO prior to the review period	**92%**	**93%**	**100%**	**88%**	66%	4
Member and/or representative had training on how to report a critical incident, specifically including how to identify abuse, neglect and exploitation	**89%**	**96%**	82%	63%	81%	2
Number met by MCO	*11*	*12*	*13*	*6*	*6*	
Percent met by MCO	*65%*	*71%*	*76%*	*35%*	*35%*	
Average number of MCOs meeting 85% standard	*2.8*					

Results at or above the 85% standard are shown in **boldface type**.
Source: IPRO, Core Medicaid and MLTSS Quality Technical Report, 2020

Appendix Table A2.3: Classification of grievance codes

Category	Codes (frequency mentioned Q1 and Q3 of 2019)
Durable medical equipment, vision or hearing service (7 codes)	Denial of hearing aid services (0) Denial of DME/supplies (20) Denial of optical appliances (0) Denial of optometric services (0) Difficulty accessing DME/supplies (12) Dissatisfaction with DME/supplies (20) Dissatisfaction with vision services (8)
Acute service/provider (19 codes)	Denial of outpatient medical treatment/diagnostic testing (13) Denial of surgical procedure (2) Pharmacy (26) Service considered cosmetic (0) Service considered experimental (0) Appointment availability , other provider (2) Appointment availability, PCP (4) Appointment availability, specialist (2) Difficulty accessing healthcare professional after hours (via phone) (1) Difficulty accessing network specialist of member's choice (0) Difficulty obtaining emergency services (0) Dissatisfaction with quality of medical care, hospital (6) Dissatisfaction with quality of medical care, other provider (18) Dissatisfaction with quality of medical care, PCP (5) Dissatisfaction with quality of medical care, specialist (4) Lab issues (0) Pharmacy/formulary issues (16) Office wait time PCP (2) Office wait time specialist (4)
LTSS service/provider (22 codes)	Denial of Assisted Living (0) Denial of home delivered meal services (0) Denial of medical day care (14) Denial of TBI services (0) Denial of outpatient TBI habilitation (0) Denial of PCA services (87) Denial of PERS (personal emergency response system) (0) Denial of PDN (private duty nursing) (39) Denial of residential modification (0) Denial of respite (0) Denial of skilled NF (custodial) (0) Denial of SCNF custodial (0) Denial of vehicle modification (0) Other (MLTSS) (22) Difficulty accessing MLTSS provider (10) Difficulty accessing PCA services (16) Difficulty accessing PDN (2) Difficulty accessing self-directed PCA (4)

	Difficulty obtaining referral for covered MLTSS services (16) Dissatisfaction with PCA services (19) Dissatisfaction with PDN (1)
Dental service/provider (3 codes)	Denial of dental (134) Difficulty obtaining referral for covered services, dental services (2) Dissatisfaction with dental services (18)
Other service/provider (mental health, SUD, transportation, otherwise unclear if LTSS or acute) (20 codes)	Denial of acute inpatient rehabilitation (7) Denial of hospice care (0) Denial of in home periodic skilled services (4) Denial of in home rehabilitation (1) Denial of mental health services (1) Denial of non-medical transportation (0) Denial of outpatient rehabilitation (4) Denial of referral to out of network (1) Denial of skilled NF inpatient rehabilitation (39) Denial of sub-acute inpatient rehabilitation (5) Denial of SUD services (2) Other (non-MLTSS) (31) Difficulty accessing MH provider (0) Difficulty accessing non-MLTSS provider (4) Difficulty accessing other in-home health services (skilled/non) (3) Difficulty accessing SUD provider (0) Difficulty accessing transportation services (0) Difficulty obtaining referral to covered MH services (0) Difficulty obtaining referral for covered SUD services (0) Dissatisfaction with other in-home health services (skilled/non) (0) Dissatisfaction with transportation services (22)
MCO/administrative (8 codes)	Dissatisfaction with marketing, member services, member handbook (62) Dissatisfaction with NJFamilyCare Benefits (0) Dissatisfaction with policies regarding specialty referrals (0) Dissatisfaction with provider network (13) Dissatisfaction with provider office admin (50) Dissatisfaction with UM appeal process (11) Enrollment issues (13) Reimbursement problems/unpaid claims (50)

Source: DMAHS Quarterly reports to CMS

Appendix Table A2.4: Provider network coverage for Medicaid MCOs (all enrollees) for sample quarters in 2016, 2017, and 2018

	2016 2Q (5 MCOs reported, 2 statewide)						**2017 3Q (3 MCOs reported, 2 statewide)**						**2018 2Q (5 MCOs reported, 2 statewide)**					
			Number of counties with average MCO coverage across all MCOs of:						**Number of counties with average MCO coverage across all MCOs of:**						**Number of counties with average MCO coverage across all MCOs of:**			
Provider type (network standard)	**Range, MCO avg across all counties MCO serves**	**Range, county with lowest coverage, by MCO**	**>99 %**	**95-99 %**	**90-95 %**	**<90 %**	**Range, MCO avg across all counties MCO serves**	**Range, county with lowest coverage, by MCO**	**>99%**	**95-99 %**	**90-95 %**	**<90 %**	**Range, MCO avg across all counties MCO serves**	**Range, county with lowest coverage, by MCO**	**>99 %**	**95-99 %**	**90-95 %**	**<90 %**
PCP (2 in 6 miles)																		
Dentist	94-98%	80-92%	5	9	6	1	93-98%	54-88%	6	8	3	4	93-97%	73-91%	6	8	5	2
PCP	97-100%	79-98%	9	8	4	0	94-99%	54-95%	10	6	3	2	91-99%	0-97%	10	7	3	1
Pediatric PCPs	95-99%	76-97%	10	9	2	0	96-99%	65-96%	11	7	2	1	97-99%	75-96%	9	9	3	0
Specialist (1 in 45 miles)																		
Endo-crinologist	100-100%	100-100%	21	0	0	0	99-100%	81-100%	19	1	1	0	92-100%	0-100%	20	0	0	1
Oral surgeon	100-100%	100-100%	21	0	0	0	100-100%	100-100%	21	0	0	0	75-100%	0-100%	18	0	0	3
Hospitals (1 in 15 miles)																		
Hospital	91-100%	0.7-100%	9	7	1	4	91-97%	0.8%-61%	9	7	1	4	88-98%	0-64%	9	5	1	6

Source: GeoAccess reports from Waiver annual reports

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Chapter 3: Impact of Waiver Reforms to Streamline Medicaid Eligibility Processes

Introduction

In this chapter, we examine the reforms under the NJ FamilyCare Comprehensive Demonstration intended to streamline eligibility processes for new applicants and existing beneficiaries in need of long-term care services. These reforms began under the first §1115 Comprehensive Waiver Demonstration and continued during the renewal period. The following evaluation hypotheses and research questions in the approved evaluation design (CMS 2019) are addressed:

Research Question 3: **"What is the impact of the hypothetical 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?"**

Hypothesis 3: **"Utilizing Qualified Income Trusts will allow more individuals to qualify for Medicaid and will increase the number of Medicaid long-term care recipients in community settings."**

Research Question 4: **"What is the impact of using self-attestation on the transfer of assets look-back period of long term care and home and community based services for individuals who are at or below 100 percent of the FPL? Was there a change in the number of individuals or in the mix of individuals qualifying for Medicaid due to this provision?"**

Hypothesis 4: **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.**

To evaluate these reforms we draw on statistics from administrative records provided to us by State officials or available in public reports and presentations, and/or direct communications with State officials.

Background

Qualified Income Trusts

The adoption of Qualified Income Trusts (QITs) in December 2014 fulfills the spend-down provision for individuals having a nursing facility level-of-care which was originally proposed in the Waiver. QITs allow clinically eligible individuals to have their income above 300% of the Supplemental Security Income rate ($2,382 as of January 2021) be disregarded for eligibility purposes. Income above the threshold must be deposited into a QIT bank account each month in order to be disregarded. As per 42 CFR, 435.725 and 435.726, all individuals receiving LTSS must contribute to their monthly cost of care. The monthly amount is determined by adding all sources of income minus allowable expenses such as personal needs allowances, community spouse maintenance and dependent allowances, room and board, and state approved uncovered medical expenses for HCBS settings. The monthly cost of care may be paid out of the QIT account. Prior to the Waiver, spend-down for higher income applicants was only available for nursing facility residents (a medically needy designation), which may have led people with income higher than the eligibility threshold to choose nursing facilities at a higher cost to the state. QITs created a new eligibility pathway for long-term care services in home and community settings for such individuals. The introduction of the QIT mechanism required discontinuing new enrollment in the Medically Needy program. The discontinuation of the Medically Needy program could have posed a disadvantage to existing enrollees residing in nursing facilities since the resource limits for eligibility are lowered to the community levels ($2,000 for an individual or $3,000 for a couple). However, the State grandfathered all individuals enrolled in the Medically Needy program prior to December 2014 so they could maintain their Medicaid eligibility under the old resource limits ($4,000 for an individual or $6,000 for a couple).

Transfer of Assets Self-Attestation

Medicaid eligibility for long-term care services requires that applicants have not transferred any assets or resources for less than fair market value during the five years preceding their date of application. Applicants are required to furnish all of their bank statements and any other relevant financial documentation proving compliance with this requirement before eligibility can be granted. If any transfer of assets did occur, then a penalty period is imposed delaying eligibility for long-term care services. This process requires time and effort for both applicants, to procure all the necessary documentation, and for eligibility workers, who have to review the documentation and assess the ramifications for the application.

Under the Waiver, individuals with income at or below 100% of the Federal Poverty Level (FPL) applying for institutional or home and community-based services are permitted to self-attest that they have made no disqualifying asset transfers during the past five years. This attestation is a sworn statement documented on an addendum to the Medicaid application used by County Welfare Agencies for new entrants, or collected during the financial eligibility determination conducted by Managed Care Organizations for existing beneficiaries moving into Managed Long-term Services and Supports (MLTSS) after July 1, 2014. This form, which was approved for use in December 2012, eliminates the need for the time intensive five-year lookback process, and was intended to expedite eligibility approvals for very low-income applicants (Harr 2012, Harr 2013, Harr 2016).

Methods

Data Sources

In this chapter, we use statistics collected by the State for public- and CMS-reporting purposes as well as data collected by the Bureau of Quality Control specifically for evaluation of the self-attestation policy. We also use Medicaid fee-for-service (FFS) claims and managed care encounter data for January 1, 2011 through December 31, 2019.

Measures

QIT. Using data from the Department of Human Services' response to the Office of Legislative Services on the budget (fiscal year 2015-2016 and 2016-2017), we present here the reported approval rates of QITs in the program's initial years. We discuss preliminary data on the number of QITs approved overall, by program, by setting of care, and by county. Finally, we present trends in settings of care (Community v Nursing Facility) for long-term care beneficiaries calculated from Medicaid claims data.

Self-attestation

Numbers. Drawing from quarterly reports from DMAHS to CMS, we examine counts of self-attestation forms received by the State. We also report the error rate of audited self-attestations resulting from the BQC's review process as reported to us by the State through 2016. The pandemic has made it difficult for county staff to access the historical documentation necessary to fulfill our data requests for subsequent years, but we anticipate that these difficulties should be mitigated in time to have the data for the final evaluation report due in 2023.

Quality control review. In July through September 2015, the BQC piloted a review protocol to measure the accuracy and effectiveness of the transfer of assets self-attestation procedure. Completed self-attestations provided to BQC each quarter from the Office of Eligibility were sampled for detailed review. First a random sample of 30 forms from each batch was selected, and then 8 of the 30 were randomly selected. The applicants on these 8 forms were then contacted and underwent an audit process. In this process, a representative sample of financial documents (i.e. information on bank accounts, properties, investments, and any other resource or asset) was requested for up to five years prior to the time of application in order to determine whether any assets had been transferred for less than fair market value. Any finding on the sample of 8 would trigger a review of all 30 of the sampled cases. The error rate was calculated as the percentage of all reviewed cases having a positive finding, meaning a transfer penalty would have been imposed under a pre-waiver financial eligibility determination.

The BQC was unable to provide the average time from application to approval in each quarter for all cases reviewed in the audit process due to concerns about the accuracy of the measure. This information routes through county welfare agencies (CWAs) and MCOs, depending on the application pathway, which poses difficulty for collecting the information in a standardized way. Moreover, delays by applicants in providing other documentation requested by the CWA, as well as delays in determination of clinical eligibility, could all prolong the time from application to approval.

Results

Qualified Income Trusts

During fiscal year 2015,[67] 544 QIT applications were approved out of the 1,800 received (30%). Projections made by the State for fiscal years 2016 and 2017 show similar rates of approval (36% and 33%, respectively; DHS 2016, p.23). It does not appear that data on applications and approvals are available for subsequent periods.

The state's vendor pulled data for our request on the number of QITs by year, living arrangement, and county. These numbers are lower than data communicated to stakeholders in 2015. It may be that only individuals currently enrolled in MLTSS were included in the data we received, which could explain why counts were lower. Since we are unsure if these data present the full picture of QIT usage, we are not presenting the counts in this interim report. Our general observations are that the proportions in different settings seem consistent with what we reported in the final report for the initial Waiver period (Chakravarty et al. 2017), with about 76% of QIT users in nursing homes, 17% in Assisted Living, and 7% in other community settings. So, we utilize the proportions in our discussions.

Since 2015, there have been at least 8,600 individuals qualifying for Medicaid with a QIT. About 75% are in nursing homes, but at least 2,000 individuals have been able to qualify for LTSS in

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[67] July 1, 2014 through June 30, 2015 (QIT applications were accepted beginning December 1, 2014).

community settings (about 1,500 in Assisted Living and about 600 in other community settings), who would otherwise have had to seek nursing home care to get Medicaid LTSS. If the counts we have represent people still enrolled who qualified through a QIT (i.e., not including those who have passed away or are no longer enrolled for another reason), that would mean that in early 2021 roughly 35% of nursing home residents on MLTSS were eligible due to a QIT (and would have been eligible under a previous designation of medically needy), versus about 55% of Assisted Living residents and about 2% of residents in other community settings, who would not otherwise have been eligible (unless they went into a nursing home under the medically needy designation).[68]

Table 3.1 shows each county's share of QITs from inception through early 2021, their share of the MLTSS population in about the middle of this period, and a ratio of the two shares to show how similar they are. A ratio closest to 1 is most similar, a ratio higher than 1 means that the county's share of QITs is higher than its share of the MLTSS population, while a ratio lower than 1 means that the county's share of QITs is lower than its share of the MLTSS population. Clearly each county is using QITs—whether they are using them more or less than would be expected is a difficult question to answer without knowing a lot of details about the underlying population. We have looked at census data to get a general sense of this, but we cannot get the level of detail needed there to calculate a precise expected measure for QITs. To approximate an expected measure, we have looked at the share of older adults by poverty status for each county. Table 3.1 shows the ratio of each county's share of the population 65 and over who are above 150% of poverty relative to its share of the overall population over 65. Counties with a higher share of non-poor adults should have a higher share of QITs, all other things equal. That is what we see here overall. Those counties with a disproportionate (i.e., larger than 1) share of QITs have a higher average ratio of non-poor older adults to all older adults (1.04) compared with counties with a lower (i.e., less than 1) share of QITs, where the average ratio of the share of non-poor older adults to all older adults is 0.95. Still, there are differences in some counties that are larger than would be expected. Differences could be driven by basic eligibility differences (including a more nuanced measure of income than we use above and residency status) or take-up issues among the Medicaid population generally, as well as better knowledge among or better outreach to populations eligible for the QIT.

It may be that counties with a much larger share of QITs (including Somerset, Ocean, Salem, Hunterdon, and Atlantic, with shares of QITs that are 2 or more times their share of the MLTSS

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[68] These percentages are calculated by taking the counts we were given for each setting for 2015 through March of 2021 (6,519 in NF, 1,497 in AL, and 618 in other community settings), and dividing them by the February 2021 totals for MLTSS recipients in each setting on the NJ FamilyCare Dashboard (18,372 NF, 2744 AL and 34,421 other HCBS).

populations) have, in addition to a generally higher number of non-poor older adults, more awareness of QITs among their relevant populations or among organizations that serve these populations. It also could be that their share of the underlying MLTSS or Medicaid populations are less than expected for some reason (including basic eligibility for Medicaid as well as take-up issues). Of those with a much smaller share of QITs than their overall share of the MLTSS population (Hudson, Passaic, Essex and Union all have QIT shares that are less than 75% of their share of the MLTSS population), all have a much higher than average number of foreign-born individuals among their 65 and over population, which could mean fewer eligible Medicaid beneficiaries. Also, all but Union have higher than average poverty rates, which could mean that enrollees do not need a QIT to qualify.

Overall, then, we see nothing highly unusual in the distribution of QITs by county.

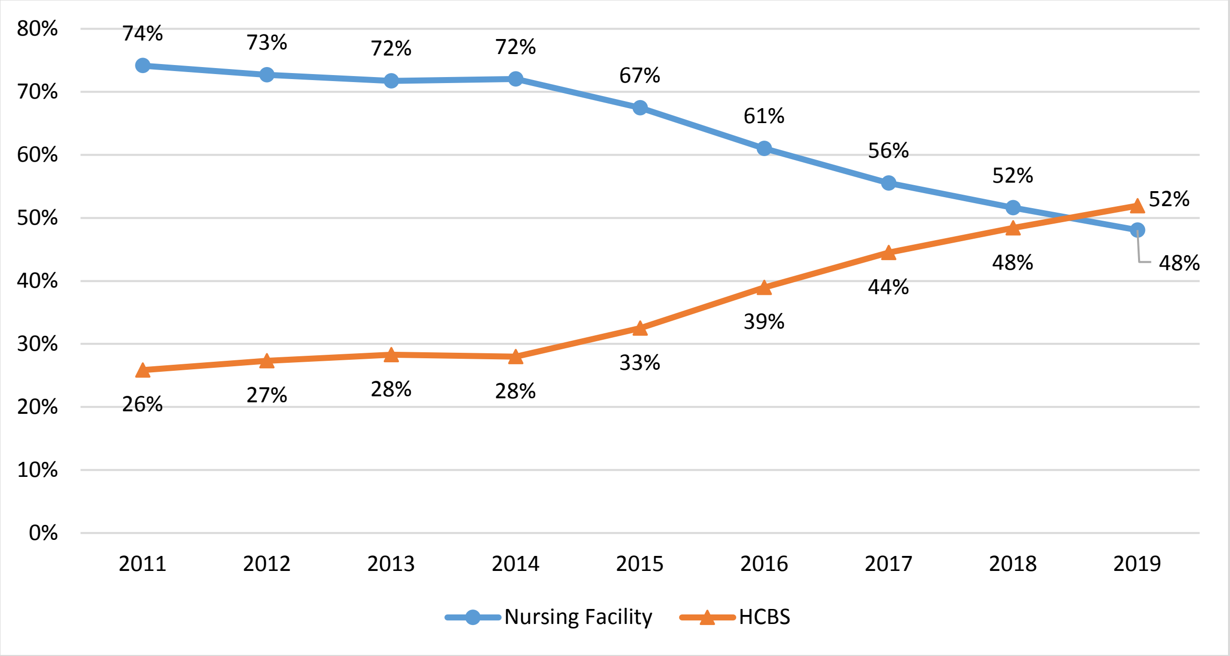
Table 3.1: Shares of QITs, MLTSS population, and percent below poverty and age 65+, by county

County	Share of QITs, 2015-2020	Share of MLTSS population Jan 2018	Ratio: QIT share to MLTSS share	Ratio: share of 65+ and above 150% poverty to share 65+
Atlantic	2.5%	1.3%	2.0	0.98
Bergen	8.8%	11.3%	0.8	1.02
Burlington	5.7%	3.7%	1.6	1.07
Camden	6.7%	7.6%	0.9	0.98
Cape May	2.2%	1.3%	1.7	1.02
Cumberland	2.0%	2.6%	0.8	0.94
Essex	5.2%	8.4%	0.6	0.92
Gloucester	4.0%	3.1%	1.3	1.04
Hudson	2.2%	14.7%	0.2	0.84
Hunterdon	1.2%	0.6%	2.2	1.09
Mercer	4.9%	3.9%	1.2	1.01
Middlesex	7.4%	8.6%	0.9	1.01
Monmouth	9.4%	4.9%	1.9	1.04
Morris	5.8%	3.1%	1.9	1.06
Ocean	12.3%	4.5%	2.7	1.02
Passaic	4.2%	10.0%	0.4	0.94
Salem	2.0%	0.8%	2.5	0.99
Somerset	5.0%	1.8%	2.8	1.07
Sussex	1.2%	0.7%	1.8	1.07
Union	4.2%	6.4%	0.7	0.99
Warren	1.7%	1.0%	1.8	1.04
New Jersey	*100%*	*100%*		

Sources: Share of QITs provided by DMAHS staff from contractor data (2015-early 2021), share of MLTSS population from NJ FamilyCare Dashboard, poverty and population 65 and over from US Census Bureau, American Community Survey 5 year estimates, 2015-2019, Table S0103. Other columns calculated by authors based on data in the table.

The qualified income trust policy was designed to allow more people in community settings to receive Medicaid long-term care services, hopefully avoiding more expensive nursing home care. The number and share of recipients in community settings has grown since the inception of MLTSS and QITs. Figure 3.1 shows the percentage of long-term care (LTC) designated[69] recipients receiving services in nursing facilities or in their homes and communities (which includes assisted living) from 2011-2019 calculated from Medicaid FFS claims and managed care encounter data. The proportion of all LTC recipients in community settings increased steadily after the initial Waiver was approved in late 2012. Our analysis shows the percent of beneficiaries in HCBS settings exceeding those in nursing home settings in 2019, when 52% of enrollees were in HCBS settings and 48% were in nursing homes. This is based on assigning individuals enrolled at any time during the year to the setting in which they spent the most time. The point-in-time estimate given by the NJ FamilyCare Dashboard (where enrollees are in a given month) shows that transition happening in 2018.

Figure 3.1: New Jersey long-term care population by setting of care, 2011-2019



Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy
Note: HCBS=Home and Community-Based Services

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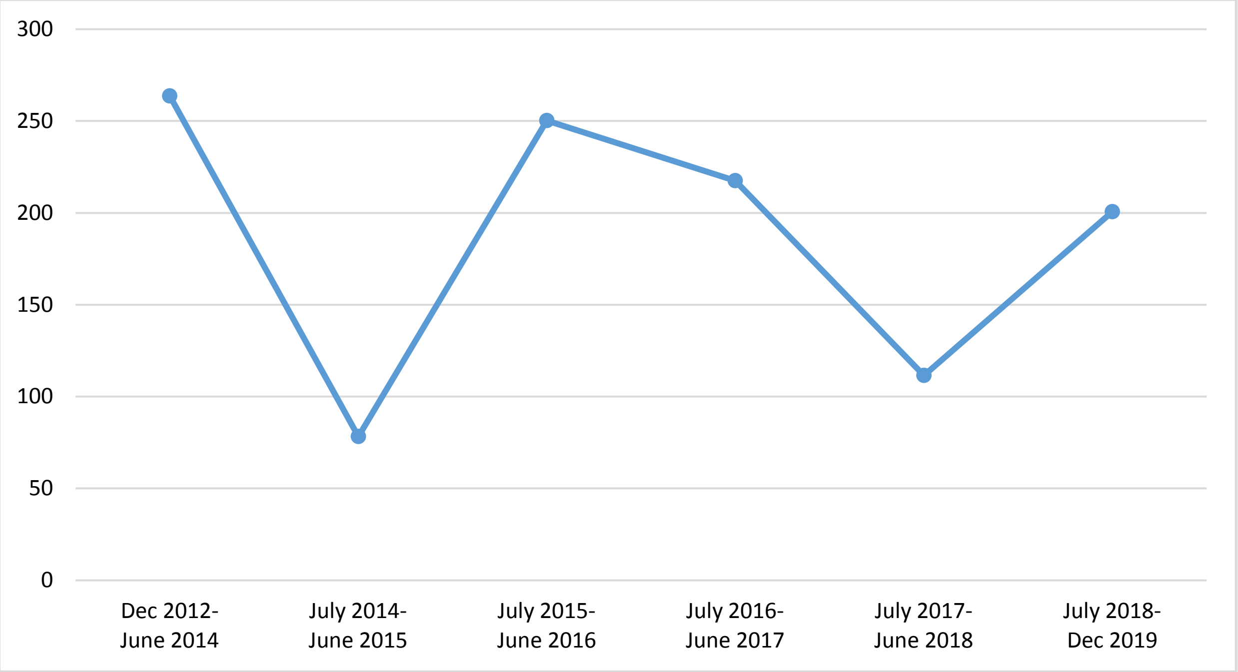
[69] See Chapter 4 for definition of the long-term care assignment algorithm used in analysis of Medicaid claims data.

Transfer of Assets Self-attestation

DMAHS reports on a quarterly and/or annual basis to CMS the number of self-attestations received. From December 2012 through September 2019 the quarterly average ranged from 54 to 499, with an average of about 180 per quarter and a total of more than 5,500. We did not discern any linear trend in the number of self-attestations over time. Figure 3.2 shows the average quarterly number of forms received over time for a number of periods. Both to reduce the complexity of the chart and because we did not always have data for each quarter, we have combined into annual or larger periods.

Figure 3.2: Average quarterly number of self-attestation forms received from Medicaid long-term care applicants, 12-19 month periods, December 2012 to September 2019



Source: DMAHS, Quarterly and annual reports to CMS.

Table 3.2 shows results of BQC's self-attestation review process from October 2015 through December 2016. No errors were found in the audits. The pandemic made it difficult for staff to access the historical documentation necessary to fulfill our requests for information on later time periods. We anticipate that these difficulties should be mitigated in time to have the data for the final evaluation report in 2023.

Table 3.2: Error rate from quality control review of self-attestation forms

Quarter	Self-attestations received	Number reviewed	Error rate
Oct-Dec 2015	67	8	0%
Jan-March 2016	183	8	0%
April-June 2016	499	8	0%
July-Sept 2016	232	8	0%
Oct-Dec 2016	232	8	0%
Jan-March 2017	239	*	*

Source: DMAHS, Communication from Bureau of Quality Control shared in October 2016 and March 2017
*data being collected, but unavailable for this report

Discussion

This chapter presents findings to date on the administrative simplifications approved under the Waiver and designed to ease the application and approval process for existing beneficiaries and new applicants in need of an institutional level of care. These new processes very likely have expanded and streamlined the eligibility process for a number of Medicaid applicants.

As of March 2021, the availability of QITs has allowed at least 2,000 applicants (about 1,500 in Assisted Living and about 600 in other community settings), to qualify for Medicaid home and community-based services who would have otherwise been ineligible at their current income level unless they sought nursing home care. With regard to self-attestation for transfer of assets, a 0% error rate on audited cases is promising evidence that the often burdensome five year lookback process can be safely eliminated for many low-income applicants.

Numbers presented to the New Jersey legislature indicated that about one-third of Medicaid applications with QITs were approved in fiscal years 2015-2017. There are many different reasons why Medicaid applications are not approved. In some cases applicants pass away before completing the application process. Some applications are denied because they remain incomplete even after the CWA has requested the missing information from the applicant. These requests could be for documentation of an individual's resources for the last five years, information on other trusts held by the applicant, or proof of citizenship or identity. Applications could also be denied if the applicant's income is over the average price of paying privately for long-term care in NJ. Some proportion of received applications will also be in a pending status, for instance, if there is an issue with the trust and the trustee is working through the issue with the CWA. Finally, some applications could be withdrawn. We do not know the reasons for this, but in the first few months when QITs were available, 19 of the 460 received applications were withdrawn (DHS 2015, p.42).

An examination of QITs by county shows that all counties are using them. It is difficult to make a precise prediction of expected usage to compare with actual usage. However, examination of census data regarding population levels of poverty and foreign birth among older adults provides some plausible explanations for differences, though it could be that there is more awareness of QITs in some areas, or other factors affecting the take-up of the underlying Medicaid population.

At least 5,500 Medicaid recipients have used the streamlined self-attestation progress since 2012, with an average of 180 per quarter. Eight randomly sampled applications for each quarter between October 2015 and December 2016 underwent a detailed audit process by BQC staff to determine the accuracy of the self-attestation. They reviewed financial documents to determine whether any assets were transferred for less than fair market value during the five years prior to application. **There was a zero error rate on these audited samples.**

Whether these new processes are being used uniformly and equitably is not clear. With regard to QITs, stakeholders have expressed concerns about access to legal assistance for consumers with limited financial or social resources at a disadvantage for drawing up the trust documents and designating a representative to administer the trust over time, or administrative errors rendering people ineligible. The State has informed the CWAs to reach out if they encounter any issues, but has heard of very few, and all that they know of have been resolved. With regard to self-attestation, the BQC noted that, although all CWAs have been provided with the self-attestation form, the counties drawn in the early samples were not representative of the distribution of the Medicaid population in the state, suggesting that some counties may not have been regularly using the form. This could mean that some applicants who should get the benefit of self-attestation may not be getting that benefit, depending on county-specific practices. In audits for subsequent recent quarters, the BQC reports that the sample is more diverse, but there are other reasons why not all counties are adequately represented. It could be because not all counties are sending their self-attestation forms in to BQC, or the number received in a less populated county is so small that only one or two forms show up in their samples. The small sample of reviewed cases and uncertainty around its uniform use also mean the error rate may not be representative of the statewide error rate.

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. **While self-attestation may potentially increase the number of eligible beneficiaries and save time and money for both applicants and government departments by streamlining**

the process, establishment of QITs may potentially increase the share of beneficiaries in the community. This motivates our examination of the percentage of long-term care beneficiaries receiving HCBS. **The percentage of LTC recipients using HCBS now exceeds the percentage in nursing homes, and although we cannot directly attribute all of this shift to these administrative changes implemented under the Waiver, it is reasonable to conclude that they have created an easier pathway into home and community-based long-term care services.**

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Chapter 4: Analysis of Medicaid Claims Data to Examine Access to Care, Quality, and Cost of Care in MLTSS

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) for NJ Medicaid beneficiaries, which began under the first §1115 Comprehensive Demonstration and continued during the renewal period. We examine measures of access to care, quality of care, and cost of health care calculated from Medicaid fee-for-service (FFS) claims and managed care encounter data over 2011-2019. The effects of this policy change are identified by examining changes in selected quality metrics from the pre- to the post-implementation period of the MLTSS program, and further differentiating those changes between the base (Waiver 1) and renewal (Waiver 2) demonstration periods.

The specific evaluation hypothesis and research question enumerated in the approved evaluation design (CMS 2019) relating to the MLTSS managed care expansion guide our selection, analysis, and presentation of claims-based metrics in this chapter:

Research Question 2: **"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: **"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."**

To answer and address this research question, we 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.[70] Additionally, we look at some of these metrics for the subpopulation

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[70] Our definition of the LTC in this chapter does not include PACE enrollees or individuals with developmental disabilities residing in developmental centers or receiving services under DDD waiver programs. Adults receiving services under DDD waiver programs are evaluated in a separate chapter.

of LTC beneficiaries having a behavioral health (BH) diagnosis. This approach examines 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. These analyses supplement the findings presented from secondary data sources in Chapter 2 and provide the evidence needed for answering Research Question 2 above.[71]

In this chapter we present tables with annual estimates of enrollment and spending for the LTC population. Then we present multivariate regression analyses that use statistical techniques such as Difference-in-Differences Modeling and propensity score matching (see Methods section for details) to account for individual characteristics and time effects while identifying the impacts of the managed care expansion under the Demonstration.

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, 2020. 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 a minimum of 6 months from the date of service.

Measures

The measures in this chapter are calculated for 2011-2019 and are intended to assess access to care, and the quality, efficiency, and coordination of care for NJ FamilyCare beneficiaries affected by the MLTSS policy. The research question guided our selection of measures which were subsequently reviewed by CMS. Several types of outcomes are examined: overall hospital use and avoidable hospital use reflecting inadequate quality of ambulatory care; rates of follow-up care in the post-acute phase that may reveal the extent of care coordination or care transition; hospital readmissions that may reflect inadequate inpatient and outpatient care as well as gaps in care coordination and care transitions; utilization of preventive care services; and quality measures assessing chronic disease management. We also tabulate spending relating to avoidable hospital use and the distribution of spending for the long-term care population living in facilities versus residing in the community. Table A lists the measures calculated using the Medicaid FFS claims and managed care encounter data. Appendix A contains additional details on the sources and preparation of each of these measures.

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[71] In addition to this report, findings from our stakeholder interviews shed light on member satisfaction and potential provider and payer issues that may not be captured in claims-based metrics and also address Research Question 2.

Measures 1-4 are population-based and calculated for all beneficiaries over each enrolled quarter. Measures 5-7 are based on index events that arise in a hospital setting and the resulting estimate is a percentage of all index events in the year meeting the outcome criteria. Measures 8-10 are recipient-level annual measures and the resulting estimate is a percentage of all recipients meeting the outcome criteria. Measures 11-12 are also population-based and spending estimates are enrollment and inflation-adjusted dollars per recipient. Due to look-back periods required for determining health history, measures 5, 6, 9 and 10 are not calculated for 2011. All other measures span the entire period 2011-2019.

Table 4A: Inventory of Measures

	Measure	Type	Period
	Utilization		
1	Inpatient utilization	Population-based	2011-2019
2	Emergency Department (ED) Treat-and-Release Visits	Population-based	2011-2019
3	Avoidable hospitalizations	Population-based	2011-2019
4	Avoidable emergency department (ED) visits	Population-based	2011-2019
5	30-day hospital-wide readmissions	Index event-based	2012-2019
6	30-day readmission following pneumonia hospitalization	Index event-based	2012-2019
7	Follow-up (7 days and 30 days) after hospitalization for mental illness	Index event-based	2011-2019
8	Annual dental visit	Population-based	2011-2019
9	Hemoglobin A1C Testing	Population-based	2012-2019
10	Diabetic eye exam	Population-based	2012-2019
	Spending		
11	Spending related to avoidable hospitalizations and ED visits	Population-based	2011-2019
12	Long-term care spending in community and nursing facilities	Population-based	2011-2019

Note: See Appendix A for further detail on these measures.

Population Definitions

The above measures are calculated for several relevant populations of beneficiaries identified in our Medicaid claims database as follows:

NJ FamilyCare 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. Assignment to eligibility categories was based on the protocol used for Medicaid's monthly public reporting. Assignment to eligibility categories (e.g., Aged/Blind/Disabled) was based on the protocol used for Medicaid's monthly public reporting. We use the first program status code in the year along with age and any concurrent special program codes to make this assignment.

MLTSS-Eligible Long-Term Care Populations: The Demonstration combined four 1915(c) waivers serving people in the community with care needs at an institutional level into MLTSS. In addition to bringing these populations under the MLTSS umbrella, the Demonstration 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 their level of care or experience certain transitions in their setting of care). We used nursing facility claims and active special program codes to designate on a monthly basis whether individuals were enrolled in MLTSS and living in the community (including assisted living), in a nursing facility, or in a nursing facility under FFS. A quarterly and an annual designation were derived from this monthly indicator and used in annual descriptive statistics and regression modeling. The algorithms used for these assignments are detailed in Appendix D.

Behavioral Health Conditions: In order to assess coordination of behavioral and physical health services occurring as part of the managed care expansion under the Demonstration, we defined the cohort of beneficiaries in each year with a BH condition. Behavioral health comprises two mutually exclusive categories: problems related to mental health (MH) and substance use disorders/substance abuse (SA). Using the Healthcare Cost and Utilization Project (HCUP) Clinical Classification Software (CCS) (HCUP 2015) for ICD-9 and the Clinical Classification Software Revised (CCSR) (HCUP 2020) for ICD-10, we scanned all claims for a diagnosis of mental health condition or substance use disorder. Mental health conditions include mood disorders, schizophrenia, anxiety disorder, delirium, and dementia; substance abuse includes alcohol and substance-related disorders (see 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, an inclusion criteria imposed on all metrics (except for LTSS spending) was 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.

Spending

Data on spending come from the payment fields in the Medicaid claims data. We only tabulated spending by Medicaid FFS and Medicaid Managed Care Organization (MCOs) 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. Spending for hospital use only reflects facility charges and does not include any physician or lab charges associated with hospitalization or outpatient visits. All spending was inflation adjusted and expressed in pre-Demonstration year 2012 purchasing power using the Consumer Price Index for medical care (BLS 2020).

LTSS spending was collected from both FFS and managed care encounter claims for beneficiaries included in the LTC population (as defined above) for the time of their LTC assignment. Facility payments were counted from NF FFS claims and NF encounter claims with a specific custodial revenue code. Spending for community-based LTSS were counted on claims having LTSS service codes as described in the MLTSS Service Dictionary (DMAHS, n.d.) and enumerated in the spreadsheet of uniform billing codes on the DMAHS website among its MLTSS Resources for Consumers, Providers, and Stakeholders (DMAHS 2017).[72]

Reporting Criteria

Estimates are suppressed if they are not based on sufficient sample sizes. For all measures, estimates are not shown if the numerator is between 1 and 10 or the denominator is less than 30.

Analytic Approach

First, we present annual estimates to examine the rebalancing of Medicaid long-term care eligible recipients from the nursing facility to the community over 2011-2019. We also examine per capita spending for LTSS and the share of LTSS spending for nursing facility residents versus community based long term care individuals receiving home and community-based services.

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. Differences in outcomes between population groups may arise as well as due to differences in the prevalence of risk factors. Also, it is important to note that measure specifications change over time and can

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[72] 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.

sometimes cause trending breaks which would not be accounted for in descriptive estimates. The use of a comparison population as described below prevents these changes from impacting the estimated policy effect.

Next, we report findings from multivariate regression analyses conducted to isolate and identify the effect of the managed care expansion policy on the stated outcomes. We primarily utilize difference-in-differences (DD) estimation (Chakravarty et al. 2015; Ashenfelter and Card 1985) to determine any statistically significant effect of the MLTSS policy on outcomes for the adult HCBS population.[73] DD modeling identifies the impact of the policy change by comparing the trend in outcomes for the program eligible/targeted (intervention) population from the pre- to the post-implementation period to that of a comparison group which is otherwise similar, but not subject to the policy effect. 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 does not change over time

Equation (1) illustrates the general DD specification.

$$Y_{it} = \beta_0 + \beta_1(HCBS)_i + \beta_2(post\ MLTSS_t) + \beta_3(HCBS_i * post\ MLTSS_t) + \beta_4 Z_t + \gamma X_{\ it} + \varepsilon_{it} \tag{1}$$

In the above equation, variable Y_{it} represents the utilization or cost-based outcomes enumerated in Table A for the patient i receiving community LTSS services 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) and living in the community receiving HCBS services. β_3 represents the DD estimate measuring the program impact. Z_t represents a vector of indicator variables for specific periods during the demonstration when other policies were in effect (e.g. Medicaid expansion). X_{it} is a vector of other control variables relating to the patient, and $\varepsilon_{it,}$ represents the random error term. We include hospital fixed effects depending on the measure specification. In models where spending is the outcome, we use a gamma distribution with log link.

Since the MLTSS policy started during the initial demonstration and was extended in the renewal demonstration period, we also assess potential impacts accounting for these distinct periods. These periods include the baseline period for the first evaluation: January 1, 2011-September 30,

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[73] Due to small sample sizes for children in MLTSS and the rarity of outcomes like avoidable hospitalizations, results from regression models would not be meaningful. Accordingly, we did not conduct regression modeling on this population.

2012; the first demonstration period preceding MLTSS: Oct 1, 2012–June 30, 2014; the MLTSS implementation period during the first demonstration: July 1, 2014 – July 30, 2017; and the second demonstration period starting August 1, 2017 through the end of the data available for this interim analysis, December 31, 2019.[74] The statistical model accounts for these distinct periods by incorporating indicator variables for specific years or rounds of demonstration. This model specification enables estimation of changes in outcomes during the first demonstration period from policy changes, and additional changes in outcomes during the second demonstration period from continuation of those policy changes. For this, we utilize the model described in equation (2)

$$\begin{aligned} Y_{it} = \beta_0 + \beta_1(HCBS)_i + \beta_2(post\ MLTSS_{1t}) \\ + \beta_3(HCBS_i * post\ MLTSS_{1t}) + \beta_4(post\ MLTSS_{2t}) \\ + \beta_5(HCBS_i * post\ MLTSS_{2t}) + \beta_6 Z_t + \gamma X_{\ it} + \varepsilon_{it} \end{aligned} \tag{2}$$

In the above equation, $MLTSS_1$ refers to the July 1, 2014 – July 30, 2017 period. $MLTSS_2$ refers to the August 1, 2017 – December 31, 2019 period, and Z_t represents a vector of indicator variables for the other relevant periods. β_3 and β_5 represent the DD estimates measuring the program impact (relative to the baseline period) in the first and second demonstration periods, respectively.

The community –based population receiving HCBS services comprised the intervention group in our models. We only considered individuals part of the HCBS population if they were in that status for all their enrolled time during the period over which the outcome was assessed, for example for person-quarter outcomes, the beneficiary had to be considered HCBS for each of the three months in that quarter (see Appendix D). Beneficiaries were removed from the HCBS group if they were ever in a nursing facility during the study period. We define a comparison group comprised of individuals who are not LTC-eligible and are categorically eligible for Medicaid (i.e. Aged, Blind, or Disabled). Individuals were removed from the comparison group if they ever received HCBS services or resided in a nursing facility during the study period. We then used propensity score analysis for selecting Medicaid beneficiaries from the comparison group who match to the intervention group. Such a method takes into account patient characteristics determining evaluation outcomes that may also determine the likelihood of receiving HCBS. An initial probit regression models the likelihood of receiving HCBS in the sample of community-based Medicaid beneficiaries (that include our intervention group and the ABD group of beneficiaries) as a function of characteristics that determine the likelihood of receiving HCBS:

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[74] Index-event metrics allowed for precise segmentation into these periods. For outcome metrics which were person-quarter or person-year, these periods were approximated as closely as possible.

age, sex, behavioral health, dual eligible status, chronic disability payment score (CDPS), and number of chronic conditions. The weights from this model are used to weigh observations in the comparison group in regression models. Incorporating such propensity score reweighting (Nichols 2007; 2008) generates an optimal comparison group for the difference-in-differences analysis that is similar to the intervention group. For all propensity matching, we followed standard methodology utilizing a common support that entailed dropping treatment observations whose estimated propensity score is higher than the maximum or lower than the minimum propensity score of the control observations.

The unit of analysis for each outcome measure determined additional inclusion/exclusion criteria for regression modeling as well as the approach for propensity matching. Population-based measures 1-4 and 11 used a person-quarter unit of analysis since beneficiaries are observed over all enrolled quarters during the study period and we can measure whether these outcomes (i.e. an inpatient hospitalization or ED visit) occurred or did not occur over that unit of time. Measures 8-10 are annual measures, indicating the presence of a specific type of utilization for each eligible beneficiary ever in the year and thus have a person-year unit of analysis. Finally, measures 5-7 have a hospitalization as the unit of analysis since they examine whether a beneficiary had a specific type of utilization after each qualifying occurrence of this index event.

For person-quarter and person-year outcomes, our primary specification utilized a balanced panel allowing a stable cohort over the study period, meaning the intervention group consisted only of those beneficiaries continuously enrolled in Medicaid and receiving HCBS over the entire study period. This ensures that unobserved factors which might make enrollees receiving HCBS post-MLTSS different from those who transitioned to MLTSS from prior waivers do not underlie estimated differences in outcomes. With the cohort approach, intervention and comparison group beneficiaries are matched in the earliest time unit present in the data (i.e. first quarter of 2011 for person-quarter outcomes and year 2011 for person-year outcomes) and all subsequent observations in the study period included in the difference-in-differences analysis are for the same matched treatment and comparison beneficiaries. For index event measures, we match based on person characteristics at the time of index hospitalizations. Since persons only come up in the sample (one or more times) if and when they have an index hospitalization, we conducted a separate propensity score matching for each index hospitalization for the intervention group within each of the study period years and then pool the observations for the overall regression. This yearly matching was also used for person-year outcomes which were only assessed for those meeting diagnostic criteria, which is an annual designation (e.g. having diabetes). We refer to this specification as the “Matched Full Cohort Model”.

We also included other more flexible DD specifications which do not rely on a continuously enrolled cohort of HCBS recipients and comparison non-LTC ABD beneficiaries over the entire study period. These are used when there is insufficient sample to conduct the propensity matched continuous cohort specification described above. In the first alternative model, beneficiaries in the intervention and control groups still had to be enrolled in Medicaid at least 10 months of the year and could never have been in a nursing facility, but did not have to meet the intervention and comparison group criteria continuously for every year of the study period. For person-quarter and person-year outcomes we did impose a minimum of 8 quarters or 2 years of enrollment in the pre and post-MLTSS periods to ensure our sample was still comprised of beneficiaries receiving HCBS before and after the MLTSS transition. This helps minimize confounding by unobserved factors making enrollees post-MLTSS different from those who transitioned from prior waivers as described above. Propensity matching was not used. This specification includes a much larger population of individuals in the estimation, allowing each to contribute units of person-time or index events to the policy effect estimate based on periods during which they met the other required criteria. We refer to this specification as the "Unmatched Limited Cohort Model".

If these criteria were still too strict to provide sufficient sample, our second alternative model dispensed with identifying a cohort. This technique was used for some index-event metrics with inherently smaller sample (e.g., which require the occurrence of qualifying utilization events). This alternative model increases the sample by allowing inclusion of observations from individuals who may only be enrolled in the post-MLTSS period. It also does not prevent individuals from being part of the control group at one point in the study period and part of the intervention group at another point. We also do not impose minimum enrollment criteria or require that intervention or comparison group members never have a NF stay during the study period; however, in this specification we do conduct propensity matching within each of the study period years and include enrollment days and a binary indicator for whether the beneficiary ever had a NF stay as additional matching characteristics. We refer to this specification as the "Matched Cross-section Model".

Table B shows the model specification used for each outcome.

Table B: Model Specification for Measures

	Measure	**Matched Full Cohort**	**Unmatched Limited Cohort**	**Matched Cross-Section**
1	Inpatient Utilization	X		
2	Emergency Department (ED) Treat-and-Release Visits	X		
3	Avoidable hospitalizations	X		

4	Avoidable emergency department (ED) visits	X		
5	30-day hospital-wide readmissions	X		
6	30-day readmission following pneumonia hospitalization		X	
7	Follow-up (7 days and 30 days) after hospitalization for mental illness			X
8	Annual dental visit	X		
9	Hemoglobin A1c testing	X		
10	Diabetic eye exam	X		
11	Spending related to avoidable hospitalizations and ED visits		X	

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 after adjusting for observed factors. 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.

For index-event based metrics, 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 *Follow-up after Hospitalization for Mental Illness* measure, 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 (Kronick et al. 2000). For readmission metrics we used the full set of risk-adjustment variables that are defined by the CMS methodology related to Risk Standardized Readmission Rates (QualityNet 2016). Appendix F lists all the risk-adjustment variables for each of the readmission outcomes. We incorporate clustering by hospital where the index event occurred. In the Unmatched Limited Cohort model for pneumonia readmissions we incorporated adjustments for provider characteristics by using hospital fixed effects. Finally, we include controls for year and quarter to adjust for seasonality effects and variation in our claims runout.

When modeling population-based metrics, patient control variables include beneficiary sex, age, and dual status. We also account for any change in disease diagnoses and burden of illness over time within the analytic population by adjusting for presence of a behavioral health condition, the CDPS risk score category for each individual, and the number of chronic conditions calculated using the Chronic Conditions Warehouse (CMS 2018). We incorporate clustering by individual calendar quarters and controls for year and quarter.

In our findings section, we first report the adjusted difference that estimates the policy effect after accounting for all control variables. This corresponds to the coefficient of the regression interaction term between the HCBS indicator and post-MLTSS indicator(s) as shown in Equations (1) and (2) above. 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 intervention and comparison group are significantly different. In our final evaluation report, where we will have a longer follow-up period, we will implement adjustments for differential pre-trends using established methods (Harman et al 2014).

Evaluating the impact of the MLTSS policy on the nursing facility population is not amenable to the DD approach. The comparison categorically eligible ABD group are community-dwelling and may differ in unobserved ways from the NF residents in terms of disability and health. In addition, unlike the HCBS population which fully transitioned to MLTSS, beneficiaries in nursing facilities were not automatically converted to MLTSS but instead remained FFS unless a specific trigger was met (e.g. transfer back to a new facility after a hospitalization). Therefore, no appropriate comparison group existed in both the pre and post-MLTSS periods, which is a requirement of the DD model, nor was there a single transition point which would allow for an interrupted time series analysis. Therefore, we conducted a cross-sectional analysis, using propensity score matching of observations in each outcome dataset for the MLTSS NF-MLTSS population to the FFS NF-FFS population (as the comparison group) to estimate the average effect of MLTSS on beneficiaries in nursing facilities. Only NF residents enrolled at least 10 months in the year and never receiving HCBS are included in this sample.

Our estimation procedures were conducted using SAS Enterprise Guide 7.15 and STATA MP 16.1 software. Propensity matching utilizes the psmatch2 commands.

Results

LTC Population Rebalancing and Spending

Table 4.1 reports the number and share (in %) of NJ Medicaid beneficiaries receiving long-term care services in nursing facilities and in their homes and communities over 2011-2019. The total size of the LTC population has grown over this time period and the composition has shifted from the majority of beneficiaries residing in nursing facilities (74% in 2011) to the majority in home and community-based settings in 2019 (52%). As expected, the FFS nursing facility population is decreasing as all new NF entrants after July 2014 were enrolled in MLTSS.

Figure 4.1 shows the percentage of new Medicaid LTSS users who received their first services in the community over 2012-2019. This percentage has more than doubled over this time period, from 25.3% in 2012 to 62.9% in 2019 with the growth increasing most steeply starting in 2014.

Table 4.2 shows total spending on LTSS by recipient setting of care from 2011-2019. Again, the rebalancing of spending to home and community-based settings from spending on care in nursing facilities is evident. The share of LTSS spending in the community has doubled since MLTSS began, from 12% in 2014 to 25% by 2019.

The LTSS spending per beneficiary shown in Table 4.3 also shows that per person spending is declining for the NF-FFS and the HCBS-MLTSS populations. Whereas LTSS spending per beneficiary in HCBS was just under $19,000 per year pre-MLTSS, spending was $15,099 per HCBS beneficiary in 2019, which is a decrease of approximately 20%. Spending per person for the NF-MLTSS population has stayed relatively constant.

MLTSS Impact Regression Results

Avoidable and Overall Inpatient Hospitalizations, ED Visit Rates, and Avoidable Costs: Table 4.4 reports descriptive estimates of the average probability of one or more avoidable hospitalizations in a quarter and the average quarterly number of avoidable ED visits per 1,000 beneficiaries in the Matched Full Cohort sample. These estimates are shown separately for beneficiaries receiving HCBS and the group of non-LTC ABD beneficiaries matched to them on several health and demographic indicators in the first quarter of 2011. We describe the numbers shown in detail for this table as an example. Additional descriptive tables in this chapter follow the same or a similar format. In this table, we see there were 1,279 HCBS beneficiaries in our full cohort over 2011-2019, for a total of 46,044 person-quarters of time. Three-hundred sixty-two non-LTC beneficiaries were matched and their 13,032 person-quarters of time were weighted up to 46,044 (using weights generated through the propensity score matching), for ensuring equivalence to the HCBS group. In each period examined, the average likelihood of one or more avoidable hospitalizations (in a quarter) was slightly lower in the non-LTC ABD population. In the Waiver 2 period from July 2017-December 2019, the quarterly probability of having one or more avoidable hospitalizations was 1.5% for HCBS enrollees in our cohort and 0.77% for matched beneficiaries not receiving LTSS. The number of avoidable ED visits per 1000 adult beneficiaries in a quarter was lower in the HCBS cohort over each period examined than among the comparison cohort of non-LTC beneficiaries. There were, on average, 81.6 avoidable ED visits per quarter among the non-LTC ABD cohort in the Waiver 2 period compared to 73.4 among those in MLTSS receiving HCBS.

Table 4.5 provides the adjusted effects based on the DD estimation comparing changes over time in the HCBS population relative to the comparison group for avoidable hospitalizations and avoidable ED visits after adjustment for patient characteristics and time trends. Coefficients were mostly negative and very small. We observe no statistically significant impact of MLTSS on avoidable inpatient utilization or avoidable ED visits by the HCBS population, neither when examining the MLTSS period overall (1) or separately by the Waiver 1 and Waiver 2 periods (2). There was also no statistically significant difference in avoidable inpatient or avoidable ED visit trends between HCBS and the comparison group prior to MLTSS.

Table 4.6 provides descriptive estimates for inpatient hospitalizations and ED visits for the same matched cohorts of beneficiaries and Table 4.7 provides the regression model results. The analysis plan and presentation of numbers is analogous to those in Tables 4.4 and 4.5. Again, estimated coefficients are small in magnitude, mostly negative (implying beneficial impact), and not significant. The models do not show a significant impact of MLTSS on these utilization outcomes. There was a statistically significant difference in inpatient utilization trends between HCBS and the comparison group prior to MLTSS, and this trend was in the opposite direction of the overall effect estimate with a magnitude of 0.002, meaning the estimates shown for the inpatient utilization effect (over the entire waiver period) may be an underestimate.

Table 4.8 provides descriptive estimates for spending associated with avoidable inpatient and avoidable ED visits for HCBS beneficiaries and the comparison population of non-LTC ABD beneficiaries. We used the alternative Unmatched Limited Cohort specification for assessing cost outcomes. In all Waiver periods, the unadjusted average quarterly avoidable spending for the HCBS cohort is lower than for the comparison population of non-LTC ABD beneficiaries.

Table 4.9 further reports the ratio of risk ratios (RRR) of these costs, estimated using a gamma regression with log link that adjusts for beneficiary characteristics. A RRR magnitude greater than one reflects a positive association between the policy and avoidable costs and less than one reflects a negative association. We find that in the Waiver 2 period, the MLTSS policy is associated with statistically significant lower avoidable inpatient costs for the HCBS population than the spending change of the matched non-LTC ABD beneficiaries. An RRR of 0.37 indicates the percentage increase in spending for HCBS beneficiaries was around one-third that of the comparison group ($p<0.01$). The other RRR estimates were also <1, but not statistically significant. There were no significant differences in pre-MLTSS spending trends between the HCBS and comparison populations.

Hospital Readmissions: Table 4.10 shows the sample sizes and descriptive point estimates for readmission outcomes. There were 2,906 all-cause index hospitalizations among the full HCBS cohort and 1,271 matched index hospitalizations from the comparison population of non-LTC ABD beneficiaries, which were weighted up to 2,906 (based on weights generated by the propensity score estimation), across the 2012-2019 study period.

For the pneumonia readmissions, we used the Unmatched Limited Cohort specification and this yielded 126 index hospitalizations for those in HCBS and 5,015 in the non-LTC ABD population. Hospital-wide readmission rates were just above 4% in the post-baseline period for the HCBS cohort. Numerator and denominator reporting criteria prevent display of readmissions rates following pneumonia index hospitalizations for the HCBS cohort, but we observe rates at their highest point of 7.5% during the Waiver 2 period for the comparison population.

Table 4.11 reports the adjusted effects that take into account differences in patient characteristics and other time trends in readmission outcomes. The model for pneumonia readmissions also accounts for provider characteristics.

Estimated effects of MLTSS on hospital-wide readmissions are not statistically significant, but show a 4.5 percentage point (pp) decline for the early MLTSS period under the first demonstration and a 1.5 pp increase under the Waiver 2 demonstration. The pre-trend is marginally significant, of comparable magnitude, and in the opposite direction of the full MLTSS period effect, meaning the declines in hospital-wide readmissions may actually be underestimated.

Readmissions after pneumonia hospitalizations do show some marginally statistically significant increases under MLTSS. Over the entire period when MLTSS was in effect, there was a 5.4 pp increase in 30-day readmissions following pneumonia hospitalizations for HCBS beneficiaries. During just the Waiver 2 period, there was an estimated 6.7 pp increase, but this was not statistically significant.

Annual Dental Visit and Comprehensive Diabetes Care: Table 4.12 provides sample sizes and period estimates for three ambulatory care outcomes – annual dental visit, diabetic HbA1c testing, and diabetic eye exams. For these measures, the unit of analysis is person-years. Residents of intermediate care facilities were excluded as matching options in the comparison population since follow-up care provided in the facility might not be captured in claims data. The rates of annual dental visits are low, but pretty steady and similar over the study period for the HCBS cohort and the matched comparison group. In the Waiver 2 period, 32.6% of HCBS beneficiaries had a dental visit and 31.7% of the matched comparison group. The diabetes care outcomes only apply to beneficiaries with diabetes. Rates of HbA1c testing and eye exams are higher in each period for the non-LTC ABD population compared to HCBS beneficiaries.

Table 4.13 gives the adjusted effects from regression modeling. Here, coefficients from the annual dental visit model show a 1.5 pp decline in the visit rate over the entire MLTSS period for the HCBS cohort, but this is not statistically significant. The effect estimate for just the Waiver 2 portion of the MLTSS period is positive, but close to zero and also not statistically significant. There was no significant differences in pre-MLTSS trends between the two cohorts.

Regarding outcomes measuring diabetes care, we do not observe a statistically significant effect of MLTSS overall on either HbA1c testing or eye exams. While the overall MLTSS and individual Waiver 1 and Waiver 2 period effect estimates are all positive for eye exams, suggesting small improvements in this outcome, the impact of MLTSS on HcbA1c testing is not consistent. MLTSS was associated with a 4.0 pp lower rate of HbA1c testing among the HCBS population during the Waiver 1 period and this was marginally significant (p<0.1). While not significant, the effect estimate is then positive 4.2 pp in the Waiver 2 period. Moreover, our test for differential pre-trends does show a statistically significant (p=0.03) difference in the trends of HbA1c testing rates in the pre-MLTSS period between the HCBS cohort and the matched comparison group.

In Table 4.14 and 4.15 we repeat our analysis of avoidable inpatient stays and avoidable ED visits but restrict to only the population with a behavioral health condition. Because this health status is assessed yearly, we conducted our matching annually instead of in the first quarter of 2011. As Table 4.15 indicates, we do not observe any statistically significant impacts of MLTSS on these outcomes.

Tables 4.16 and 4.17 repeat the analysis of hospital-wide readmissions among the population with a BH condition. Here, our regression results show there was a statistically significant decline in readmissions associated with MLTSS in the Waiver 1 period. Specifically, the readmission rate was 9.4 pp lower among individuals in HCBS compared to the non-LTC ABD comparison group. In the Waiver 2 period, the coefficient is positive indicating an increase in readmissions, but this was not statistically significant.

Follow-up after Hospitalization for Mental Illness: This measure reflects continuity and coordination of care for individuals with a BH condition. Table 4.18 shows sample sizes and descriptive results for index hospitalizations among those in HCBS and matched index hospitalizations for the non-LTC ABD population. These data were matched yearly for those individuals in HCBS at the time of the index hospitalization due to small numbers of qualifying mental illness index hospitalizations for the continuously enrolled HCBS cohort as described in the methods for the Repeated Cross-section model earlier. Table 4.19 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 was associated with a decrease in the follow up rate within 7 days of a mental illness hospitalization by 12.1 pp, but an increase in the follow-up within 30 days by 1.1 pp when looking over the entire MLTSS period; however, neither effect is statistically significant. Specifically in the Waiver 2 period declines in 7-day follow-up of 13.1 pp and increases in 30-day follow-up of 3.7 pp are estimated, but again these are not statistically significant.

Effects on the Nursing Facility Population: Tables 4.20 through 4.23 show average impacts of MLTSS on the nursing facility population compared to a propensity matched sample of the FFS nursing facility population for several outcomes. Alongside this, we show averages for the unmatched sample. In Table 4.20, observations for 720 person-quarters for 47 FFS nursing facility residents match to 156,909 person-quarters for 23,613 nursing facility residents under MLTSS. In this matched sample, the difference (between NF-MLTSS and FFS NF-FFS residents) in the average quarterly probability of an avoidable hospitalization is +0.5 pp. The difference in the average quarterly number of ED visits per 1,000 beneficiaries is a statistically significant -29.7 visits, meaning, in a three month period, there were 29.7 fewer visits per 1,000 MLTSS beneficiaries in a NF compared to those in a NF under FFS ($p<0.05$).

Average effects for other outcomes show a 6.2 pp lower quarterly probability of inpatient hospitalizations and this effect is statistically significant ($p<0.05$) (Table 4.21). There was no significant effect of MLTSS on ED visits among the nursing facility population, although the direction of the estimate indicates a small reduction. We also observe a higher rate (4.7 pp) of pneumonia readmissions for the MLTSS NF population, although this was also not statistically significant (Table 4.22). Table 4.23 shows a 9.2 pp lower rate of annual dental visits which was significant ($p<0.05$), but positive effects for HbA1c testing and diabetic eye exams which were statistically significant and higher by 13.8 and 15.3 pp, respectively, for the MLTSS NF population (Table 4.23). These average effects are not adjusted for secular trends, but coincide in most cases with the direction of unmatched estimates although they are different in magnitude.

In Table 4.24 we show some descriptive estimates of select outcomes for children (age 6+) in MLTSS and non-LTC ABD children enrolled in Medicaid. These samples are not restricted by enrollment duration, continuity in MLTSS, and NF placement during the study period. Since such restrictions diminish the sample size and occurrence of outcomes becomes too rare, we did not conduct matching or regression modeling for children in MLTSS.

Table 4.1: New Jersey Medicaid Long-term Care Population, 2011-2019

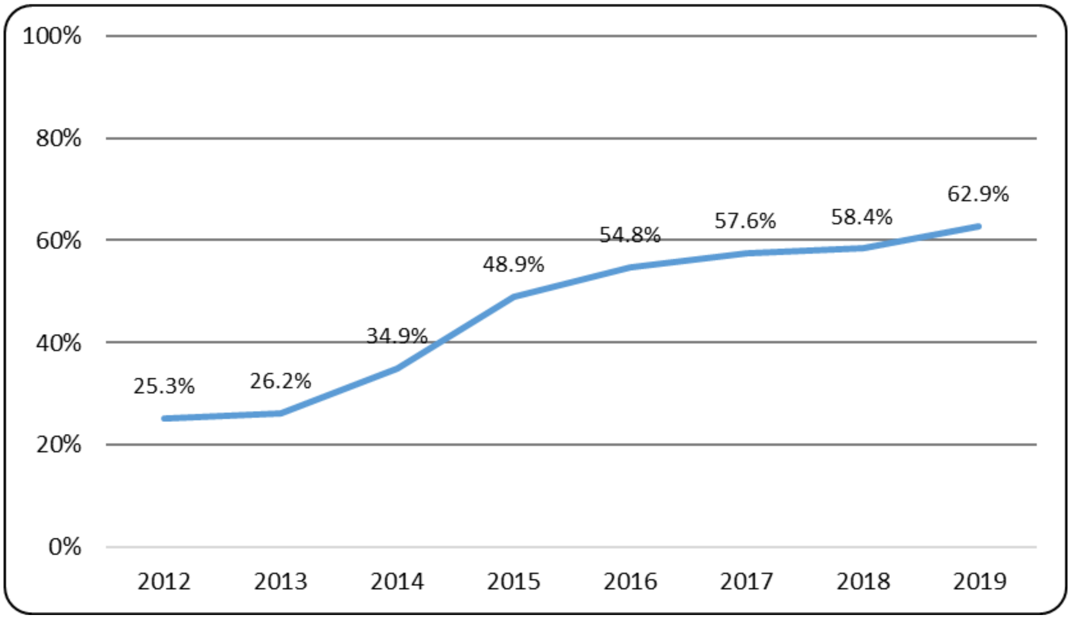
	2011		2012		2013		2014		2015	
	Total	%	Total	%	Total	%	Total	%	Total	%
Long-Term Care Beneficiaries	49,912	100%	49,534	100%	49,337	100%	47,721	100%	47,612	100%
Nursing Facility										
FFS	37,009	74%	36,011	73%	35,384	72%	34,159	72%	27,403	58%
MLTSS	-	0%	-	0%	-	0%	214	0%	4,730	10%
Total	37,009	74%	36,011	73%	35,384	72%	34,373	72%	32,133	67%
HCBS	12,903	26%	13,523	27%	13,953	28%	13,348	28%	15,479	33%

	2016		2017		2018		2019	
	Total	%	Total	%	Total	%	Total	%
Long-Term Care Beneficiaries	52,807	100%	57,318	100%	62,060	100%	65,075	100%
Nursing Facility								
FFS	20,418	39%	15,701	27%	11,994	19%	9,210	14%
MLTSS	11,806	22%	16,120	28%	20,037	32%	22,070	34%
Total	32,224	61%	31,821	56%	32,031	52%	31,280	48%
HCBS	20,583	39%	25,497	44%	30,029	48%	33,795	52%

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy

Notes: HCBS=Home and Community-Based Services; FFS=Fee-for-Service; MLTSS=Managed Long-term Services and Supports
Population (N) is based on Version 1 annual LTC assignment (see Appendix D)

Figure 4.1: Percentage of new Medicaid LTSS users first receiving services in the community, 2012-2019



Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy
Notes: LTSS=Long-term services and supports; LTC=Long-term care

Table 4.2: Total spending for LTSS and among LTC-eligible populations, 2011-2019

	2011		2012		2013	
LTSS Spending	**Total $**	**%**	**Total $**	**%**	**Total $**	**%**
Nursing Facility - FFS	$1,827,186,610	90%	$1,730,189,484	88.9%	$1,695,010,581	88%
Nursing Facility - MLTSS	$ -	0%	$ -	0.0%	$ -	0%
HCBS - MLTSS	$ 203,955,129	10%	$ 216,517,902	11.1%	$ 224,181,017	12%
Total	**$2,031,141,739**	**100%**	**$1,946,707,386**	**100%**	**$1,919,191,598**	**100%**

	2014		2015		2016	
LTSS Spending	**Total $**	**%**	**Total $**	**%**	**Total $**	**%**
Nursing Facility - FFS	$1,622,226,521	88%	$1,271,099,995	74%	$ 921,238,560	52%
Nursing Facility - MLTSS	$ 9,107,713	0.5%	$ 217,675,626	13%	$ 534,476,665	30%
HCBS - MLTSS	$ 212,208,317	12%	$ 232,358,142	14%	$ 316,655,787	18%
Total	**$1,843,542,550**	**100%**	**$1,721,133,763**	**100%**	**$1,772,371,013**	**100%**

	2017		2018		2019	
LTSS Spending	**Total $**	**%**	**Total $**	**%**	**Total $**	**%**
Nursing Facility - FFS	$ 626,759,962	38%	$ 502,780,337	27%	$ 385,900,461	21%
Nursing Facility - MLTSS	$ 684,894,106	41%	$ 923,049,709	50%	$1,020,622,528	55%
HCBS – MLTSS	$ 358,339,120	21%	$ 434,143,785	23%	$ 458,622,238	25%
Total	**$1,669,993,188**	**100%**	**$1,859,973,832**	**100%**	**$1,865,145,227**	**100%**

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy
Notes: LTSS=Long-term services and supports; LTC=Long-term care; FFS=Fee for service; HCBS=Home and Community-Based Services; MLTSS=Managed Long-term Services and Supports
All spending figures are in 2012 dollars
LTSS spending is tabulated using Version 1 quarterly LTC assignment (see Appendix D) and per person spending is enrollment-adjusted

Table 4.3: LTSS spending per person among LTC-eligible populations, 2011-2019

	2011	2012	2013	2014	2015
LTSS Spending per person	**$ per person**	**$ per person**	**$ per person**	**$ per person**	**$ per person**
Nursing Facility - FFS	$ 61,259	$ 58,878	$ 58,836	$ 57,503	$ 56,262
Nursing Facility - MLTSS	$ -	$ -	$ -	$ 38,067	$ 53,787
HCBS - MLTSS	$ 18,718	$ 18,709	$ 18,879	$ 17,779	$ 17,295

	2016	2017	2018	2019
LTSS Spending per person	**$ per person**	**$ per person**	**$ per person**	**$ per person**
Nursing Facility - FFS	$ 54,640	$ 49,468	$ 53,387	$ 53,620
Nursing Facility - MLTSS	$ 54,018	$ 50,338	$ 54,482	$ 54,322
HCBS - MLTSS	$ 17,519	$ 15,899	$ 16,221	$ 15,099

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy

Notes: LTSS=Long-term services and supports; LTC=Long-term care; FFS=Fee for service; HCBS=Home and Community-Based Services; MLTSS=Managed Long-term Services and Supports

All spending figures are in 2012 dollars

LTSS spending is tabulated using Version 1 quarterly LTC assignment (see Appendix D) and per person spending is enrollment-adjusted

Table 4.4: Unadjusted average quarterly probability of avoidable hospitalizations and number of avoidable ED visits per 1000 adult beneficiaries in HCBS and a comparison cohort, 2011-2019

	Sample Size			Period Estimates			
	Person N	Person-Quarters	Wtd Person-Quarters	Baseline	Waiver 1, Pre-MLTSS	Waiver 1, Post-MLTSS	Waiver 2, Post-MLTSS
Avoidable Hospitalizations							
Matched Full Cohort							
HCBS	1,279	46,044	46,044	1.40%	0.96%	1.04%	1.49%
Non-LTC ABD	362	13,032	46,044	0.93%	0.57%	0.66%	0.77%
Avoidable ED Visits							
Matched Full Cohort							
HCBS	1,279	46,044	46,044	64.41	56.50	58.29	73.37
Non-LTC ABD	362	13,032	46,044	78.21	64.13	78.42	81.58

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; 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; Wtd=Weighted; MLTSS=Managed Long-term Services and Supports
Periods defined as follows: Baseline=Jan 2011-Sep 2012; Waiver 1, Pre-MLTSS=Oct 2012-June 2014; Waiver 1, Post-MLTSS: July 2014-June 2017; Waiver 2, Post-MLTSS=July 2017-Dec 2019

Table 4.5: Adjusted MLTSS impact on avoidable inpatient hospitalizations and avoidable ED visits among the adult HCBS population

MLTSS Impact Estimates *(n=59,076, wtd n=92,088)*		Avoidable Hospitalizations	Avoidable ED Visits
HCBS x Post-MLTSS	(1)	-0.0006	-0.0045
		(0.0021)	(0.0101)
HCBS x Post-MLTSS Period 1	(2)	-0.0010	-0.0085
		(0.0021)	(0.0118)
HCBS x Post-MLTSS Period 2	(2)	-0.0001	0.0002
		(0.0028)	(0.0118)

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy
Notes: Person-quarter level propensity matched regression analysis
HCBS=Home and Community-Based Services; ED=Emergency Department; wtd=Weighted; MLTSS=Managed Long-term Services and Supports
Model (1) Single MLTSS Indicator: July 2014-Dec 2019
Model (2) Partitioned MLTSS indicator: Period 1 = July 2014-June 2017; Period 2=July 2017-Dec 2019
Models adjusted for sex, elderly status, dual status, quarterly time trends, base waiver and Medicaid expansion periods, CDPS risk score category, # chronic conditions, behavioral health status, enrollment days per quarter, year and quarter indicators, and clustering by quarter.
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.6: Unadjusted average quarterly probability of inpatient hospitalizations and ED visits among adult beneficiaries in HCBS and a comparison cohort, 2011-2019

	Sample Size			Period Estimates			
	Person N	**Person-Quarters**	**Wtd Person-Quarters**	**Baseline**	**Waiver 1, Pre-MLTSS**	**Waiver 1, Post-MLTSS**	**Waiver 2, Post-MLTSS**
Inpatient Hospitalizations							
Matched Full Cohort							
HCBS	1279	46,044	46,044	6.1%	4.7%	4.7%	7.1%
Non-LTC ABD	362	13,032	46,044	6.4%	2.6%	4.0%	4.4%
Emergency Department Visits							
Matched Full Cohort							
HCBS	1279	46,044	46,044	10.8%	9.5%	10.3%	12.7%
Non-LTC ABD	362	13,032	46,044	11.8%	8.5%	11.3%	12.5%

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; 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; Wtd=Weighted; MLTSS=Managed Long-term Services and Supports
Periods defined as follows: Baseline=Jan 2011-Sep 2012; Waiver 1, Pre-MLTSS=Oct 2012-June 2014; Waiver 1, Post-MLTSS: July 2014-June 2017; Waiver 2, Post-MLTSS=July 2017-Dec 2019

Table 4.7: Adjusted MLTSS impact on inpatient utilization and ED utilization among the adult HCBS population

MLTSS Impact Estimates *(n=59,076, wtd n=92,088)*		**Inpatient Utilization**	**ED Utilization**
HCBS x Post-MLTSS	(1)	-0.0002	-0.0059
		(0.0057)	(0.0079)
HCBS x Post-MLTSS Period 1	(2)	-0.0051	-0.0093
		(0.0059)	(0.0086)
HCBS x Post-MLTSS Period 2	(2)	0.0056	-0.0018
		(0.0074)	(0.0097)

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy
Notes: Person-quarter level propensity matched regression analysis
HCBS=Home and Community-Based Services; ED=Emergency Department; wtd=Weighted; MLTSS=Managed Long-term Services and Supports
Model (1) Single MLTSS Indicator: July 2014-Dec 2019
Model (2) Partitioned MLTSS indicator: Period 1 = July 2014-June 2017; Period 2=July 2017-Dec 2019
Models adjusted for sex, elderly status, dual status, quarterly time trends, base waiver and Medicaid expansion periods, CDPS risk score category, # chronic conditions, behavioral health status, enrollment days per quarter, year and quarter indicators, and clustering by quarter.
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.8: Unadjusted average quarterly avoidable inpatient and avoidable ED spending among adult beneficiaries in HCBS and a comparison cohort, 2011-2019

	Sample Size		Period Estimates			
	Person N	Person-Quarters	Baseline	Waiver 1, Pre-MLTSS	Waiver 1, Post-MLTSS	Waiver 2, Post-MLTSS
Avoidable Inpatient Spending						
Unmatched Limited Cohort						
HCBS	2,558	82,405	$26.92	$17.73	$14.17	$13.01
Non-LTC ABD	136,213	4,575,536	$24.30	$24.10	$23.23	$27.17
Avoidable ED Spending						
Unmatched Limited Cohort						
HCBS	2,558	82,405	$6.93	$4.50	$4.26	$3.86
Non-LTC ABD	136,213	4,575,536	$19.43	$18.38	$19.94	$17.95

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy
Notes: Inflation-adjusted and expressed in 2012 dollars
HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled; ED=Emergency Department; Wtd=Weighted; MLTSS=Managed Long-term Services and Supports
Periods defined as follows: Baseline=Jan 2011-Sep 2012; Waiver 1, Pre-MLTSS=Oct 2012-June 2014; Waiver 1, Post-MLTSS: July 2014-June 2017; Waiver 2, Post-MLTSS=July 2017-Dec 2019

Table 4.9: Adjusted MLTSS impact on avoidable inpatient spending and avoidable ED spending among the adult HCBS population

MLTSS Impact Estimates *(n=4,657,941)*		Avoidable Inpatient Spending	Avoidable ED Spending
HCBS x Post-MLTSS	(1)	0.6120	0.9534
		(0.2623)	(0.0715)
HCBS x Post-MLTSS Period 1	(2)	0.7733	0.9470
		(0.3780)	(0.0819)
HCBS x Post-MLTSS Period 2	(2)	0.3737***	-0.9640
		(0.1350)	(0.0674)

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy
Notes: Person-quarter level gamma regression analysis with log link; Table reports the exponentiated coefficient of the interaction term giving the ratio of the two risk ratios (RRR) with values <1 indicating reduced spending associated with MLTSS
HCBS=Home and Community-Based Services; ED=Emergency Department; MLTSS=Managed Long-term Services and Supports
Model (1) Single MLTSS Indicator: July 2014-Dec 2019
Model (2) Partitioned MLTSS indicator: Period 1 = July 2014-June 2017; Period 2=July 2017-Dec 2019
Models adjusted for sex, elderly status, dual status, quarterly time trends, base waiver and Medicaid expansion periods, CDPS risk score category, # chronic conditions, behavioral health status, enrollment days per quarter, year and quarter indicators, and clustering by quarter.
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.10: Unadjusted 30-day hospital readmissions rates among adult beneficiaries in HCBS and a comparison cohort, 2011-2019

	Sample Size		Period Estimates			
	N	**Wtd N**	**Baseline**	**Waiver 1, Pre-MLTSS**	**Waiver 1, Post-MLTSS**	**Waiver 2, Post-MLTSS**
Hospital-Wide Readmissions						
Matched Full Cohort						
HCBS	2,906	2,906	--	4.3%	4.0%	4.3%
Non-LTC ABD	1,271	2,906	--	4.8%	10.6%	4.0%
Pneumonia Readmissions						
Unmatched Limited Cohort						
HCBS	126	N/A	--	--	--	--
Non-LTC ABD	5,015	N/A	6.5%	6.6%	6.1%	7.5%

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy
Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled; Wtd=Weighted; MLTSS=Managed Long-term Services and Supports
N is the number of index hospitalizations
Periods defined as follows: Baseline=Jan 2012-Sep 2012; Waiver 1, Pre-MLTSS=Oct 2012-June 2014; Waiver 1, Post-MLTSS: July 2014-July 2017; Waiver 2, Post-MLTSS=Aug 2017-Dec 2019
--estimate suppressed due to insufficient sample size

Table 4.11: Adjusted MLTSS impact on 30-day hospital readmission rates among the adult HCBS population

MLTSS Impact Estimates		**Hospital-Wide** *(n=4,177; wtd n=5,812)*	**Pneumonia** *(n=5,141)*
HCBS x Post-MLTSS	(1)	-0.01873 (0.02365)	0.05452* (0.03038)
HCBS x Post-MLTSS Period 1	(2)	-0.04510 (0.02876)	0.03786* (0.02133)
HCBS x Post-MLTSS Period 2	(2)	0.01515 (0.02748)	0.06707 (0.04221)

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy
Notes: Hospital discharge-level regression analysis; Hospital-wide readmission model uses propensity matching
HCBS=Home and Community-Based Services; MLTSS=Managed Long-term Services and Supports
Model (1) Single MLTSS Indicator: July 2014-Dec 2019
Model (2) Partitioned MLTSS indicator: Period 1 = July 2014-July 2017; Period 2=Aug 2017-Dec 2019
Models adjusted for sex, elderly status, dual status, monthly time trends, waiver and expansion periods, year and quarter indicators, clustering by index event hospital, presence of BH condition, and all condition-specific risk factors listed in Appendix F; Pneumonia model also include hospital fixed effects.
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.12: Unadjusted rates of annual dental visits, diabetic HbA1c testing, and diabetic eye exams among adult beneficiaries in HCBS and a comparison cohort, 2011-2019

	Sample Size			Period Estimates			
	Person N	Person Years	Wtd Person Years	Baseline*	Waiver 1, Pre-MLTSS	Waiver 1, Post-MLTSS	Waiver 2, Post-MLTSS
Annual Dental Visit							
Matched Full Cohort							
HCBS	1264	11,376	11,376	32.5%	34.7%	34.4%	32.6%
Non-LTC ABD	356	3,204	11,376	34.6%	31.5%	37.6%	31.7%
Diabetes HbA1c Testing							
Matched Full Cohort							
HCBS	579	2,959	2,959	71.5%	51.1%	51.8%	68.6%
Non-LTC ABD	323	1,450	2,959	81.4%	59.5%	64.9%	73.3%
Diabetic Eye Exam							
Matched Full Cohort							
HCBS	579	2,959	2,959	56.0%	42.0%	47.5%	64.3%
Non-LTC ABD	323	1,450	2,959	61.3%	54.5%	54.4%	71.6%

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy

Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled; Wtd=Weighted; MLTSS=Managed Long-term Services and Supports

Periods defined in yearly data as follows: Baseline=Jan 2011-Dec 2012; Waiver 1, Pre-MLTSS=Jan 2013-Dec 2014; Waiver 1, Post-MLTSS: Jan 2015-Dec 2017; Waiver 2, Post-MLTSS=Jan 2018-Dec 2019

*Baseline period is 2011-2012 for dental visits, 2012 only for Hba1c and eye exam measures

Table 4.13: Adjusted MLTSS impact on annual dental visit, diabetic HbA1c testing, and diabetic eye exams rates among the adult HCBS population

MLTSS Impact Estimates		Annual Dental Visit *(n=14,580; wtd n=22,752)*	HbA1c Testing *(n=4,409; wtd n=5,918)*	Diabetic Eye Exam *(n=4,409; wtd n=5,918)*
HCBS x Post-MLTSS	(1)	-0.01520	-0.0121	0.0292
		(0.0216)	(0.0244)	(0.0227)
HCBS x Post-MLTSS Period 1	(2)	-0.031146	-0.0404*	0.0310
		(0.0235)	(0.0205)	(0.0226)
HCBS x Post-MLTSS Period 2	(2)	0.0087	0.0419	0.0258
		(0.0176)	(0.0258)	(0.0257)

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy
Notes: Person-year level propensity matched regression analysis
HCBS=Home and Community-Based Services; Wtd=Weighted; MLTSS=Managed Long-term Services and Supports
Model (1) Single MLTSS indicator: Jan 2015-Dec 2019
Model (2) Partitioned MLTSS indicator: Period 1 = Jan 2015-Dec 2017; Period 2=Jan 2018-Dec 2019
Model adjusted for sex, age, dual status, yearly time trends, CDPS risk score category, # chronic conditions, behavioral health status, enrollment days per year, year indicators (which approximate base waiver and Medicaid expansion periods), and clustering by year.
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.14: Unadjusted average quarterly probability of avoidable hospitalizations and number of avoidable ED visits per 1000 adult HCBS beneficiaries with behavioral health condition and a comparison cohort, 2011-2019

	Sample Size			Period Estimates			
	Person N	Person-Quarters	Wtd Person-Quarters	Baseline	Waiver 1, Pre-MLTSS	Waiver 1, Post-MLTSS	Waiver 2, Post-MLTSS
Avoidable Hospitalizations							
Matched Full Cohort							
HCBS	1,091	21,172	21,172	1.98%	1.43%	1.66%	2.16%
Non-LTC ABD	448	1,620	21,172	--	--	--	--
Avoidable ED Visits							
Matched Full Cohort							
HCBS	1,091	21,172	21,172	87.64	82.46	86.76	106.96
Non-LTC ABD	448	1,620	21,172	111.95	107.26	126.92	109.99

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; 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; Wtd=Weighted; MLTSS=Managed Long-term Services and Supports
Periods defined as follows: Baseline=Jan 2011-Sep 2012; Waiver 1, Pre-MLTSS=Oct 2012-June 2014; Waiver 1, Post-MLTSS: July 2014-June 2017; Waiver 2, Post-MLTSS=July 2017-Dec 2019
--estimate suppressed due to insufficient sample size

Table 4.15: Adjusted MLTSS impact on avoidable inpatient hospitalizations and avoidable ED visits among the adult HCBS population with a behavioral health condition

MLTSS Impact Estimates *(n=22,792 wtd n=42,344)*		**Avoidable Inpatient Hospitalizations**	**Avoidable ED Visits**
HCBS x Post-MLTSS	(1)	-0.0066 (0.0067)	0.0077 (0.0222)
HCBS x Post-MLTSS Period 1	(2)	-0.0059 (0.0092)	-0.0034 (0.0309)
HCBS x Post-MLTSS Period 2	(2)	-0.0102 (0.0090)	0.0241 (0.0262)

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy
Notes: Person-quarter level propensity matched regression analysis
HCBS=Home and Community-Based Services; ED=Emergency Department; wtd=Weighted; MLTSS=Managed Long-term Services and Supports
Model (1) Single MLTSS Indicator: July 2014-Dec 2019
Model (2) Partitioned MLTSS indicator: Period 1 = July 2014-June 2017; Period 2=July 2017-Dec 2019
Models adjusted for sex, elderly status, dual status, quarterly time trends, base waiver and Medicaid expansion periods, CDPS risk score category, # chronic conditions, enrollment days per quarter, year and quarter indicators, and clustering by quarter.
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.16: Unadjusted 30-day hospital readmissions rates among adult beneficiaries in HCBS with a behavioral health condition and a comparison cohort, 2011-2019

	Sample Size		**Period Estimates**			
	N	**Wtd N**	**Baseline**	**Waiver 1, Pre-MLTSS**	**Waiver 1, Post-MLTSS**	**Waiver 2, Post-MLTSS**
Hospital-Wide Readmissions						
Matched Full Cohort						
HCBS	1,890	1,890	--	6.1%	4.8%	5.2%
Non-LTC ABD	724	1,890	--	6.5%	--	--

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy
Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled; \\Wtd=Weighted; MLTSS=Managed Long-term Services and Supports
N is the number of index hospitalizations
Periods defined as follows: Baseline=Jan 2012-Sep 2012; Waiver 1, Pre-MLTSS=Oct 2012-June 2014; Waiver 1, Post-MLTSS: July 2014-July 2017; Waiver 2, Post-MLTSS=Aug 2017-Dec 2019
--estimate suppressed due to insufficient sample size

Table 4.17: Adjusted MLTSS impact on 30-day hospital readmission rates among the adult HCBS population with a behavioral health condition

MLTSS Impact Estimates		Hospital-Wide *(n=1,890, wtd n=3,780)*
HCBS x Post-MLTSS	(1)	-0.04406 (0.03125)
HCBS x Post-MLTSS Period 1	(2)	-0.09375** (0.03995)
HCBS x Post-MLTSS Period 2	(2)	0.01288 (0.03458)

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy
Notes: Hospital discharge-level propensity-matched regression analysis
HCBS=Home and Community-Based Services; MLTSS=Managed Long-term Services and Supports
Model (1) Single MLTSS Indicator: July 2014-Dec 2019
Model (2) Partitioned MLTSS indicator: Period 1 = July 2014-July 2017; Period 2=Aug 2017-Dec 2019
Models adjusted for sex, elderly status, dual status, monthly time trends, waiver and expansion periods, year and quarter indicators, clustering by index even hospital, 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 4.18: Unadjusted rates of follow-up after mental illness hospitalizations among adult beneficiaries in HCBS and a comparison cohort, 2011-2019

	Sample Size		Period Estimates			
	N	Wtd N	Baseline	Waiver 1, Pre-MLTSS	Waiver 1, Post-MLTSS	Waiver 2, Post-MLTSS
7-Day Follow-up						
Matched Cross-section						
HCBS	489	489	30.1%	16.7%	22.9%	31.1%
Non-LTC ABD	357	489	14.7%	27.4%	28.7%	41.1%
30-Day Follow-up						
Matched Cross-section						
HCBS	489	489	50.7%	30.3%	50.6%	64.8%
Non-LTC ABD	357	489	54.7%	41.9%	64.9%	69.0%

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy
Notes: HCBS=Home and Community-Based Services; LTC=Long-term Care; ABD=Aged/Blind/Disabled; \\Wtd=Weighted; MLTSS=Managed Long-term Services and Supports
N is the number of index hospitalizations
Periods defined as follows: Baseline=Jan 2012-Sep 2012; Waiver 1, Pre-MLTSS=Oct 2012-June 2014; Waiver 1, Post-MLTSS: July 2014-July 2017; Waiver 2, Post-MLTSS=Aug 2017-Dec 2019

Table 4.19: Adjusted MLTSS impact on rates of follow-up visits after mental illness hospitalizations among the adult HCBS population

MLTSS Impact Estimates		Follow-up within 7 days *(n=846; wtd n=978)*	Follow-up within 30 days *(n=846; wtd n=978)*
HCBS x Post-MLTSS	(1)	-0.12187 (0.08971)	0.01142 (0.07892)
HCBS x Post-MLTSS Period 1	(2)	-0.09915 (0.09705)	-0.07431 (0.11317)
HCBS x Post-MLTSS Period 2	(2)	-0.13121 (0.09463)	0.03728 (0.07738)

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy
Notes: Hospital discharge-level propensity-matched regression analysis
HCBS=Home and Community-Based Services; MLTSS=Managed Long-term Services and Supports
Model (1) Single MLTSS Indicator: July 2014-Dec 2019
Model (2) Partitioned MLTSS indicator: Period 1 = July 2014-July 2017; Period 2=Aug 2017-Dec 2019
Models adjusted for sex, elderly status, dual status, quarterly time trends, base waiver and Medicaid expansion periods, CDPS risk score category, # chronic conditions, enrollment days per year, year and quarter indicators, and clustering by hospital of index event.
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4.20: Average MLTSS effect on avoidable hospitalizations and avoidable ED visits per 1000 beneficiaries in nursing facilities

	Matched Sample					Unmatched Sample	
	Person N	Person-Quarters	Wtd Person-Quarters	% or count	Average MLTSS Effect on NF Population	% or count	Average MLTSS Effect on NF Population
Avoidable Hospitalizations							
NF-MLTSS	23,613	156,909	156,909	^	0.5	^	0.2
NF-FFS	47	720	156,909	--		0.9%	
Avoidable ED Visits							
NF-MLTSS	23,613	156,909	156,909	22.9	-29.7**	22.9	-1.1
NF-FFS	47	720	156,909	52.6		24.0	

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy
Notes: Average Treatment Effect on Treated from person-quarter level propensity matched model. The same person could be counted as MLTSS and FFS if they contributed quarters to both groups
Wtd=Weighted; MLTSS=Managed Long-term Services and Supports; NF=Nursing Facility; FFS= Fee for Service; ED=Emergency Department
--estimate suppressed due to insufficient sample size
^estimate suppressed so as to prevent calculation of another estimate suppressed due to insufficient sample size
** p<0.05; Significance tests do not take into account that the propensity score is estimated

Table 4.21: Average MLTSS effect on inpatient stays and ED visits among beneficiaries in nursing facilities

	Matched Sample					Unmatched Sample	
	Person N	Person-Quarters	Wtd Person-Quarters	%	Average MLTSS Effect on NF Population	%	Average MLTSS Effect on NF Population
Inpatient Hospitalizations							
NF-MLTSS	23,613	156,909	156,909	5.4%	-6.2**	5.4%	-1.0
NF-FFS	47	720	156,909	11.5%		6.4%	
Emergency Department Visits							
NF-MLTSS	23,613	156,909	156,909	6.5%	-2.8	6.5%	0.2
NF-FFS	47	720	156,909	9.3%		6.3%	

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy

Notes: Average Treatment Effect on Treated from person-quarter level propensity matched model. The same person could be counted as MLTSS and FFS if they contributed quarters to both groups

Wtd=Weighted; MLTSS=Managed Long-term Services and Supports; NF=Nursing Facility; FFS= Fee for Service; ED=Emergency Department

--estimate suppressed due to insufficient sample size

^estimate suppressed so as to prevent calculation of another estimate suppressed due to insufficient sample size

** p<0.05; Significance tests do not take into account that the propensity score is estimated

Table 4.22: Average MLTSS effect on 30-day hospital readmission rates among beneficiaries in nursing facilities

	Matched Sample				Unmatched Sample	
	N	Wtd N	%	Average MLTSS Effect on NF Population	%	Average MLTSS Effect on NF Population
Hospital-Wide Readmissions						
NF-MLTSS	11,523	11,523	*	0.7	11.1%	3.6
NF-FFS	433	11,523	--		7.5%	
Pneumonia Readmissions						
NF-MLTSS	877	877	*	4.7	8.8%	2.0
NF-FFS	157	877	--		6.8%	

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy

Notes: Average Treatment Effect on Treated from person-quarter level propensity matched model. The same person could be counted as MLTSS and FFS if they contributed quarters to both groups

Wtd=Weighted; MLTSS=Managed Long-term Services and Supports; NF=Nursing Facility; FFS= Fee for Service; ED=Emergency Department

--estimate suppressed due to insufficient sample size

^estimate suppressed so as to prevent calculation of another estimate suppressed due to insufficient sample size

** p<0.05; Significance tests do not take into account that the propensity score is estimated

Table 4.23: Average MLTSS effect on annual dental visit, diabetic HbA1c testing, and diabetic eye exams rates among beneficiaries in nursing facilities

	Matched Sample					Unmatched Sample	
	Person N	Person-Years	Wtd Person-Years	%	Average MLTSS Effect on NF Population	%	Average MLTSS Effect on NF Population
Annual Dental Visit							
NF-MLTSS	15,428	27,969	27,969	60.8%	-9.2**	60.8%	-8.7
NF-FFS	188	671	27,969	70.0%		69.5%	
Diabetes A1c Testing							
NF-MLTSS	2,192	4,029	4,029	54.1%	13.8**	54.1%	21.6
NF-FFS	109	476	4,029	40.3%		32.5%	
Diabetic Eye Exam							
NF-MLTSS	2,192	4,029	4,029	51.9%	15.3**	51.9%	5.9
NF-FFS	109	475	4,029	36.6%		46.0%	

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy

Notes: Average Treatment Effect on Treated from person-quarter level propensity matched model. The same person could be counted as MLTSS and FFS if they contributed quarters to both groups

Wtd=Weighted; MLTSS=Managed Long-term Services and Supports; NF=Nursing Facility; FFS= Fee for Service; ED=Emergency Department

--estimate suppressed due to insufficient sample size

^estimate suppressed so as to prevent calculation of another estimate suppressed due to insufficient sample size

** p<0.05; Significance tests do not take into account that the propensity score is estimated

Table 4.24: Unadjusted average quarterly probability of avoidable hospitalizations, number of avoidable ED visits per 1000, inpatient hospitalizations, and ED visits for children in HCBS and a comparison cohort, 2011-2019

	Sample Size		Period Estimates			
	Person N	Person-Quarters	Baseline	Waiver 1, Pre-MLTSS	Waiver 1, Post-MLTSS	Waiver 2, Post-MLTSS
Avoidable Hospitalizations						
HCBS	356	3,899	--	--	--	--
Non-LTC ABD	44,628	696,899	0.18%	0.20%	0.14%	0.12%
Avoidable ED Visits						
HCBS	356	3,899	39.30	48.81	30.48	45.24
Non-LTC ABD	44,628	696,899	67.77	69.30	73.91	69.80
Inpatient Hospitalizations						
HCBS	356	3,899	3.95%	5.85%	6.22%	6.20%
Non-LTC ABD	44,628	696,899	2.14%	2.13%	1.93%	1.83%
Emergency Department Visits						
HCBS	356	3,899	5.26%	8.08%	6.54%	9.23%
Non-LTC ABD	44,628	696,899	12.04%	12.22%	12.95%	12.76%

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; 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; Wtd=Weighted; MLTSS=Managed Long-term Services and Supports

Periods defined as follows: Baseline=Jan 2011-Sep 2012; Waiver 1, Pre-MLTSS=Oct 2012-June 2014; Waiver 1, Post-MLTSS: July 2014-June 2017; Waiver 2, Post-MLTSS=July 2017-Dec 2019

--estimate suppressed due to insufficient sample size

Discussion

In this chapter, we utilized Medicaid claims data to calculate a set of measures relevant for evaluating the effects of the transition to Managed Long-term Service and Supports under the Comprehensive Demonstration. Using difference-in-differences models with propensity matching for a continuously enrolled cohort of HCBS beneficiaries (for most outcomes), we examine the MLTSS periods occurring under the first demonstration period (Waiver 1) and the renewal demonstration period (Waiver 2), as well as the overall effect over both of these periods. These metrics include inpatient utilization and ED visits overall; avoidable inpatient hospitalizations and ED visits that arise due to inadequate ambulatory or primary care in the community; hospital readmissions overall and following pneumonia hospitalizations 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 for dental care and diabetes care. Some measures are specifically examined for the long-term care population with a behavioral health condition to assess the impact of the integration of behavioral and physical health care under managed care for MLTSS populations. We also look at the proportion of the long-term care population living in nursing facilities versus the community as well as the distribution of long-term care spending between these two settings of care.

We will distill the many results presented in this chapter down to the key points relevant for answering the research question under our evaluation hypothesis. First we comment on the evidence for rebalancing of spending from the nursing facility to the community. Then, we summarize the direct impact of MLTSS on those long-term care beneficiaries enrolled in the program and living in home and community-based settings. We also discuss preliminary results regarding the impact of MLTSS on the nursing facility population.

Rebalancing

By all indicators, NJ is achieving a rebalancing of the long-term care population and associated spending to home and community-based settings. The total size of the LTC population has grown over 2011-2019 and the composition has shifted from the majority of beneficiaries residing in nursing facilities (74% in 2011) to the majority in home and community-based settings in 2019 (52%). The percentage of new LTSS enrollees receiving care in the community as opposed to in a nursing facility has more than doubled over this same time period, with the growth climbing most steeply starting in 2014 when MLTSS began. Consistent with this, we see the share of LTSS spending in the community has doubled since MLTSS began, from 12% in 2014 to 25% by 2019. **Additionally, per person spending is declining for the HCBS population under MLTSS.** Spending per person for the NF-MLTSS population has stayed relatively constant.

HCBS Population

Results of our difference-in-difference models using a propensity score matched comparison group show no statistically significant changes in overall inpatient stays or ED visits, nor avoidable inpatient stays or ED visits for the HCBS population due to the MLTSS program. Our effect estimates are negative and of small magnitude for all of these outcomes over the MLTSS period starting in July 2014 through December 2019. While we observe a significant difference in the pre-MLTSS trends in inpatient utilization between the HCBS cohort and matched comparison cohort, it would not change the direction of our effect estimates. **We do find one highly statistically significant effect of MLTSS on avoidable inpatient spending, which was lower after MLTSS for the HCBS population.**

Our adjusted DD estimate for hospital-wide readmissions indicate decreases in readmissions for the HCBS population over the full MLTSS period, but this was not statistically significant. The decreases are attributable to the Waiver 1 period, since in the model separating periods, the readmission effect estimate is positive for the Waiver 2 period, indicating a 1.5 pp increase in readmissions, though again not statistically significant. **Results for readmissions following pneumonia hospitalizations show increases of 5.5 pp for the HCBS population under MLTSS and this effect is marginally significant (p<0.1) overall and during the Waiver 1 period, but not significant during the Waiver 2 period.**

Regression analyses of ambulatory care quality measures indicate small and not statistically significant declines in annual dental visit rates for the HCBS population. The effect estimate is less than 1 pp in the Waiver 2 period. HbA1c testing for beneficiaries with diabetes presents a mixed picture. Our model results show declines associated with MLTSS, with a significant 4 pp reduction in testing rates for the HCBS population during the Waiver 1 MLTSS period, but an increase of similar magnitude during the Waiver 2 period that is not statistically significant. Rates of eye exams among individuals with diabetes show increases for the HCBS population under MLTSS of about 3 pp, but these results are not statistically significant. **Overall, there is no consistent, significant association of MLTSS with rates of dental visits, HbA1c testing or diabetic eye exams among the HCBS population.**

HCBS Population with BH conditions

When examining outcomes specifically for HCBS beneficiaries with behavioral health conditions using a comparison group selected from the non-LTC ABD population that also has a BH condition, we do not find any statistically significant impacts of MLTSS on avoidable inpatient hospitalizations or avoidable ED visits. We do observe a statistically significant decline of 9.4 pp in hospital-wide readmissions for the HCBS population with a behavioral health condition under

MLTSS during the Waiver 1 period, but not during the Waiver 2 period. Regression results showed declines in the rates of 7-day follow-up after hospitalizations for mental illness and small increases in the 30-day follow-up rates, but none of these effects were statistically significant. **Thus, there are no strong negative effects evident so far on behavioral health care under MLTSS.**

NF Population

In our evaluation of the impact of MLTSS on the nursing facility population, those results which were statistically significant showed mostly favorable average effects of MLTSS. Avoidable ED visits and overall inpatient hospitalizations were lower, and we found higher rates of recommended care for diabetics compared to similar residents under FFS. Rates of annual dental visits were lower. Average effects were directionally similar to unmatched estimates in most cases but differed in magnitude. Also, since patients residing in medical facilities, such as a nursing homes, may have some care provided by physicians included in the facility per diem rate, our analysis of metrics relating to ambulatory care utilization might not find visits for such care if separate claims are not generated. Therefore, absolute values of these outcomes might be underestimated, but the relative differences between the NF-MLTSS and NF-FFS populations should remain valid.

The NF population in FFS was grandfathered in from the pre-MLTSS period and also could not have experienced any triggering events which would precipitate enrollment into MLTSS. Thus, this is a more stable population than the NF-MLTSS population. Because of the small sample sizes we were constrained in our choice of statistical methods for assessing program impact on this population. **The propensity matched comparison population of FFS nursing facility residents was small for some outcomes and there was no adjustment for time trends or clustering. Our NF findings are thus subject to these important caveats.** In our final report, we will examine changes in outcomes of NF individuals as they transition from FFS to managed care.

Conclusions

The analyses in this chapter provide evidence that in the first five and half years following the transition to MLTSS for the adult HCBS population NJ has achieved a rebalancing of the long-term care population and associated spending to home and community-based settings. Quality of care after the transition to MLTSS has not consistently improved or worsened overall when looking across multiple measures. Our most statistically relevant findings which show consistency in direction across both the Waiver 1 and Waiver 2 periods are that avoidable inpatient spending has declined and readmissions following pneumonia hospitalizations have increased. For the NF population in MLTSS, most statistically significant findings are positive, indicating reduced inpatient hospitalizations and avoidable ED visits. We do not have robust findings on the impact of MLTSS on children.

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Appendix 4A: 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. These measures are prepared using specifications developed in consultation with the Business Intelligence Unit of the Division of Medical Assistance and Health Services. Our preparation of these metrics considers utilization at any general acute care hospital, inside or outside NJ.

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. These are known as the Prevention Quality Indicators (PQI) for adults (ages 18 and above) and Pediatric Quality Indicators for children (ages 6-17). For years 2011 through September of 2015 we used version 4.5 of AHRQ's quality indicators software. The latest version (version 6.0) of the software accommodates ICD-10 codes and was used for calculating PQIs and PDIs from October 2015 through December 2019 (AHRQ 2016a; 2016b). Updates and enhancements made to the version 6.0 software included the exclusion of one very low prevalence component indicator. 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 which is the index used in the analyses in this chapter.

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. ICD-10 versions of diagnosis codes for this metric were provided on the New York University website.[75]

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 are endorsed by the National Quality Forum (NQF) and are adapted for the Medicaid claims data from the Centers for Medicare and Medicaid Services methodology available at QualityNet.[76] For hospital-wide readmissions, we use version 3.0 for years 2012-2015, version 6.0 for 2016, version 7.0 for 2017, version 8.0 for 2018, and version 9.0 for 2019. For pneumonia readmissions, we use version 9.0 for 2012-2016, version 11.0 for 2017, version 12.0 for 2018, and version 13.0 for 2019. To accommodate the transition in October 2015 to the ICD10-CM coding system, diagnoses on claims from this last quarter of 2015 were mapped back to the ICD9-CM system using crosswalks from CMS's general equivalence mappings prepared by the National Bureau of Economic Research (2016). We also modified the metric slightly by identifying readmissions for hospital discharges through December 31 of the calendar year (instead of through December 1) in order to support adjustments for continuous time trends in regression analyses.

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

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[75] http://wagner.nyu.edu/faculty/billings/nyued-background.

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

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 using value sets from the 2014 specifications (NCQA 2014) for 2011-2013, 2016 specifications (NCQA 2016) for 2014-2016, and 2018 specifications (NCQA 2018) for 2017-2019. We also used crosswalks from the New Jersey Department of Health to identify mental health practitioners and to crosswalk place of service codes (NJDOH 2017) since our claims data does not contain the detailed place of service indicators called for in the metric specifications. We also modified the metric slightly by identifying follow-up visits for hospital discharges through December 31 of the calendar year (instead of through December 1) in order to support adjustments for continuous time trends in regression analyses and incorporating

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.

Annual Dental Visit: Oral health care is an important component of overall health care. The NJ FamilyCare benefit package provides coverage for dental care visits. This measure determines the percentage of individuals having at least one dental visit with a dental practitioner during the measurement year. We followed the National Committee of Quality Assurance's specifications for the calculation of this metric using 2014 value specs for 2011-2014, 2016 specs for 2015-2016, and 2018 specs for 2017-2019 (NCQA 2014; 2016; 2018). In accordance with these specifications, we required that the beneficiary be enrolled continuously (although a single gap no more than 45 days was ignored) to be included in this measure. We modified this measure from the specifications which limit assessment of this outcome to beneficiaries between the ages of 2 and 20 by calculating it for everyone age 2 and older.

Hemoglobin A1C Testing and Diabetic Eye Exam: Unmanaged diabetes can lead to serious health complications. We used National Committee of Quality Assurance's Comprehensive Diabetes Care measure specifications to assess whether individuals age 18-75 with diabetes had Hemoglobin A1c testing and a retinal eye exam performed during the measurement year. We used 2014 value specs for 2011-2014, 2016 specs for 2015-2016, and 2018 specs for 2017-2019 (NCQA 2014; 2016; 2018). In accordance with these specifications, we required that the beneficiary be enrolled for 12 months (ignoring gaps of 45 days or less) to be included in this measure.

Appendix 4B: 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[77]
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[13]
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 6.0, September 2016; http://www.qualityindicators.ahrq.gov/Modules/PQI_TechSpec.aspx.

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[77] This component was retired in Version 6.0 of the PQI software which accommodated ICD-10 coding. This software version was used for generating the overall composite indicator beginning in October 2015.

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 6.0, September 2016; https://www.qualityindicators.ahrq.gov/Archive/PQI_TechSpec_ICD10_v60.aspx

Appendix 4C: 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 4D: 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: Two versions were created, one using a majority rule and employed in descriptive tables for annual estimates (Version 1) and another more restrictive version used to create population indicators for use in regression modeling (Version 2).

- Version 1: 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.
- Version 2: 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 NF, HCBS, or non-LTC was implemented using the monthly assignment. All months of enrollment during the quarter had to be in the same status (NF, HCBS, non-LTC) to classify the quarter.

Annual Assignment: Two versions were created, one using a majority rule and employed in descriptive tables for annual estimates (Version 1), and another more restrictive version used to create population indicators for use in regression modeling (Version 2).

- Version 1: 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.
- Version 2: 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, an annual assignment to NF, HCBS, or non-LTC was implemented using the quarterly assignment. All quarters of enrollment during the year had to be in the same status (NF, HCBS, non-LTC) to classify the beneficiary in the year. For example, if a beneficiary was enrolled for two quarters of the year and in both quarters they resided all three months in a facility, then the beneficiary was assigned as a member of the NF population in that year.

Appendix 4E: Definition of Mental Health and Substance Abuse

We use the Agency for Health Care Research and Quality (AHRQ) Clinical Classifications Software (CCS) and Clinical Classifications Software Refined (CCSR). The CCS software aggregates diagnosis codes from the International Classification of Diseases, 9th Revision, Clinical Modification/Procedure Coding System (ICD-9-CM/PCS) and the CCSR aggregates codes from 10th Revision (ICD-10-CM/PCS) into a number of clinically meaningful categories.

CCS (ICD-9)

Mental health conditions fall under CCS category 5 and include mood disorders, schizophrenia, anxiety disorder, delirium, and dementia. Substance abuse is a subcategory of mental health conditions identified by CCS categories 5.11, 5.12, and 5.14.2 and includes alcohol and substance-related disorders. For a complete list of what is included in the definition of mental health (MH) and substance abuse (SA) indicators please refer to Table 1 below. It lists the AHRQ CCS category codes for MH and SA. These codes can then be cross-referenced to the AHRQ website[78] to determine exactly which ICD-9 diagnoses comprise the MH and SA designations.

CCS (ICD-10)

The CCSR balances the retention of the clinical concepts included in the CCS categories under ICD-9-CM and capitalizes on the specificity of ICD-10-CM diagnoses by creating new clinical categories. In addition, the CCSR allows ICD-10-CM diagnosis codes to be cross classified into more than one category because individual codes can be used to document multiple conditions or a condition and a common symptom/manifestation. Using the CCSR version 2020.2 software we identified mental health conditions and substance abuse disorder from three of the twenty-one body system categories, (MBD) Mental, behavioral and neurodevelopmental disorders, (FAC) Factors influencing health status and contact with health services, and (SYM) Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified. Mental health conditions fall under body systems MBD and FAC and include mood disorders, schizophrenia, anxiety disorder, delirium, and dementia among other related conditions. Substance abuse is primarily a subcategory of mental health conditions identified under body system MBD but also body system SYM and includes alcohol and substance-related disorders. For a complete list of what is included in the definition of mental health (MH) and substance abuse (SA) indicators please refer to tTable 2 below. It lists the AHRQ CCSR category codes used for MH and SA. A complete listing of all CCSR categories and their associated descriptions can be found in the version specific CCSR Reference

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[78] https://www.hcup-us.ahrq.gov/toolssoftware/ccs/AppendixCMultiDX.txt

File that is packaged with the software user guide and program on the AHRQ website.[79] These codes can then be cross-referenced to determine exactly which ICD-10 diagnoses comprise the MH and SA designations.

We also identify patients who are severely mentally ill based on findings from the national comorbidity survey – replication (Kessler et al. 2005) and subsequent work by Coffey et al. (2011) at AHRQ. These patients experienced functional and social impairment and had a diagnosis of psychoses, bipolar disorder, drug dependence, obsessive compulsive disorder, dysthymia (chronic depression), or related diagnoses. The severe mental illness indicator (SMI) utilizes diagnoses which cross CCSR categories. See the Table 3 below for the original ICD-9 codes used to create the SMI indicator and Table 4 below for the ICD-10 codes. To identify SMI in ICD-10 claims, we applied the General Equivalence Mappings[80] available from the Centers for Medicare & Medicaid Services to the ICD-9 SMI diagnoses, coupled with manual review and input from clinical consultation.

Also, it's important to note, that anyone with an SMI diagnosis was also coded into the MH or SA indicators, even if their diagnosis did not put them in one of the CCSR categories that define MH or SA. Thus, the full logic for our creation of these indicators is as follows:

- SA is defined by any claim mapped into the CCSR category under BH Flag "Substance Abuse"
- MH is defined by any claim mapped into the CCSR category under BH Flag "Mental Health"
- SMI is defined by any claim having an SMI diagnosis.
- Back code into MH or SA categories based on SMI.
- BH is defined by any claim designated as either MH or SA after completing steps above.

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[79] https://www.hcup-us.ahrq.gov/toolssoftware/ccsr/ccsr_archive.jsp#ccspcs (At the time of this document we used version 2020.2.)

[80] https://www.cms.gov/Medicare/Coding/ICD10/2017-ICD-10-CM-and-GEMs.html

Table 1

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.

Table 2

CCSR Category	CCSR Category Description	BH Flag
FAC002	Encounter for mental health services related to abuse	Mental Health
FAC007	Encounter for mental health conditions	Mental Health
FAC008	Neoplasm-related encounters	Mental Health
MBD001	Schizophrenia spectrum and other psychotic disorders	Mental Health
MBD002	Depressive disorders	Mental Health
MBD003	Bipolar and related disorders	Mental Health
MBD004	Other specified and unspecified mood disorders	Mental Health
MBD005	Anxiety and fear-related disorders	Mental Health
MBD006	Obsessive-compulsive and related disorders	Mental Health
MBD007	Trauma- and stressor-related disorders	Mental Health
MBD008	Disruptive, impulse-control and conduct disorders	Mental Health
MBD009	Personality disorders	Mental Health
MBD010	Feeding and eating disorders	Mental Health
MBD011	Somatic disorders	Mental Health
MBD012	Suicidal ideation/attempt/intentional self-harm	Mental Health
MBD013	Miscellaneous mental and behavioral disorders/conditions	Mental Health
MBD014	Neurodevelopmental disorders	Mental Health
MBD017	Alcohol-related disorders	Substance Abuse
MBD018	Opioid-related disorders	Substance Abuse
MBD019	Cannabis-related disorders	Substance Abuse
MBD020	Sedative-related disorders	Substance Abuse
MBD021	Stimulant-related disorders	Substance Abuse
MBD022	Hallucinogen-related disorders	Substance Abuse
MBD023	Inhalant-related disorders	Substance Abuse
MBD024	Tobacco-related disorders	Substance Abuse
MBD025	Other specified substance-related disorders	Substance Abuse
MBD026	Mental and substance use disorders in remission	Mental Health
MBD027	Suicide attempt/intentional self-harm; subsequent encounter	Mental Health
MBD028	Opioid-related disorders; subsequent encounter	Substance Abuse
MBD029	Stimulant-related disorders; subsequent encounter	Substance Abuse
MBD030	Cannabis-related disorders; subsequent encounter	Substance Abuse
MBD031	Hallucinogen-related disorders; subsequent encounter	Substance Abuse
MBD032	Sedative-related disorders; subsequent encounter	Substance Abuse
MBD033	Inhalant-related disorders; subsequent encounter	Substance Abuse
MBD034	Mental and substance use disorders; sequela	Mental Health
SYM008	Symptoms of mental and substance use conditions	Substance Abuse
SYM009	Abnormal findings related to substance use	Substance Abuse

Table 3: Mental and Substance Use (M/SU) Related Functional Severity: Classification of severe, moderate, and mild M/SU functional severity, based on percent of survey respondents with specific diagnosis categories who had serious personal or social consequences in the National Comorbidity Survey Replication (NCS-R)1

Severe M/SU disorders	ICD-9-CM Diagnosis Codes
Psychoses (not in NCS-R)	295(all); 297(all); 298(all)
Bipolar I and II conditions	296.00-06, 10-16, 40-46, 50-56, 60-66; 296.7; 296.80-82, 89, 90, 99
Drug dependence	304 (all); 648.3(all); 655.5(all); 760.72, 73, 75; 779.5; 965.0(all)
Obsessive-compulsive disorder	300.3
Dysthymia (chronic depression)	300.4; 309.1; 301.11-12
Oppositional defiant disorder	313.81
Related ICD-9-CM codes "severe"	296.20, 23, 24, 30, 33, 34; 301.20; 312.03, 13, 21; V11.0

Source: https://www.hcup-us.ahrq.gov/reports/SOI.jsp#appa

Table 4. Mental and Substance Use (M/SU) Related Functional Severity: Classification of severe, moderate, and mild M/SU functional severity, based on percent of survey respondents with specific diagnosis categories who had serious personal or social consequences in the National Comorbidity Survey Replication (NCS-R)

Severe M/SU disorders	ICD-10-CM Diagnosis Codes
Psychoses (not in NCS-R)	'F200', 'F201', 'F202', 'F205', 'F2081', 'F2089', 'F209', 'F22', 'F23', 'F24', 'F259', 'F250', 'F251', 'F258', 'F28', 'F29', 'F323', 'F333', 'F4489’
Bipolar I and II conditions	'F3010', 'F3011', 'F3012', 'F3013', 'F302', 'F303', 'F304', 'F308', 'F3110', 'F3111', 'F3112', 'F3113', 'F312', 'F3130', 'F3131', 'F3132', 'F314', 'F315', 'F3160', 'F3161', 'F3162', 'F3163', 'F3164', 'F3173', 'F3174', 'F3175', 'F3176', 'F3177', 'F3178', 'F3181', 'F319', 'F328', 'F3289', 'F348', 'F3481', 'F3489', 'F39'
Drug dependence	'F1120', 'F1121', 'F1220', 'F1221', 'F1320', 'F1321', 'F1420', 'F1421', 'F1520', 'F1521', 'F1620', 'F1621', 'F1920', 'F1921', 'O355XX0', 'O99320', 'O99321', 'O99322', 'O99323', 'O99324', 'O99325', 'T400X1A', 'T400X2A', 'T400X3A', 'T400X4A', 'T401X1A', 'T401X2A', 'T401X3A', 'T401X4A', 'T402X1A', 'T402X2A', 'T402X3A', 'T402X4A', 'T403X1A', 'T403X2A', 'T403X3A', 'T403X4A', 'T404X1A', 'T404X2A', 'T404X3A', 'T404X4A', 'T40601A', 'T40602A', 'T40603A', 'T40604A', 'T40691A', 'T40692A', 'T40693A', 'T40694A', 'P0441', 'P0449', 'P0440', 'P0442', 'P961', 'P962'
Obsessive-compulsive disorder	'F42', 'F422', 'F423', 'F424', 'F428', 'F429'
Dysthymia (chronic depression)	'F341', 'F6089'
Borderline Personality disorder	'F603'
Oppositional defiant disorder	'F913'
Related ICD-10-CM codes "severe"	'F322', 'F323', 'F329', 'F332', 'F333', 'F339', 'F601', 'F911', 'F912', 'F918', 'Z658'

Source: https://www.hcup-us.ahrq.gov/reports/SOI.jsp#appa

Appendix 4F: 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.

Pneumonia Readmissions

- Age
- Sex
- History of Coronary Artery Bypass Graft
- History of infection
- Septicemia/Shock
- Metastatic Cancer or Acute Leukemia
- Lung, Upper Digestive Tract, and Other Severe Cancers
- Other Major Cancers
- Diabetes Mellitus (DM) or DM Complications
- Protein-calorie malnutrition
- Disorders of Fluid/Electrolyte/Acid-Base
- Other Gastrointestinal Disorders
- Severe Hematological Disorders
- Iron Deficiency or Other Unspecified Anemias and Blood Disease
- Dementia or Other Specified Brain Disorders
- Drug/Alcohol Abuse/Dependence/Psychosis
- Major Psychiatric Disorders
- Other Psychiatric Disorders
- Hemiplegia, Paraplegia, Paralysis, Functional Disability
- Cardio-Respiratory Failure or Shock
- Congestive Heart Failure
- Acute Coronary Syndrome
- Chronic Atherosclerosis or Angina
- Valvular or Rheumatic Heart Disease
- Specified Arrhythmias
- Stroke
- Vascular or Circulatory Disease
- Chronic obstructive pulmonary disease
- Fibrosis of Lung or Chronic Lung Disorders
- Asthma
- Pneumonia
- Pleural Effusion/Pneumothorax
- Other Lung Disorders
- Dialysis Status
- Renal Failure
- Urinary Tract Infection
- Other Urinary Tract Disorders
- Decubitus Ulcer or Chronic Skin Ulcer
- Vertebral fractures
- Other Injuries
- Respirator dependence/tracheostomy status

Hospital-Wide Readmissions

- Age
- Metastatic cancer/acute leukemia
- Severe Cancer
- Other Cancers
- Severe Hematological Disorders
- Specified Arrhythmias
- Cardio-respiratory Failure or Cardio-respiratory Shock
- Chronic Obstructive Pulmonary Disease

- Coagulation Defects and Other Specified Hematological Disorders
- Iron Deficiency or Other Unspecified Anemia and Blood Disease
- End-stage Liver Disease
- Pancreatic Disease
- Dialysis Status
- Acute Renal Failure
- Transplants
- Severe Infection
- Other Infectious Diseases and Pneumonias
- Septicemia/Shock
- Congestive Heart Failure
- Polyneuropathy
- Congestive Heart Failure
- Chronic Atherosclerosis or Angina, Cerebrovascular Disease
- Fibrosis of Lung or Other Chronic Lung Disorders
- Protein-calorie Malnutrition
- Disorders of Fluid, Electrolyte, Acid-Base
- Rheumatoid Arthritis and Inflammatory Connective Tissue Disease
- Diabetes Mellitus
- Decubitus Ulcer or Chronic Skin Ulcer
- Hemiplegia, Paraplegia, Paralysis, Functional Disability
- Seizure Disorders and Convulsions
- Respirator Dependence/Tracheostomy Status
- Drug and Alcohol Disorders
- Psychiatric Comorbidity
- Hip Fracture/Dislocation

Chapter 5: Examining Care Outcomes for Populations of Children and Youth Eligible for Targeted Home and Community-Based Services

Introduction

In this chapter, we present metrics calculated from Medicaid fee-for-service claims and managed care encounter data and State-reported quality assurances for several populations of children targeted for additional home and community-based services (HCBS) under the authority of the initial §1115 Comprehensive Demonstration (October 2012-July 2017) and continuing during the Demonstration renewal period (starting in August 2017). Specifically, the waiver authorized the NJ Department of Children and Families, Division of Children's System of Care (DCF's CSOC)[81] to coordinate new supportive services for children with Autism Spectrum Disorder (ASD), intellectual/developmental disabilities (ID-DD) with and without co-occurring mental illness (MI), and Serious Emotional Disturbance (SED). Medicaid eligibility for children with SED at-risk for hospitalization or who require a hospital level of care was also expanded under the Demonstration.

Our selection, analysis, and presentation of quality metrics/assurances in this report is guided by the following research questions and associated hypotheses in the approved evaluation design (CMS 2019) relating to this expansion in targeted home and community-based services and Medicaid eligibility.

Research Question 5: **"What is the impact of providing additional home and community-based services to Medicaid and CHIP beneficiaries with serious emotional disturbance, behavioral/mental health issues, or intellectual disabilities/developmental disabilities?"**

Hypothesis 5: **"Providing home and community-based services to Medicaid and CHIP beneficiaries and others with serious emotional disturbance or intellectual disabilities/developmental disabilities with and without co-occurring mental illness will lead to better care outcomes including those relating to ambulatory care."**

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[81] Under Governor Christie's restructuring, services for developmentally disabled youth under 21 were transferred from the Department of Human Services, Division of Developmentally Disabled to DCF/CSOC. By January of 2013, DCF assumed responsibility for all children previously managed by the Division of Developmental Disabilities (DDD).

Research Question 6: **“What is the impact of providing home and community-based services to expanded eligibility groups, who would otherwise have not been eligible for Medicaid or CHIP absent the demonstration?”**

Hypothesis 6: **“Providing home and community-based services to expanded eligibility groups, who would otherwise have not been eligible for Medicaid or CHIP absent the demonstration will lead to improvements in preventive care and avoidable utilization.”**

Research Question 7: **"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 would otherwise be at risk for, institutionalization?”**

Hypothesis 7: **"Providing home and community-based services to Medicaid and CHIP beneficiaries and others with serious emotional disturbance who have, or who would otherwise be at risk for, institutionalization will reduce avoidable utilization.”**

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 Waiver Program

The ASD pilot program began under the first Demonstration. The services provided through the ASD pilot program were 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 current Demonstration (versus the previous) were:

- Behavior Consultative Supports
- Individual Behavior Supports

Up to 200 children under 13 years of age with ASD who were Medicaid/CHIP eligible and who had a functional behavioral assessment indicating their condition is of high or moderate acuity were 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.[82] The ASD pilot continued under the Demonstration renewal until approval of a State

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[82] Service codes for the new behavioral therapies and special program codes (SPC) identifying the beneficiaries in the waiver pilot were not built into the administrative claims system of the State’s fiscal agent (Molina) at the time

Plan Amendment (SPA) which incorporated the services into the NJ Medicaid State Plan. During the years examined in this interim report, the ASD pilot was operating under waiver authority as the SPA had not yet been approved.

CSSP-I/DD

The program for children with ID-DD and co-occurring mental illness (MI) also began under the first Demonstration. This program 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 Demonstration:

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- Individual Supports
- Natural Supports Training
- Intensive In-Community Services – Habilitation
- Respite
- Non-medical Transportation
- Interpreter Services

Children up to age20 years old with a dual diagnoses of ID-DD/MI, Medicaid/CHIP eligible, who meet the level of care criteria, and are involved with a Care Management Organization, were eligible for these services through the ID-DD/MI program.[83] When the Comprehensive Demonstration was renewed in 2017, this pilot program was absorbed into the Children's Support Services Program (CSSP) and was expanded to cover children with ID-DD without a co-occurring mental health diagnosis. Two services, case management and intensive in-community services, started in March 2015. Individual Supports began in June 2015, respite was operationalized in January 2016, interpreter services were offered beginning in January 2017 and non-medical transportation was operationalized in November of 2017. Natural Supports has not yet been implemented.

CSSP-SED

The SED component of the Demonstration (1) expands Medicaid/CHIP eligibility to youth with SED who are at-risk for hospitalization or who require a hospital level of care regardless of parental income, (2) makes otherwise ineligible SED children eligible for Medicaid behavioral health services, and (3) provides three new health services shown to be critical in supporting children with serious emotional disturbance in the community:

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the pilot program began. Claims were handled manually until March 2015 when the service codes become operational. We also observe children with an active SPC for the ASD waiver pilot starting in 2015.

[83] The services are delivered on a FFS basis as part of the Individual Service Plan implemented by the child's Care Management Organization.

- Social Emotional Learning
- Interpreter Services
- Non-medical Transportation

The expansion in eligibility for CSOC services (including new Medicaid waiver services) to youth with SED, and expansion of eligibility for behavioral health services became effective upon approval of the first Comprehensive Waiver in October 2012. The new waiver services were targeted at children with SED up to age 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. The expansion policy that provided youth with SED Medicaid State Plan A eligibility if they experienced an out-of-home placement began in July 2016. When the Demonstration renewal was approved, the SED pilot became part of the CSSP, and non-medical transportation was operationalized for youth with SED, just as it was for those with ID-DDin the CSSP, in November of 2017.

In this chapter we first assess quarterly or monthly estimates of enrollment in each of these waiver programs (ASD, CSSP-I/DD, CSSP-SED, and separately CSSP-SED Plan A). Then we utilize descriptive and multivariate regression analyses, using statistical techniques such as Difference-in-Differences Modeling and propensity score matching (see Methods section for details), to identify the impacts of these targeted home and community-based services, as well as the expansion in Medicaid eligibility, on the health outcomes of waiver participants after accounting for individual characteristics and time effects.

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, 2013 through December 31, 2019.[84] We used recipient and claims-level information to allow for stratification of quality metrics to the relevant populations of youth. All utilization and spending estimates reflect claims adjustments and updates through a minimum of 6 months from the date of service. We also present available quality assurances reported by DCF-CSOC as part of their Demonstration monitoring and reporting requirements and shared with us by the Division of Medical Assistance and Health Services (DMAHS).

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[84] We do not use baseline years preceding approval of the initial Demonstration in October 2012 since DCF was not the State agency managing services for these populations of youth until January 2013. Also the first services to be delivered under the waiver did not begin until 2014.

Claims-based Measures

The measures in this chapter span around 4.5 years of the base Demonstration period (2013-2017) and the first 2.5 years of the renewal Demonstration period (2017-2019). The measures are for specific types of utilization that reflect quality of care in the community and therefore, are applicable only to children also receiving outpatient and inpatient care services under Medicaid such that their utilization is reflected in our claims database. This means these measures cannot be calculated for all youth with SED enrolled in the waiver, only those eligible for Medicaid State Plan services.

Table A enumerates the measures we proposed to examine in our evaluation plan and the populations for which they are applicable. To ensure non-identification and estimate accuracy, only metrics where the numerator and denominator criteria are fulfilled (see Reporting Criteria below) are reported in the results section. Appendix 5A contains additional details on the preparation of each of these measures.

Table A: Inventory of Claims-based Measures

	Measure	Populations
	Utilization	
1	Inpatient hospitalizations (all ages)	ASD, CSSP-I/DD, CSSP SED Plan A
2	Emergency Department (ED) Treat-and-Release Visits (all ages)[a]	ASD, CSSP-I/DD, CSSP SED Plan A
3	Inpatient days (all ages)	CSSP-I/DD, CSSP SED Plan A
4	Avoidable hospitalizations (age 6+)	ASD, CSSP-I/DD, CSSP SED Plan A
5	Avoidable emergency department (ED) visits (all ages)	ASD, CSSP-I/DD, CSSP SED Plan A
6	Hospitalizations for mental illness (age 6+)	CSSP-I/DD, CSSP SED Plan A
7	Residential treatment center (RTC) stays (all ages)	ASD, CSSP-I/DD, CSSP-SED & Plan A
8	Well-child visits in the 3-6th year of life (age 3-6)	ASD, CSSP-I/DD, CSSP SED Plan A
9	30-day hospital-wide readmissions (all ages)	CSSP-I/DD, CSSP SED Plan A
	Spending	

	Measure	Populations
10	Spending related to all inpatient hospitalizations and ED visits (all ages)	ASD, CSSP-I/DD
11	Spending related to avoidable hospitalizations and ED visits (all ages)	ASD, CSSP-I/DD

[a] We also calculated the most prevalent diagnostic condition group recorded on claims for ED visits for youth in the CSSP-SED Plan A. Further details on methodology are in Appendix 5A.

We are also assessing the feasibility of examining the volume and array of waiver services used in the CSSP by identifying claims with procedure codes corresponding to these services. We have completed a preliminary assessment of the occurrence of these codes across 2015-2019 and are consulting with state officials from DCF and DMAHS to understand whether the necessary information is captured in our claims database. Some claims are excluded from our claims extract and some services may not be billed separately, such as Social Emotional Learning which is delivered as part of the Intensive In-Community state plan service. Therefore, this assessment of services will not be addressed in this interim report. It is important to note that inclusion in our waiver population groups is not contingent on observation of billed services.

Inclusion and Exclusion Criteria

Each metric has inclusion and exclusion criteria specified by the measure steward. If not already part of the metric specification, an inclusion criteria imposed on all metrics was 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.

Spending

Data on spending come from the payment fields in the Medicaid claims data. We only tabulated spending by Medicaid FFS and Medicaid Managed Care Organization (MCOs) 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. Spending for hospital use only reflects facility charges and does not include any physician or lab charges associated with hospitalization or outpatient visits. All spending was inflation adjusted and expressed in pre-Demonstration year 2012 purchasing power using the Consumer Price Index for medical care (BLS 2020).

Reporting Criteria

Estimates are suppressed if they are not based on sufficient sample sizes. For all measures, estimates are not shown if the numerator is between 1 and 10 or the denominator is less than 30.

Population Definitions

The Medicaid youth enrolled in Demonstration waiver programs administered by DCF were identified starting with recipient-level program and waiver enrollment data for each month. Any recipient with an active 'Special Program Code' (SPC) of 47 (indicating ASD low acuity), 48 (indicating ASD moderate acuity) or 49 (indicating ASD high acuity) was included in the ASD cohort for the month. Any recipient with an active SPC of 38 (for ASD waiver) was included in the ID/DD cohort for the month. Within this cohort of ID/DD youth, we identified those ever diagnosed in the year with a mental health condition using the Healthcare Cost and Utilization Project (HCUP) Clinical Classification Software (CCS)[85] (HCUP 2020) to approximate those ID/DD youth with a co-occurring mental illness since there is no administrative claims indicator available to make that distinction. Any recipient with an active SPC of 37 (for SED waiver) in the month was included in the SED cohort for the month. This would include youth both at-risk for hospitalization and at a hospital level of care. Within the SED cohort, if the recipient also had an active Program Status Code of 220 during the month, the recipient was eligible to receive State Plan services under the eligibility expansion for SED youth in out-of-home settings and was counted in our SED Plan A population. To create quarterly and annual versions of these cohort indicators, we required that an individual satisfy the monthly inclusion criteria at least once over the time period. It is important to note that many youth receive non-Medicaid funded supportive services from DCF outside these special waiver programs, such as young adults with ASD between the ages of 13 and 20 and ID/DD youth that were not Medicaid eligible but met the clinical need for the service. They would not be included in our analytic population for that policy-impacted group.

Youth with ASD or other intellectual/developmental disabilities not enrolled in the waiver programs were also identified in our claims data as potential comparison beneficiaries. Youth having 2 outpatient or 1 inpatient claim with an ID/DD diagnosis (including ASD) during the year and not residing in a developmental center were eligible to be in the comparison population (See Appendix 5B for conditions; McDermott et al. 2018).

Analytic Approach

Due to variations in sample size across waiver program enrollment and occurrence of measured outcomes, differences in timing of waiver program initiation, and characteristics of the comparison group, our analytic approach varied for assessing each of these waiver programs.

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[85] See Appendix 5E for diagnosis groups considered mental health in the HCUP CCSR algorithm. Diagnoses for IDD conditions which are considered mental health conditions in the HCUP CCSR algorithm were excluded from our indicator: Pervasive Developmental Disorders Including Autistic Disorder, Moderate-to-Profound Intellectual Disability, Mild Intellectual Disability, and Unspecified Intellectual Disability.

ASD and CSSP ID-DD Populations: We examine the impact of eligibility to receive home and community-based services on youth in these programs separately, but using the same methodology. We present here the analytical approach used for both. Using a comparison population of youth not enrolled in these waiver programs and data from 2013-2019, we conduct multivariate regression analyses to adjust for patient characteristics utilizing a difference-in-differences (DD) framework (Chakravarty et al. 2015; Ashenfelter and Card 1985). In general, DD modeling identifies the impact of the policy change by comparing the trend in outcomes for the program eligible/targeted (intervention) population from the pre- to the post-implementation period to that of a comparison group which is otherwise similar, but not subject to the policy. 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 does not change over time

Equation (1) illustrates the general DD specification.

$$Y_{it} = \beta_0 + \beta_1(TREAT)_i + \beta_2(TREAT_i * POST_{it}) + \beta_3 Z_t + \gamma X_{\ it} + \varepsilon_{it} \qquad (1)$$

In the above equation, variable Y_{it} represents the utilization or cost-based outcomes enumerated in Table A for the patient I receiving home and community-based waiver services at time t. $POST_{it}$ is an indicator (0/1) variable that identifies the period starting when patient i enrolled in the waiver. *TREAT* indicates if the individual was enrolled in the waiver program (ASD or CSSP-I/DD). β_2 represents the DD estimate measuring the program impact. Z_t represents a vector of indicator variables for specific periods during the demonstration when other policies were in effect (e.g. Medicaid expansion). X_{it} is a vector of other control variables relating to the patient, and $\varepsilon_{it,}$ represents the random error term. We include year fixed effects, and in models where spending is the outcome, we use a gamma distribution with log link. The exponentiated coefficient of β_2 in the cost models is a ratio of risk ratios (RRR). A RRR magnitude greater than one reflects an increase in costs associated with the policy and less than one reflects a cost reduction.

Because youth entered the waiver programs at different times over the study period, the intervention group in our models was comprised of individuals ever enrolled in the waiver program being examined (ASD or CSSP-I/DD). Individuals were removed from the intervention group if they were enrolled less than 10 months in the year to ensure their utilization outcomes could be adequately captured. We defined a comparison group comprised of Medicaid/CHIP youth of similar ages who also had a minimum 10 months of enrollment and were never involved in the DCF waiver program being examined over the study period. Observations for any periods of time when individuals in the comparison group were enrolled in any of the other DCF waiver programs were also removed. Due to the staggered enrollment and earliest post-policy period being midway through the first demonstration period, we did not separately estimate policy effects for the base and renewal demonstration periods.

We then used propensity score analysis for selecting beneficiaries from the comparison group who match to the intervention group. Such a method takes into account patient characteristics determining evaluation outcomes that may also determine the likelihood of enrolling in the waiver. An initial probit regression models the likelihood of being in the intervention group as a function of the following characteristics: age, sex, Medicaid/CHIP eligibility category, enrollment days, behavioral health status, dual eligible status,[86] categorization of the Chronic Disability Payment Score (CDPS),[87] and presence of other chronic conditions calculated using the Chronic Conditions Warehouse definitions (CMS 2018). The weights from this model are used to weigh observations in regression models. Incorporating such propensity score reweighting (Nichols 2007; 2008) generates an optimal comparison group for the difference-in-differences analysis that is similar to the intervention group. For all propensity matching, we followed standard methodology utilizing a common support that entailed dropping treatment observations whose estimated propensity score is higher than the maximum or lower than the minimum propensity score of the control observations.

The unit of analysis for each outcome measure determined the time unit for propensity matching. Population-based measures 1-6 and 10-11 used a person-quarter unit of analysis since beneficiaries are observed over all enrolled quarters during the study period and we can measure whether these outcomes (i.e. an inpatient hospitalization or ED visit) occurred or did not occur over that unit of time. Measures 7-8 are annual measures, indicating the presence of a specific type of utilization for each eligible beneficiary ever in the year and thus have a person-year unit of analysis. For person-quarter and person-year outcomes, [88] we conducted a separate propensity score matching for each of the quarters or years, respectively, and then pooled the matched observations for the overall regression. Outcomes applicable to a particular age range used the propensity matched comparison group from the same age range. The smaller sample size for the ASD population meant the person-quarter spending measures 10-11 could not be

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[86] This characteristic was only used for matching the CSSP-I/DD cohort since there were no dual eligibles in our ASD cohort.

[87] This diagnosis-based risk score measures disease diagnoses and burden of illness with higher values indicating greater disease burden (Kronick et al. 2000).

[88] We did not conduct propensity matching or regression analysis for Measure 4 (avoidable hospitalizations) because there were too few such hospitalizations among the populations of waiver youth to meet numerator reporting criteria. We also could not analyze Measure 9 (hospital-wide 30-day readmission), an index-event based measure, because there were also not enough qualifying index hospitalizations and/or readmissions to meet reporting criteria.

modeled using propensity weights and the gamma distribution with log link, therefore models were run using the full unmatched comparison population.

When modeling population-based metrics, patient-level control variables include all characteristics included in propensity score matching as described above (e.g. age, sex, CDPS risk score, etc.). We also adjust for any linear time trend over the study period, the Medicaid expansion period[89], and controls for quarter to adjust for seasonality effects and variation in our claims runout. We also incorporate clustering by beneficiary zip code.

It should be noted that youth in our comparison group may be of a different acuity level than those youth enrolled in the waiver. Our matching algorithm which takes into account other risk factors helps reduce these differences, and, additionally, the DD model helps mitigate issues of differences in acuity level. The DD analysis also accounts for the possibility that some youth in the comparison group may also be receiving the same or similar supportive services in their homes or in school as those individuals enrolled in the waiver. As long as the receipt of any similar services amongst the comparison group stayed relatively constant over our study period, this would not affect our estimate of the policy impact. However, the fact that these services were also provided to youth outside the waiver programs using state funds *at the same time these services became available to waiver participants* may cause us to underestimate the impact of waiver services if such individuals are in our selected comparison group. This would create a conservative, (statistically, a bias towards the null) estimate of the impact. Additionally, ASD services started in 2014 but were not built into the administrative claims system of the State's fiscal agent until 2015. This means a time when services were being received can be attributed to the pre-policy period for some youth in our models, and this also reduces the chance we will observe statistically significant effects. Nevertheless, the benefits of using a well-matched comparison group and a DD framework which identifies changes in outcomes over time give this approach more potential for identifying actual policy effects, than not using a comparison group at all.

CSSP-SED Population: We are limited in our ability to determine the effect of providing targeted home and community-based waiver services to youth with SED. We can only observe utilization for youth with SED enrolled in the CSSP if they were also Medicaid eligible. Those eligible due to the out-of-home expansion are examined as described above. Those with Medicaid eligibility via other pathways are a small subset of the overall population in the SED waiver program and may not be a representative sample, considering low income or disability could be the reason they are Medicaid eligible. So instead of hospital utilization outcomes, we look at more proximal

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[89] Although the Medicaid expansion was for low-income non-elderly adults, this helps account for system-level service delivery changes caused by the growth in the Medicaid population.

outcomes for this population. The goal of the SED waiver program is to maintain youth in their homes and communities and reduce out-of-home placements until ultimately, they no longer need the waiver services. Therefore, we examine enrollment patterns in the waiver and the likelihood that youth in the waiver will subsequently become enrolled under the Plan A expansion as a proxy for the stability of enrolled youth.

CSSP-SED Plan A Population: Evaluating the expansion in eligibility for Medicaid State Plan services for youth with SED experiencing an out-of-home placement is not amenable to the DD approach because we cannot observe outcomes for these children before they gained Medicaid eligibility. Therefore, our strategy is limited to observing trends in outcomes for the period after policy implementation. We do this by selecting a cohort of youth gaining Plan A eligibility in 2016-2017 and examining their rates of hospital utilization over 2018-2019 while they remain enrolled under this Medicaid expansion. We also calculate yearly enrollment-adjusted rates of outcomes for all Plan A beneficiaries enrolling at any time over 2016-2019. The cohort approach compares the same people over time to ensure that observed changes in utilization are not due to differences in characteristics of youth newly enrolling or disenrolling during this time period. Since youth would have had to remain in an out-of-home setting to continue qualifying for Plan A, this is likely to be a group with higher needs. The repeated cross-sectional rates give a picture of outcomes for all youth gaining eligibility under the expansion.

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

Our estimation procedures were conducted using SAS Enterprise Guide 7.15 and STATA MP 16.1 software. Propensity matching utilizes the psmatch2 commands in Stata.

Results

ASD & CSSP-I/DD Waiver Programs

Figure 5.1 shows enrollment totals in the ASD pilot and CSSP-I/DD program from the first quarter of 2015 through the last quarter of 2019. Enrollment in both has grown over this time period with ASD enrollment reaching its cap of 200 in early 2019. We do not observe an increased rate of growth in the ID-DD program around Q3 of 2017 when the Demonstration renewal expanded eligibility to individuals without co-occurring mental illness. We estimate around only 10.4% of enrollees in the ID-DD waiver program in 2018 did not have co-occurring mental illness. This was around 11.5% in 2019 for a total of about 318 youth gaining waiver eligibility in total due to this expansion (data not shown).

ASD Program Regression Results: Table 5.1 provides the adjusted effects based on the DD estimation comparing changes over time in the ASD pilot population relative to the comparison group for each of the outcome measures meeting reporting criteria after adjustment for patient characteristics and time trends. Coefficients were small in magnitude. There is an estimated 0.3 fewer inpatient hospitalizations, 0.5 additional ED visits, and 0.5 additional avoidable ED visits per 100 beneficiaries per quarter associated with participation in the ASD pilot. However, none of these effects were statistically significant. There was also no statistically significant difference in overall hospital spending or avoidable hospital spending for youth in the ASD pilot although point estimates suggest lower costs. Youth in the ASD pilot have 0.4 percentage point (pp) lower likelihood of having an admission to a residential treatment center (RTC), but this was also not a statistically significant effect. Finally, our model also estimates a decline of 3.7 pp in the likelihood of receiving a well-child visit for those ages 3-6 in the ASD waiver program, but this was again not statistically significant.

CSSP-I/DD Program Regression Results: Table 5.2 provides the adjusted regression effects for the CSSP waiver program serving youth with ID-DD. We find evidence of improvement in some measures of hospital and ED use associated with this waiver program. There was a statistically significant decrease of 2.5 ED visits and 1.2 avoidable ED visits per 100 beneficiaries in the ID-DD waiver program per quarter ($p<0.05$). We also estimate declines, though not statistically significant, of 1.7 inpatient days per beneficiary per quarter as a result of participation in this waiver program. The estimates for overall hospitalizations and mental illness hospitalizations were small and not significant but were in the direction of slightly more inpatient hospitalizations overall (0.3 per 100 beneficiaries per quarter) and fewer mental illness hospitalizations (-0.1 per 100 per quarter). We estimate marginally significant reduced avoidable hospital spending among youth with ID-DD enrolled in the CSSP ($p<0.1$).

CSSP-SED Waiver Program

Figure 5.2 shows the quarterly number of youth with a Special Program Code for the SED Waiver program from Q1 of 2013 after approval of the first 1115 Demonstration through the last quarter of 2019. Starting in July 2016, this would include youth enrolling via the Plan A expansion. We observe a general upward trend over the first waiver demonstration period from 4,000 enrollees to a high point of 5,864 enrollees at the start of 2018. The decline through 2018 and 2019 during the second waiver demonstration period is due to stopping automatic enrollment for youth receiving only mobile dispatch services. Representatives from DCF estimated that most of these youth eventually end up enrolling in the waiver. On average, about 3% of SED waiver enrollees have full Medicaid coverage through some other eligibility mechanism, not counting those eligible through the Plan A expansion (data not shown).

Figure 5.3 shows the average number of months youth are enrolled in the SED waiver program. We only examine this for youth enrolling through the end of 2018, to give at least one year post-enrollment by the end point of the data available for this interim report, and only for the first-time enrollment (if youth enrolled more than once). The average is around 9 months in the period before the Fall of 2015, when targeted home and community-based services were operationalized through Medicaid as part of the Demonstration. After that, the average number of months enrolled in the waiver declines to about 6 to 6.5 months for youth enrolling in 2018. Figure 5.4 shows the percentage of waiver youth over this same time period who leave the waiver, but then re-enroll at some point. This rate also declines by about 5 percentage points over time, although it is possible this trend is because we have a longer period over which to observe any possible re-enrollment for those entering the waiver program in the early years. Also, the suspension of auto-enrollment of youth only receiving mobile dispatch would, at worst, make the population of waiver-enrolled youth higher acuity on average in later years, working against these observed declines. Taken together, both the declining trend in enrollment duration and the lower rate of re-enrollment could indicate improvement in the time needed to successfully stabilize youth, and an improvement/increase in the share of youth who do not require waiver services again.

Finally, Table 5.3 shows the percentage of youth in the SED waiver who end up receiving State Plan services under the eligibility expansion, which would mean they had an out-of-home placement, by months of enrollment in the waiver program. We only examine this outcome for youth enrolling in the waiver from June 2016 through December 2018, when the eligibility expansion was in effect and allowing at least one year of follow-up time in our data to observe Plan A enrollment. We calculate this rate in intervals of 6 months of enrollment up to 24 months. Anyone enrolled >24 months was combined into a single group to make sample size sufficient to meet our reporting criteria. First, the data show that only a small percentage of youth with SED in the waiver end up with an out-of-home placement and enrollment into Plan A. There also appears to be a dose-response trend beyond 12 months of waiver participation with youth enrolled for longer time periods less likely to end up in Plan A due to an out-of-home placement. Considering that youth remaining enrolled in the waiver for longer periods may have greater needs, this is a positive indication, albeit only descriptive and subject to caveats, that waiver services do help maintain children in their homes and communities.

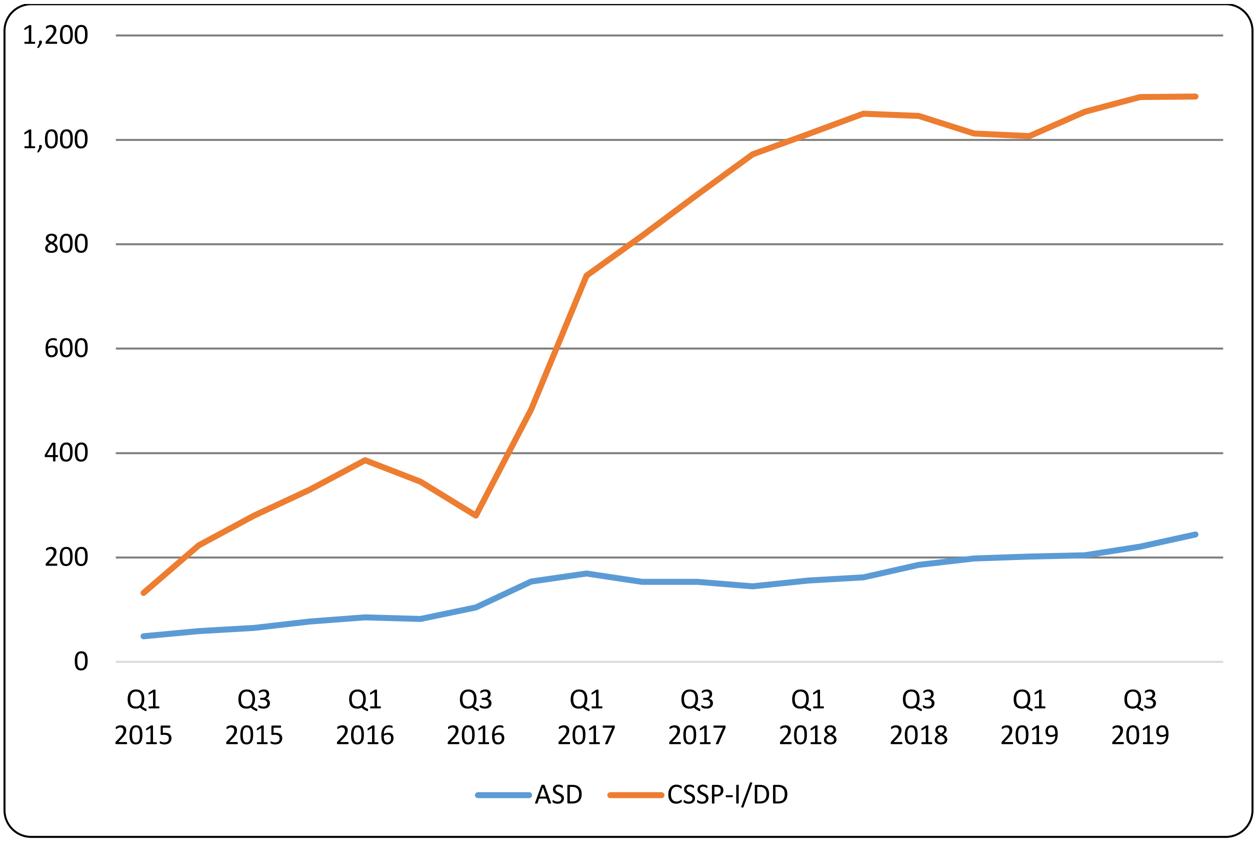
SED Plan A Expansion: Figure 5.5 shows total enrollment over time in Medicaid State Plan A due to the eligibility expansion for youth with SED in out-of-home-settings which started in July 2016. Enrollment climbed over both the initial and renewal Demonstration periods to over 350 youth enrolled through the end of 2019. Figure 5.6 shows the number of new enrollees in Plan A in each quarter. The number of new entrants was expectedly higher in the beginning when this eligibility pathway opened up and declined through 2018 with a jump up in the beginning of 2019. In total, nearly 700 youth with SED were enrolled in Medicaid at some point from July 2016 through December 2019 as a result of this eligibility expansion. This figure also shows the number of new enrollees in Plan A who never had any previous enrollment for Medicaid State Plan services. On average about 34% were gaining Medicaid eligibility through this expansion for the very first time. The remainder had been eligible for Medicaid at some point in the past via some other eligibility pathway though they were not necessarily still eligible through that pathway at the time of enrollment in Plan A via the expansion.

Figure 5.7 to 5.11 show utilization for two categories of youth enrolled in Plan A. First for the cohort enrolled in 2016 or 2017 and remaining enrolled through 2018-2019, we show the utilization for these two years. We also show utilization for all enrollees for each of the years 2017-2019. With the exception of ED visits, these outcomes happened infrequently among this population, so we did not have sufficient sample to show trends by quarter. There were also no avoidable hospitalizations among the Plan A population during this time period, so that outcome is not shown. In general, rates of outcomes were higher for the cohort staying enrolled in Plan A than for the population enrolled at a given point in time. Also, the rates of all outcomes, except for mental illness hospitalizations for the full population, increased over time for both populations, although we only had two years to compare for the cohort. Given these are youth with SED gaining access to Medicaid coverage, these increases could reflect pent up demand for needed care that would have otherwise been forgone. The rate of acute mental illness hospitalizations increased by 1 visit per 100 for the cohort over 2018-2019 from 10.9 per 100 to 11.9 per 100.

Over 2018-2019, the percentage in the cohort with an RTC admission declined from 68.3% to 34.6% (data not shown). Plan A eligibility is conferred for a year and maintained even if the beneficiary returns to the community during that time window. However, in order to remain in Plan A for multiple years, as is the case for this cohort we selected, the youth must have either stayed continuously in an out-of-home setting or returned before eligibility redetermination. Given that an RTC is a more intensive out-of-home placement, it is a positive finding that the likelihood of admission was halved for this cohort after at least a year in Plan A with SED waiver services. This measure was not calculated for all enrollees since an RTC admission could be the event which precipitates enrollment into Plan A.

Table 5.4 provides data on the reasons for emergency department visits among the population of youth with SED gaining eligibility for Medicaid through the out-of-home expansion. 'Mental, behavioral, and neurodevelopmental disorders' is the most common classification of visits among both all SED Plan A enrollees and our identified cohort in all years, with 'Injury, poisoning, and other external causes' the second most common. Comparing 2018 to 2019 for the cohort, these two classifications continue to account for over half of ED visits with 'Mental, behavioral, and neurodevelopmental disorders' making up a larger share in 2019. The specific diagnoses on ED visits for all Plan A enrollees shows that Major Depressive Disorder is one of the most prevalent diagnosis codes along with other long-term (current) drug therapy.

Figure 5.1: Average quarterly enrollment in the ASD and CSSP-I/DD waiver programs, 2015-2019



Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2015-2019; Analysis by Rutgers Center for State Health Policy

Notes: ASD=Autism Spectrum Disorder; CSSP-I/DD= Children's Support Services Program for youth with Intellectual/Developmental Disabilities

Table 5.1: Adjusted ASD waiver program impact on IP hospitalizations, ED visits, avoidable ED visits, hospital spending, avoidable hospital spending, RTC admissions, and well-child visits

Outcome Measure	ASD Waiver Program Impact Estimate
Propensity Matched Person-Quarter Models	
IP Hospitalizations	-0.0029
(n=13,345; wtd n=19,682[†])	(0.0047)
ED Treat-and-Release Visits	0.0050
(n=13,345; wtd n=19,682[†])	(0.0186)
Avoidable ED Visits	0.0052
(n=13,345; wtd n=19,682[†])	(0.0094)
Unmatched Person-Quarter Models	
Hospital Spending	0.7807
(n=218,997)	(0.1513)
Avoidable Hospital Spending	0.9991
(n=218,997)	(0.1534)
Propensity Matched Person-Year Models	
RTC Admission	-0.0036
(n=3,544; wtd n=5,162[†])	(0.0073)
Well-Child Visit (age 3-6)	-0.0367
(n=1,310; wtd n=1,960[†])	(0.0425)

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2013-2019; Analysis by Rutgers Center for State Health Policy

Notes: Difference-in-difference regression analyses; Spending outcomes modeled using gamma regression analysis with log link and table reports exponentiated coefficient of the interaction term giving the ratio of the two risk ratios (RRR) with values <1 indicating reduced spending associated with the waiver program.

ASD=Autism Spectrum Disorder; IP=Inpatient; ED=Emergency Department; wtd=weighted; RTC=Residential Treatment Center

Models adjusted for age, sex, Medicaid eligibility category, enrollment days, CDPS risk score category, presence of comorbidities, behavioral health status, Medicaid expansion period, quarterly/annual time trends, year and quarter indicators, and clustering by zip code

[†] This is the sample size when weighted (wtd). Propensity matching weights control observations so better matched controls contribute more to the model estimation.

Robust standard errors in parentheses

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

Table 5.2: Adjusted CSSP-I/DD waiver program impact on IP hospitalizations, IP days, ED visits, avoidable ED visits, mental illness hospitalizations, hospital spending, avoidable hospital spending, RTC admissions, and well-child visits

Outcome Measure	CSSP-I/DD Waiver Program Impact Estimate
Propensity Matched Person-Quarter Models	
IP Hospitalizations	0.0028
(n=62,888; wtd n=104,590†)	(0.0031)
IP Days	-0.0168
(n=62,888; wtd n=104,590†)	(0.0500)
ED Treat-and-Release Visits	-0.0248**
(n=62,888; wtd n=104,590†)	(0.0118)
Avoidable ED Visits	-0.0118**
(n=62,888; wtd n=104,590†)	(0.0050)
Mental Illness Hospitalizations	-0.0011
(n=54,961; wtd n=91,114†)	(0.0018)
Hospital Spending	0.8796
(n=62,888; wtd n=104,590†)	(0.1068)
Avoidable Hospital Spending	0.8213*
(n=62,888; wtd n=104,590†)	(0.0859)
Propensity Matched Person-Year Models	
RTC Admission	-0.0231***
(n=16,050; wtd n=26,474†)	(0.0062)
Well-Child Visit (age 3-6)	-0.0359
(n=3,103; wtd n=4,912†)	(0.0436)

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2013-2019; Analysis by Rutgers Center for State Health Policy

Notes: Difference-in-difference regression analyses; Spending outcomes modeled using gamma regression analysis with log link and table reports exponentiated coefficient of the interaction term giving the ratio of the two risk ratios (RRR) with values <1 indicating reduced spending associated with the waiver program.

CSSP= Children's Support Services Program for youth with Intellectual/Developmental Disabilities; IP=Inpatient; ED=Emergency Department; wtd=weighted; RTC=Residential Treatment Center

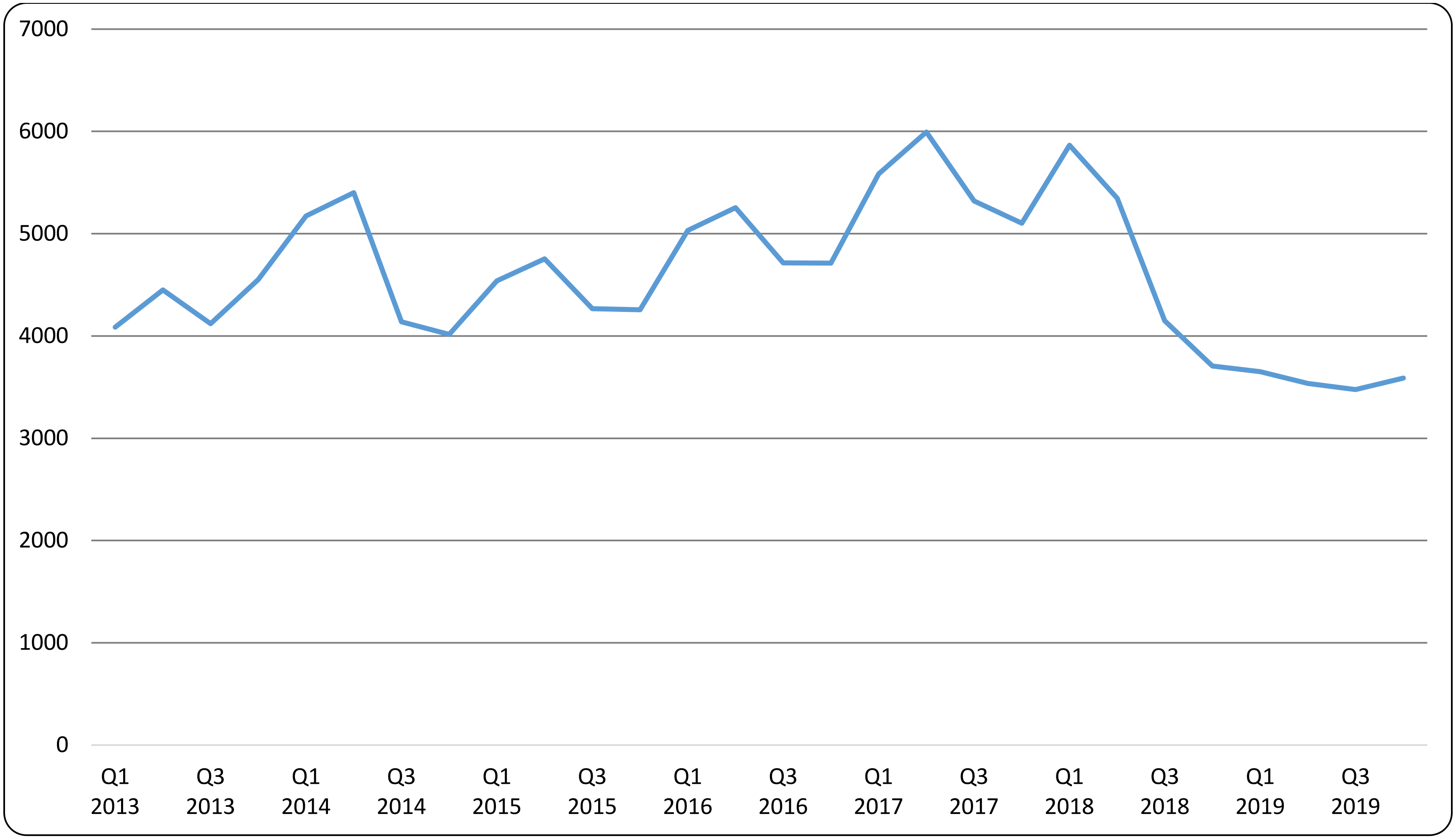
Models adjusted for age, sex, Medicaid eligibility category, enrollment days, CDPS risk score category, presence of comorbidities, behavioral health status, Medicaid expansion period, quarterly/annual time trends, year and quarter indicators, and clustering by zip code

†This is the sample size when weighted (wtd). Propensity matching weights control observations so better matched controls contribute more to the model estimation.

Robust standard errors in parentheses

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

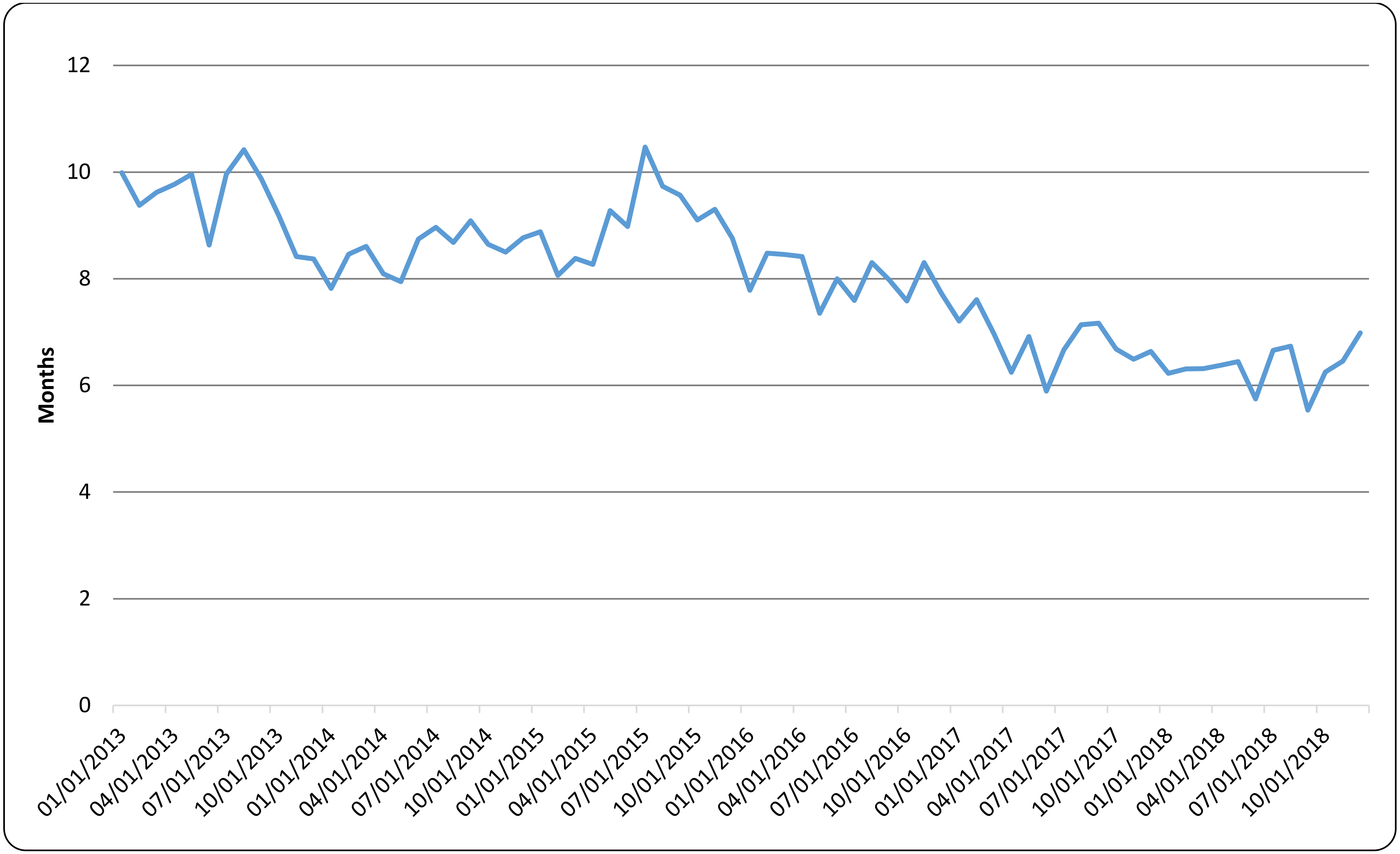
Figure 5.2: Average quarterly enrollment in the CSSP-SED waiver program, 2013-2019



Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2013-2019; Analysis by Rutgers Center for State Health Policy

Notes: CSSP-SED= Children's Support Services Program for youth with Serious Emotional Disturbance

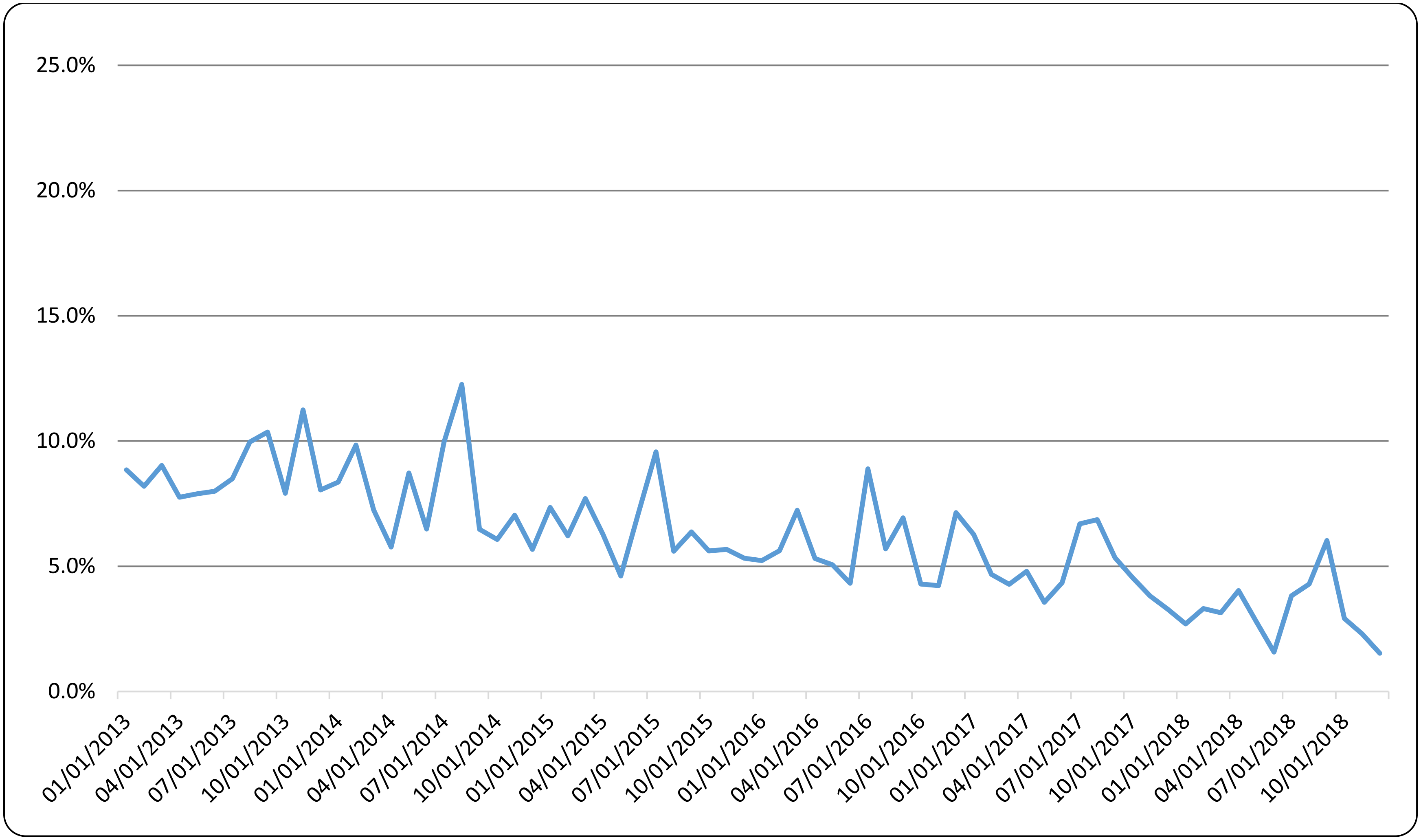
Figure 5.3: **Average duration of enrollment (in months) in the CSSP-SED waiver program by month of entry, 2013-2019**



Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2013-2019; Analysis by Rutgers Center for State Health Policy

Notes: CSSP-SED= Children's Support Services Program for youth with Serious Emotional Disturbance

Figure 5.4: Percent of beneficiaries in the CSSP-SED waiver program who re-enroll after a period of disenrollment, by month of initial entry, 2013-2019



Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2013-2019; Analysis by Rutgers Center for State Health Policy
Notes: CSSP-SED= Children’s Support Services Program for youth with Serious Emotional Disturbance

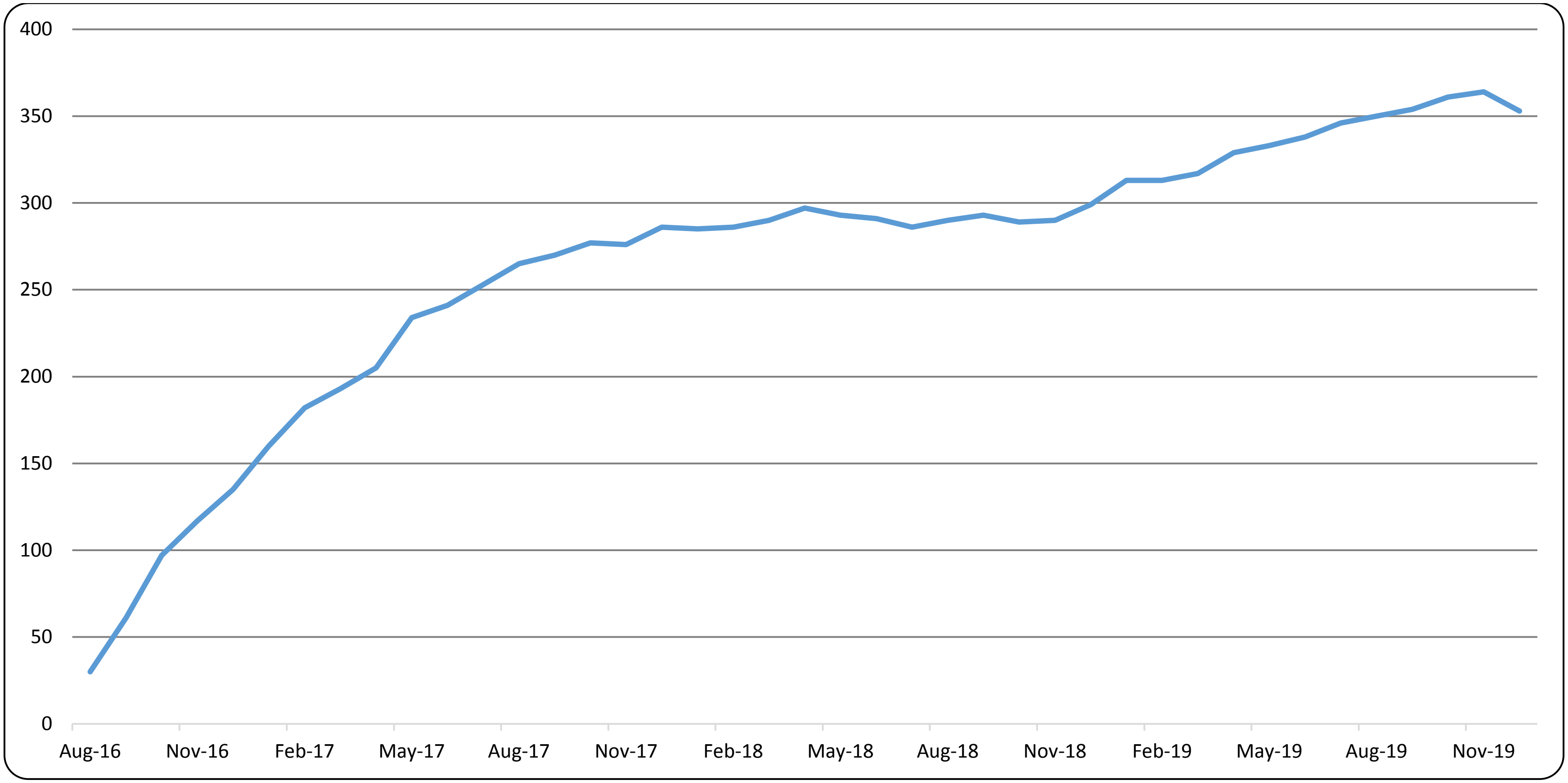
Table 5.3: Percent of CSSP-SED waiver beneficiaries becoming eligible for the SED Plan A expansion by months of enrollment in CSSP-SED, 2016-2019

Months in CSSP-SED Waiver	% enrolling in CSSP-SED Plan A
1 to 6	1.6%
7 to 12	3.8%
13 to 18	3.5%
19 to 24	2.9%
>24	<2.9%

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2016-2019; Analysis by Rutgers Center for State Health Policy

Notes: CSSP-SED= Children's Support Services Program for youth with Serious Emotional Disturbance

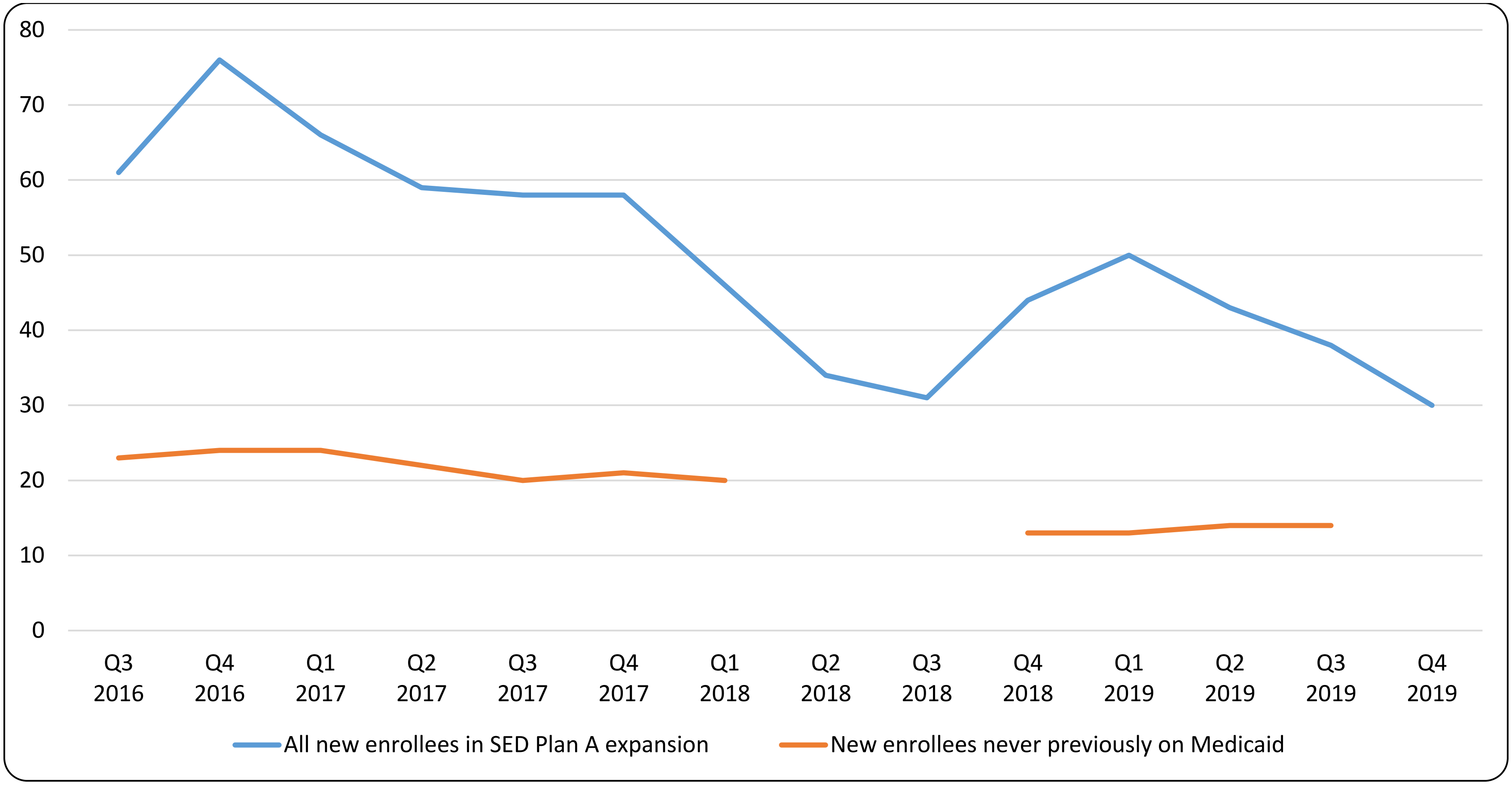
Figure 5.5: Monthly enrollment in Medicaid State Plan A under the CSSP-SED eligibility expansion, August 2016 – December 2019



Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2013-2019; Analysis by Rutgers Center for State Health Policy

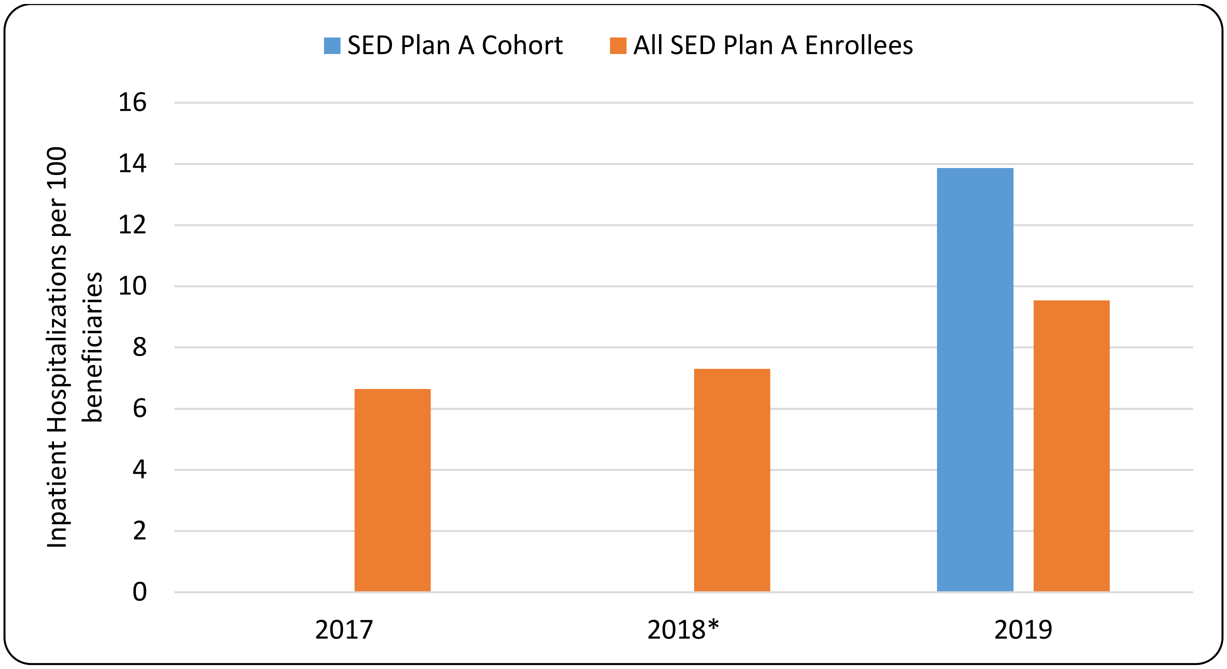
Notes: CSSP-SED= Children's Support Services Program for youth with Serious Emotional Disturbance

Figure 5.6: Quarterly number of new Medicaid State Plan A enrollees under the CSSP-SED eligibility expansion and number never previously enrolled in Medicaid, Q3 2016 – Q4 2019



Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2013-2019; Analysis by Rutgers Center for State Health Policy
Notes: CSSP-SED= Children's Support Services Program for youth with Serious Emotional Disturbance
Breaks in line for 'New enrollees never previously on Medicaid' are suppressed estimates due to values <11.

Figure 5.7: Inpatient hospitalizations per 100 beneficiaries in CSSP-SED Plan A, 2017-2019

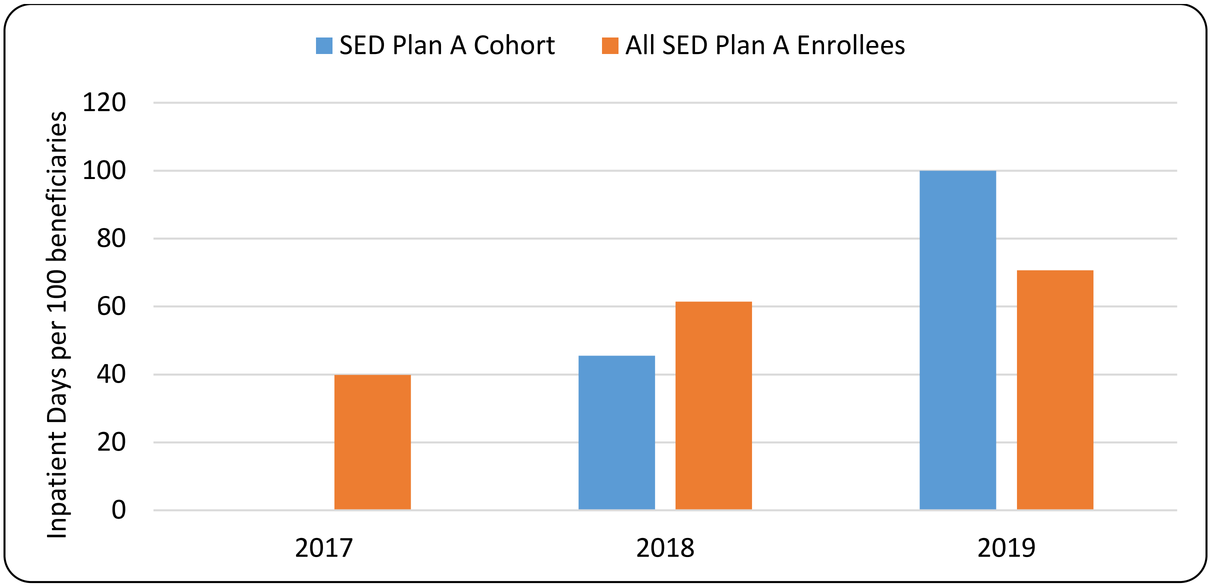


Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2017-2019; Analysis by Rutgers Center for State Health Policy

Notes: CSSP-SED Plan A= Children's Support Services Program for youth with Serious Emotional Disturbance enrolled in Medicaid State Plan A coverage. The "cohort" consists of youth remaining in this status for 2018-2019. All SED Plan A enrollees measures any youth in that status in the year of the estimate with no requirement for remaining in that status the following year.

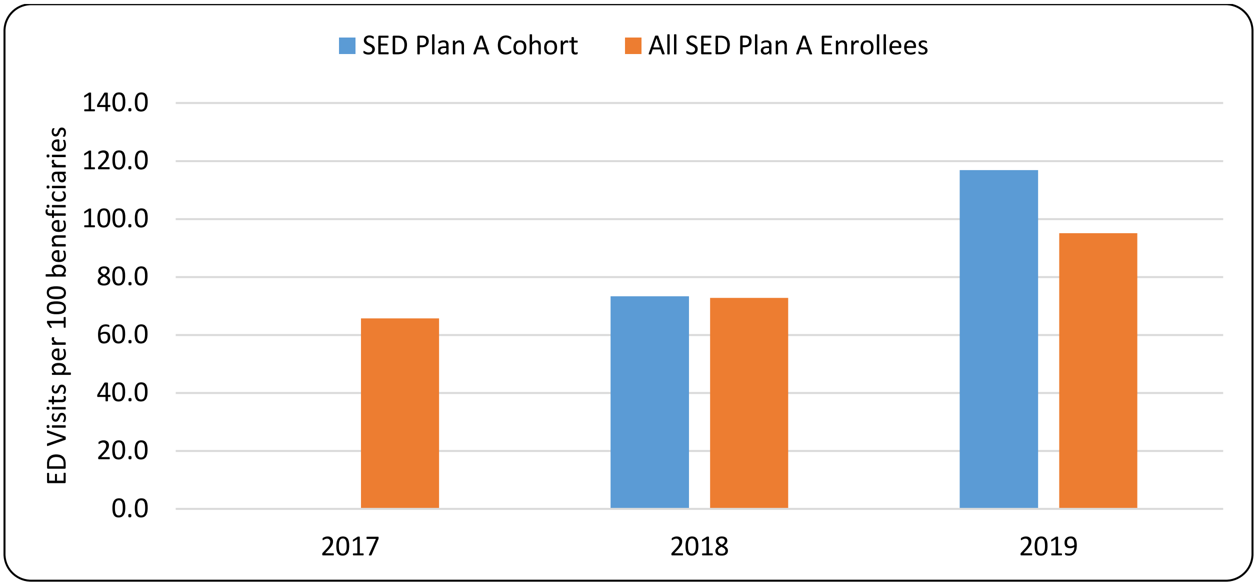
*Estimate not shown for SED Plan A cohort due to insufficient sample size

Figure 5.8: Inpatient days per 100 beneficiaries in CSSP-SED Plan A, 2017-2019



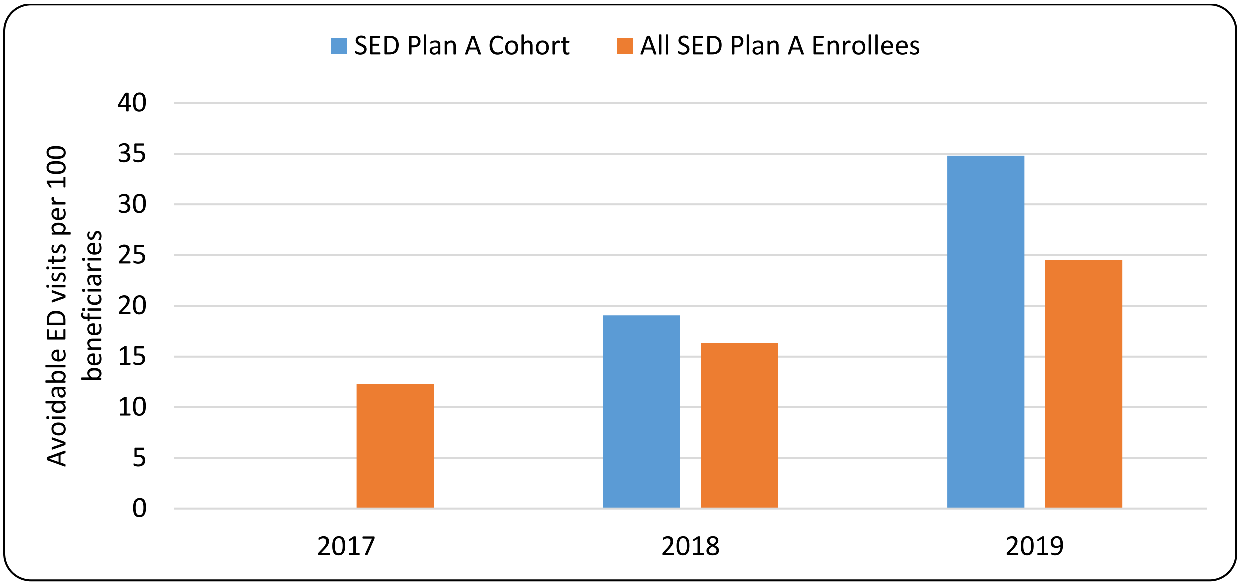
Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2017-2019; Analysis by Rutgers Center for State Health Policy
Notes: CSSP-SED Plan A= Children's Support Services Program for youth with Serious Emotional Disturbance enrolled in Medicaid State Plan A coverage. The "cohort" consists of youth remaining in this status for 2018-2019. All SED Plan A enrollees measures any youth in that status in the year of the estimate with no requirement for remaining in that status the following year.

Figure 5.9: Emergency department visits per 100 beneficiaries in CSSP-SED Plan A, 2017-2019



Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2017-2019; Analysis by Rutgers Center for State Health Policy
Notes: CSSP-SED Plan A= Children's Support Services Program for youth with Serious Emotional Disturbance enrolled in Medicaid State Plan A coverage. The "cohort" consists of youth remaining in this status for 2018-2019. All SED Plan A enrollees measures any youth in that status in the year of the estimate with no requirement for remaining in that status the following year.

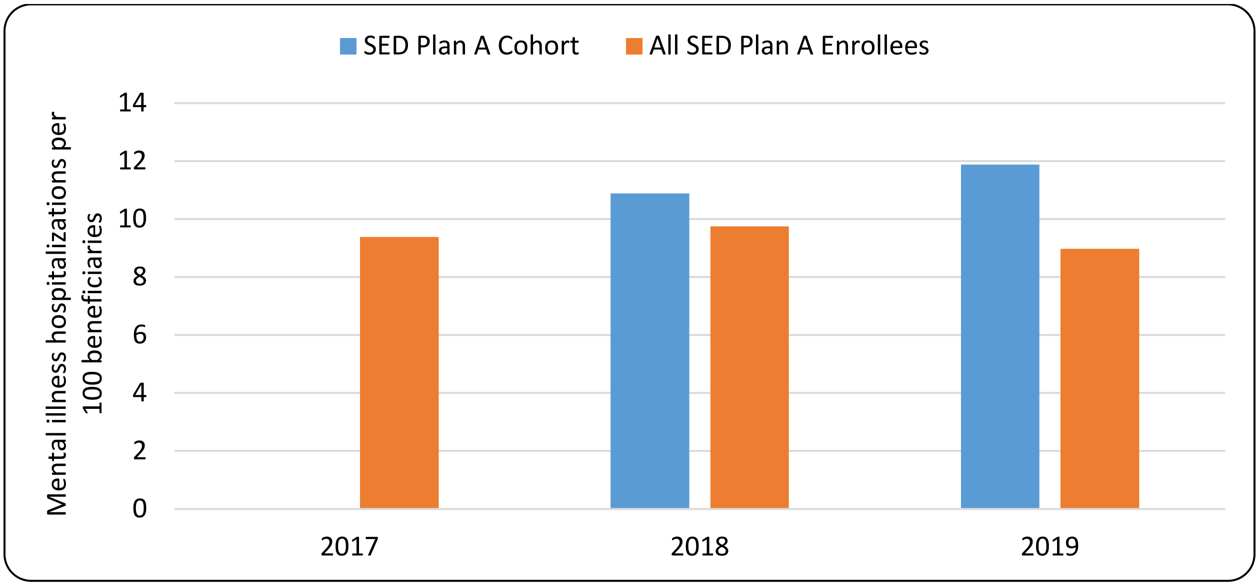
Figure 5.10: Avoidable emergency department visits per 100 beneficiaries in CSSP-SED Plan A, 2017-2019



Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2017-2019; Analysis by Rutgers Center for State Health Policy

Notes: CSSP-SED Plan A= Children's Support Services Program for youth with Serious Emotional Disturbance enrolled in Medicaid State Plan A coverage. The "cohort" consists of youth remaining in this status for 2018-2019. All SED Plan A enrollees measures any youth in that status in the year of the estimate with no requirement for remaining in that status the following year.

Figure 5.11: Hospitalizations for mental illness per 100 beneficiaries in CSSP-SED Plan A, 2017-2019



Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2017-2019; Analysis by Rutgers Center for State Health Policy

Notes: CSSP-SED Plan A= Children's Support Services Program for youth with Serious Emotional Disturbance enrolled in Medicaid State Plan A coverage. The "cohort" consists of youth remaining in this status for 2018-2019. All SED Plan A enrollees measures any youth in that status in the year of the estimate with no requirement for remaining in that status the following year.

Table 5.4: Most common condition categories and diagnoses for emergency department visits by beneficiaries in CSSP-SED Plan A, 2017-2019

CCSR Category for ED Treat-and-Release Visits			
All SED Plan A Enrollees	**2017**	**2018**	**2019**
Mental, Behavioral, and Neurodevelopmental Disorders	31.8%	32.9%	32.8%
Injury, Poisoning, and other external causes	31.2%	28.0%	22.7%
Factors influencing health status and contact with health svcs	16.2%	--	--
Symptoms, Signs, not otherwise specified	--	8.7%	9.5%
SED Plan A Cohort			
Mental, Behavioral, and Neurodevelopmental Disorders		25.7%	32.6%
Injury, Poisoning, and other external causes		25.7%	18.8%
Factors influencing health status and contact with health svcs		13.5%	--
Symptoms, Signs, not otherwise specified		--	14.5%

Most Common Diagnoses on ED Treat-and-Release Visits
All SED Plan A Enrollees
2017
F329 - Major Depressive Disorder, Single Episode
F909 - Attention-Deficit Hyperactivity Disorder, Unspecified
F913 - Oppositional Defiant Disorder
2018
F329 - Major Depressive Disorder, Single Episode
Z79899 - Other long term (current) drug therapy
F319 - Bipolar Disorder, Unspecified
2019
Z79899 - Other long term (current) drug therapy
F419 - Anxiety Disorder, Unspecified
F329 - Major Depressive Disorder, Single Episode

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2017-2019; Analysis by Rutgers Center for State Health Policy
Notes: CSSP-SED Plan A= Children's Support Services Program for youth with Serious Emotional Disturbance enrolled in Medicaid State Plan A coverage; CCSR=Clinical Classifications Software Refined (HCUP 2020).
The CCSR is based on the diagnosis in the first position on the ED claim, which is not necessarily the primary diagnosis for the visit. There are 21 CCSR body systems.

DCF-CSOC Reported Quality Assurances

The Department of Children and Families, Children's System of Care lists 17 assurances in its Quality Strategy, described below in Table 5.5. The assurances may be updated at any time—this evaluation covers the period through the end of Demonstration Year 7 (June 30, 2019). The assurances are monitored by the Division of Medical Assistance and Health Services' Quality Management Unit (QMU). One assurance is an administrative authority assurance handled by the Division of Medical Assistance and Health Services (DMAHS) in the Department of Human Services. Two assurances relate to enrollee quality of life, one relates to level of care, five relate to the plan of care (one of these was under development during the reporting covered by this interim evaluation), three relate to qualified providers (one of which was still under development during the reporting covered by this evaluation), four relate to health and welfare (one of which was still under development during the reporting covered by this interim evaluation) and one, still under development during the reporting covered by this interim evaluation, relates to financial accountability. Table 5.5 shows the assurances, with those still under development during the reporting covered by this interim evaluation shown in italicized text.

Table 5.5: Quality Strategy for HCBS ID/DD –MI and ASD pilots, Department of Children and Families (DCF), Children's System of Care (CSOC)

Topic (Assurance)	Assurance Number	Assurance Description
Administrative Authority	*1*	*Percent of sub-assurances that are compliant (handled by the Division of Medical Assistance and Health Services (DMAHS) in the Department of Human Services).*
Quality of Life	2	All youth that meet the clinical criteria for services through the Department of Children and Families (DCF), Division of Children's System of Care (CSOC) will be assessed utilizing the comprehensive Child and Adolescent Needs and Strengths (CANS) assessment tool. 100% of new enrollees examined.
	3	80% of youth should show improvement in Child and Adolescent Needs and Strengths composite rating within a year (of youth enrolled in waiver for at least one year).
Level of Care	4	CSOC's Contracted System Administrator (CSA), conducts an initial Level of Care assessment (aka Intensity of Services (IOS)) prior to enrollment for all youth. 100% of new enrollees examined.
Plan of Care	5	The Plan of Care (aka Individual Service Plan (ISP)) is developed based on the needs identified in the Child and Adolescent Needs and Strengths assessment tool and according to CSOC policies. 100% of youth enrolled during the measurement period.
	6	Plan of Care (ISP) is updated at least annually or as the needs of the youth changes, for 100% of youth enrolled during the measurement period.
	7	Services are authorized in accordance with the approved plan of care (ISP), for 100% of youth enrolled during the measurement period.

Topic (Assurance)	Assurance Number	Assurance Description
	8	*Services are delivered in accordance with the approved plan of care (ISP), for a random sample representing a 95% confidence interval (in development).*
	9	Youth/Families are provided a choice of providers, based on the available qualified provider network, for a random sample representing a 95% confidence level.
Qualified Providers	10	CSOC verifies that providers of waiver services initially meet required qualified status, including any applicable licensure and/or certification standards, prior to their furnishing waiver services. Record reviews for 100% of agencies.
	11	CSOC verifies that providers of waiver services continually meet required qualified status, including any applicable licensure and/or certification standards. Record reviews for 100% of agencies *(developed after reporting period covered in this interim evaluation).*
	12	CSOC implements its policies and procedures for verifying that applicable certifications/checklists and training are provided in accordance with qualification requirements as listed in the waiver. Record review for 100% of community provider agencies; *calculated for DY4 and DY5, in development for DY7.*
Health and Welfare	13	The State demonstrates on an on-going basis, that it identifies, addresses and seeks to prevent instances of abuse, neglect and exploitation. Review of Unusual Incident Reporting (UIR) database and child abuse/neglect database and Administrative policies & procedures for 100% of youth enrolled for the reporting period, *available in DY7*.
	14	The State incorporates an unusual incident management reporting system, as articulated in Administrative Order 2:05, which reviews incidents and develops policies to prevent further similar incidents (i.e., abuse, neglect and missing), as well as utilizes a child abuse/neglect database to report on this data. Review of databases and Administrative policies & procedures for 100% of youth enrolled for the reporting period, *available in DY7*.
	15	The State's policies and procedures for the use or prohibition of restrictive interventions (including restraints and seclusion) are followed. Review of databases and Administrative policies & procedures for 100% of all allegations of restrictive interventions reported, *available in DY7*.
	16*	The State establishes overall healthcare standards and monitors those standards based on the NJ established EPSDT periodicity schedule for well visits. MMIS Claims/Encounter Data for 100% of youth enrolled for the reporting period (in development).
Financial Accountability	17*	The State provides evidence that claims are coded and paid for in accordance with the reimbursement methodology specified in the approved waiver and only for services rendered. Claims Data, Plans of Care, Authorizations for 100% of youth enrolled for the reporting period (in development).

Source: DMAHS Reports to CMS

*The DY7 report provides some combined information on these, presented later in the chapter.

Table 5.10a (at the end of the section) shows the available assurances in detail (numerators, denominators, and percent of cases meeting the assurance criteria) for ID/DD–MI for the years for which reporting was available.

Assurance findings for ID/DD–MI . Table 5.6 discusses assurance findings. In general, compliance was very high in all years. Often (with assurances 2, 4, 5, 6, and 7) there was an administrative issue that led to the noncompliance finding, which should not persist. CSOC is drafting guidance for providers to improve timeliness and proper documentation on health and welfare assurances.

Table 5.6: Discussion of quality assurance outcomes for HCBS ID/DD –MI , Department of Children and Families (DCF), Children's System of Care (CSOC), in DY4, DY5 and DY7

Assurance	Discussion
2-All new enrollees assessed with CANS	Compliance with this assurance was very high in all years. The two youth found not to have a completed assessment (one in DY4 and one in DY7) had voluntarily withdrawn early in the program, before an assessment could be completed.
3-Enrollees should show CANS composite rating improvement within a year (1+ years enrolled, target of at least 80%)	This assurance has always been above its benchmark of 80% and has steadily improved, from 83% in mid-2016 to 96% in mid-2019.
4-Level of care IOS assessment conducted prior to enrollment for all new enrollees	Compliance with this assurance was very high in all years. In DY7 there was an issue with an enrollment algorithm that pushed enrollment dates to one month earlier than the care management enrollment date. The issue has been corrected. In DY4 the two youth should not have been identified as waiver participants.
5-Care plan (ISP) developed based on needs in CANS and CSOC policies for all new enrollees	Compliance with this assurance was very high in all years. In DY4, one youth discontinued service after being added to the waiver. The provider had developed a transitional ISP based on an older CANS after documenting unsuccessful attempts to meet with the family to develop a new one.
6-Care plan (ISP) updated at least annually or as needs change (all enrolled during measurement period)	Compliance with this assurance was very high in all years. In DY7, compliance was 100%. In DY5, 2 youth lacked an update. In DY4, one youth had an ISP less than one year old and should have been characterized as not applicable, bringing the assurance to 100%.
7-Services authorized in accordance with approved ISP	Compliance was 100% in DY7 and DY5. In DY4, one youth who discontinued shortly after enrolling was counted here.

Assurance	Discussion
(all enrolled during measurement period)	
9-Youth/families provided choice of providers, based on available qualified network (random sample representing 95% confidence level)	Compliance was 100% in DY4 was based on evidence present in record reviews. In DY5 a new documentation process was recently implemented. In DY7 CSOC noted evidence of choice being offered that was not always captured with the documentation process. CSOC has provided additional guidance on documentation processes.
10-CSOC verifies providers qualified (licensure, certification, 100% agencies)	Compliance was 100% in years where there were new providers (there were no new providers in DY7).
12-CSOC implements verification that applicable certifications/checklists/training provided in accordance with qualification requirements, 100% Community Provider Agencies	Compliance was 100% in years where there were new providers (there were no new providers in DY7).
13 - Health & Welfare - state demonstrates ongoing identification, addressing and prevention of abuse/neglect/exploitation (number/percent of timely UIRs for youth enrolled in reporting period)	This assurance was in development in DY4 and DY5. In DY7, 95% of reporting was timely. CSOC will provide guidance to clarify the reporting process and expectations to increase compliance.
14 - Health & Welfare - Number/percent of UIRs for youth enrolled in reporting period that had required follow up, of those that required follow up	This assurance was in development in DY4 and DY5. In DY7, 84% of reporting was timely. CSOC has provided guidance to clarify the reporting process and expectations to increase compliance. Additionally, CSOC has convened a UIR workgroup that can address any UIR issue as it may arise.
15 - Health & Welfare - Number/percent of UIRs involving restrictive interventions that were remediated in accordance to policies/procedures, of total UIRs involving restrictive interventions	This assurance was in development in DY4 and DY5. In DY7, 0% of 7 UIRs were able to be documented as remediated in accordance to policies/procedures (none involved injury to the youth). CSOC has provided guidance for providers and has convened a UIR workgroup to address any UIR concerns.

Table 5.10b (at the end of the section) shows the available assurances in detail (numerators, denominators, and percent of cases meeting the assurance criteria) for the ASD pilot for the years for which reporting was available.

Assurance findings for ASD pilot. Table 5.7 discusses assurance findings. In general, compliance was very high in all years. By DY7, only one youth did not show improvement on their assessment rating within a year (assurance 3), bringing the program to 99.7% compliance. CSOC is drafting guidance for providers to improve timeliness and proper documentation on health and welfare assurances.

Table 5.7: Discussion of quality assurance outcomes for HCBS ASD Pilot, Department of Children and Families (DCF), Children's System of Care (CSOC), in DY4, DY5 and DY7

Assurance	Discussion
2-All new enrollees assessed with CANS	Compliance with this assurance was 100% in all years.
3-Enrollees should show CANS composite rating improvement within a year (1+ years enrolled, target of at least 80%)	This assurance has always been well above its benchmark of 80% and has steadily improved, from 94% in mid-2016 to 99.7% in mid-2019 (with only one youth not showing improvement).
4-Level of care IOS assessment conducted prior to enrollment for all new enrollees	Compliance with this assurance was 100% in all years.
5-Care plan (ISP) developed based on needs in CANS and CSOC policies for all new enrollees	Compliance with this assurance was 100% in all years.
6-Care plan (ISP) updated at least annually or as needs change (all enrolled during measurement period)	Compliance with this assurance was 100% in all years.
7-Services authorized in accordance with approved ISP (all enrolled during measurement period)	Compliance was 100% in DY7 and DY5. In DY4, one youth who discontinued shortly after enrolling was counted here.
9-Youth/families provided choice of providers, based on available qualified network (random sample representing 95% confidence level)	The 100% in DY4 was based on evidence present in record reviews. In DY5 the process was still recently implemented and CSOC was refining parameters. In DY7 CSOC noted that there was evidence of choice being offered, but this was not always captured. CSOC has communicated the need for providers to clearly and properly document and upload the child family team choice of provider sign off form in CYBER (CSOC's electronic record).

Assurance	Discussion
10-CSOC verifies providers qualified (licensure, certification, 100% agencies)	Compliance was 100% in years where there were new providers (there were no new providers in DY5 or DY7).
12-CSOC implements verification that applicable certifications/checklists/training provided in accordance with qualification requirements, 100% Community Provider Agencies	Compliance was 100% in years where there were new providers.
13 - Health & Welfare - state demonstrates ongoing identification, addressing and prevention of abuse/neglect/exploitation (number/percent of timely UIRs for youth enrolled in reporting period)	This assurance was in development in DY4 and DY5. In DY7, 91% of reporting was timely. CSOC has provided guidance for providers and has convened a UIR workgroup to address any UIR concerns.
14 - Health & Welfare - Number/percent of UIRs for youth enrolled in reporting period that had required follow up, of those that required follow up	This assurance was in development in DY4 and DY5. In DY7, 83% of reporting was timely. CSOC has provided guidance for providers and has convened a UIR workgroup to address any UIR concerns.

<u>Other program-related notes and findings</u>. Aside from the state-reported quality assurances, there are a number of other relevant findings noted in DMAHS reports to CMS.

Combined quality assurances. Though the separate assurances reported for IDD-MI and the ASD pilot listed assurances 16 and 17 as under development, the DY7 report lists what appear to be similar assurances together for the two programs with the results shown in Table 5.8.

Table 5.8: Discussion of quality assurance outcomes for HCBS ID/DD-MI and ASD pilot, DY7 report

Subassurance	Description	Result
Health & Welfare	The State establishes overall healthcare standards and monitors those standards.	100%
Financial Accountability	The State provides evidence that claims are coded and paid in accordance with the reimbursement methodology specified in the approved demonstration and only for services rendered.	95%
Financial Accountability	The State provides evidence that rates remain consistent with the approved rate methodology throughout the five-year demonstration cycle.	100%

Source: DMAHS DY7 Annual Report to CMS

Enrollee characteristics

- Demographics. The DY5 annual report contains a discussion of enrollee demographics.
  - The ASD waiver enrolled youth from ages 0-13, with the largest group being age 5-10. There was an increase in the share of enrollees who were ages 0-4 from DY4-DY5, from 4% to 13%, which the state felt showed an increase of earlier diagnosis and early intervention strategies. Most ASD enrollees (84%) were male. Fewer youth in DY5 required out of home care (3%, compared with 5% in DY4).
  - The ID/DD-MI waiver served an equal number of males and females in DY5, compared with 77% male in DY4. Enrollees were up to age 21, with youth older than 13 comprising 41% of the total. Five percent required out of home services compared with 4% in DY4, which is still positive given that all enrollees are at risk of needing out of home services.
- Case examples. The DY7 annual report lists 8 case examples from both programs, providing examples of how providers work with youth and their families on communication (including a variety of strategies for nonverbal youth), creating routines, learning new skills, and in one case stabilizing medications. Several of the example youth were able to transition off the program after their interventions, and all gained significant function.

Providers. The DY7 annual report notes the types of providers serving the program, noted in Table 5.9. Sixty one percent of providers served both I/DD-MI and ASD enrollees, while 39% served only I/DD enrollees (most of these were respite providers).

Table 5.9: Providers serving HCBS ID/DD -MI and ASD pilot, DY7

Program Served	Service	Number of Qualified Agencies	Percent of Qualified Agencies
I/DD and ASD	Individual Supports	36	19%
I/DD and ASD	Intensive In- Community Services – Habilitation (IHH) (Clinical/ Therapeutic)	42	23%
I/DD and ASD	Intensive In- Community Services – Habilitation (IHH) (Behavioral)	37	20%
I/DD	Respite	66	36%
I/DD	Interpreter Services	3	2%
I/DD	Non-Medical Transportation	1	1%
Total		*185*	*100%*

Source: DMAHS DY7 Annual Report to CMS

Table 5.10a: Quality assurance outcomes for HCBS ID/DD –MI, Department of Children and Families (DCF), Children's System of Care (CSOC), in DY4, DY5 and DY7

Metric	DY7 (July 1, 2018 - June 30, 2019)			DY5 (July 1, 2016 - June 30, 2017)			DY4 (July 1, 2015 - June 30, 2016)		
	Num	Denom	Percent	Num	Denom	Percent	Num	Denom	Percent
2-All new enrollees assessed with CANS	1,016	1,017	99.9%	770	770	100.0%	217	218	99.5%
3-Enrollees should show CANS composite rating improvement within a year (1+ years enrolled, target of at least 80%)	1,327	1,376	96.4%	836	900	92.9%	216	259	83.4%
4-Level of care IOS assessment conducted prior to enrollment for all new enrollees	996	1,016	98.0%	770	770	100.0%	216	218	99.1%
5-Care plan (ISP) developed based on needs in CANS and CSOC policies for all new enrollees	1,016	1,016	100.0%	770	770	100.0%	217	218	99.5%
6-Care plan (ISP) updated at least annually or as needs change (all enrolled during measurement period)	673	673	100.0%	243	245	99.2%	386	387	99.7%
7-Services authorized in accordance with approved ISP (all enrolled during measurement period)	1,016	1,016	100.0%	770	770	100.0%	217	218	99.5%
9-Youth/families provided choice of providers, based on available qualified network (random sample representing 95% confidence level)	3,715	4,617	80.5%	1,769	2,240	79.0%	151	151	100.0%
10-CSOC verifies providers qualified (licensure, certification, 100% agencies)				10	10	100.0%	215	215	100.0%
12-CSOC implements verification that applicable certifications/checklists/training provided in accordance with qualification requirements, 100% Community Provider Agencies				10	10	100.0%	215	215	100.0%
13 - Health & Welfare - state demonstrates ongoing identification, addressing and prevention of abuse/neglect/exploitation (number/percent of timely UIRs for youth enrolled in reporting period)	148	155	95.5%						

Metric	DY7 (July 1, 2018 - June 30, 2019)			DY5 (July 1, 2016 - June 30, 2017)			DY4 (July 1, 2015 - June 30, 2016)		
	Num	**Denom**	**Percent**	**Num**	**Denom**	**Percent**	**Num**	**Denom**	**Percent**
14 - Health & Welfare - Number/percent of UIRs for youth enrolled in reporting period that had required follow up, of those that required follow up	125	149	83.9%						
15 - Health & Welfare - Number/percent of UIRs involving restrictive interventions that were remediated in accordance to policies/procedures, of total UIRs involving restrictive interventions	-	7	0.0%						

Notes:. CANS=Child and Adolescent Needs and Strengths assessment; Denom=denominator; Num=numerator; UIR= Unusual Incident Reporting
Source: DMAHS Reports to CMS

Table 5.10b: Quality assurance outcomes for HCBS ASD Pilot, Department of Children and Families (DCF), Children's System of Care (CSOC), in DY4, DY5 and DY7

Metric	DY7 (July 1, 2018 - June 30, 2019)			DY5 (July 1, 2016 - June 30, 2017)			DY4 (July 1, 2015 - June 30, 2016)		
	Num	Denom	Percent	Num	Denom	Percent	Num	Denom	Percent
2-All new enrollees assessed with CANS	194	194	100.0%	115	115	100.0%	52	52	100.0%
3-Enrollees should show CANS composite rating improvement within a year (1+ years enrolled, target of at least 80%)	332	333	99.7%	185	193	95.9%	63	67	94.0%
4-Level of care IOS assessment conducted prior to enrollment for all new enrollees	194	194	100.0%	115	115	100.0%	52	52	100.0%
5-Care plan (ISP) developed based on needs in CANS and CSOC policies for all new enrollees	194	194	100.0%	115	115	100.0%	52	52	100.0%
6-Care plan (ISP) updated at least annually or as needs change (all enrolled during measurement period)	117	117	100.0%	86	86	100.0%	98	98	100.0%
7-Services authorized in accordance with approved ISP (all enrolled during measurement period)	194	194	100.0%	115	115	100.0%	51	52	98.1%
9-Youth/families provided choice of providers, based on available qualified network (random sample representing 95% confidence level)	712	928	76.7%	442	610	72.5%	34	34	100.0%
10-CSOC verifies providers qualified (licensure, certification, 100% agencies)							135	135	100.0%
12-CSOC implements verification that applicable certifications/checklists/training provided in accordance with qualification requirements, 100% Community Provider Agencies							135	135	100.0%
13 - Health & Welfare - state demonstrates ongoing identification, addressing and prevention of abuse/neglect/exploitation (number/percent of timely UIRs for youth enrolled in reporting period)	50	55	90.9%						

Metric	DY7 (July 1, 2018 - June 30, 2019)			DY5 (July 1, 2016 - June 30, 2017)			DY4 (July 1, 2015 - June 30, 2016)		
	Num	Denom	Percent	Num	Denom	Percent	Num	Denom	Percent
14 - Health & Welfare - Number/percent of UIRs for youth enrolled in reporting period that had required follow up, of those that required follow up	44	53	83.0%						

Notes:. CANS=Child and Adolescent Needs and Strengths assessment; Denom=denominator; Num=numerator; UIR= Unusual Incident Reporting
Source: DMAHS Reports to CMS

Discussion

In this chapter, we examined data sources relevant for evaluating programs under the NJ FamilyCare Comprehensive Demonstration to support children with ASD, ID-DD, and SED in their homes and communities. We utilized Medicaid claims data to examine trends in program enrollment and to calculate quality of care measures. We conducted difference-in-differences modeling with propensity matching to estimate the effects of the programs serving youth with ASD and ID-DD. We also calculated claims-based measures for the time period after enrollment in the Medicaid State Plan for youth with SED gaining coverage under the out-of-home eligibility expansion and looked at patterns of enrollment duration and re-enrollment for all youth with SED in the waiver program. Claims-based metrics include inpatient utilization and ED visits overall; avoidable ED visits that arise due to inadequate ambulatory or primary care in the community; mental illness hospitalizations and admissions to residential treatment centers (RTCs); total and avoidable hospital spending; and well-child visits for children ages 3-6. **Finally, we looked at quality assurances reported by DCF-CSOC as part of their Quality Strategy for several years of the Demonstration**.

Here, we distill the many results presented in this chapter down to the key points relevant for answering the research questions and associated evaluation hypothesis.

ASD Waiver Program

Enrollment in the ASD waiver program reached the 200 member cap in early 2019. When comparing trends in utilization outcomes over time using a matched comparison group, **we observed no statistically significant impacts of waiver participation on hospitalizations, ED visits, hospital spending (overall and avoidable), RTC admissions, or well-child visits.** The direction of estimated effects were a mix of positive and negative and the magnitude of effects was small. Avoidable hospitalizations and hospital readmissions were rare events among this population so we could not model these outcomes. **The possibility that members of the comparison group were also receiving similar ASD services outside the waiver could contribute to these null findings.**

CSSP-I/DD Waiver Program

Enrollment in the CSSP-I/DD waiver program grew the most over the first waiver demonstration period. We estimate the expansion to include youth without co-occurring mental illness under the renewal demonstration period added around 318 youth to the pilot. **Using a matched comparison group and difference-in-differences models, we find evidence of improvement in some utilization outcomes associated with this waiver program**. **There was a statistically significant decrease of 2.5 ED visits and 1.2 avoidable ED visits per 100 beneficiaries in the CSSP-**

I/DD waiver program per quarter (p<0.05). We also estimate small declines, though not statistically significant, of 1.7 inpatient days per beneficiary per quarter as a result of participation in this waiver program. Avoidable hospitalizations and hospital readmissions were rare events among this population so we could not model these outcomes. **Finally, there was a marginally significant reduction in avoidable hospital spending attributable to waiver participation for youth with ID-DD (p<0.1).**

CSSP-SED Waiver

Several thousand children and youth with serious emotional disturbance were eligible for new Medicaid home and community-based services under the Demonstration. The goal of these services are to support youth in their homes and communities to prevent institutionalization and ultimately stabilize youth to the point where they no longer require supportive services. Only a small percentage of the CSSP-SED waiver participants are also Medicaid-eligible for coverage of acute care services so we cannot calculate claims-based utilization measures to evaluate this waiver program. **We are only able to conduct descriptive analyses for this population. Over the demonstration period, we observe concurrent declines in the average number of months enrolled on the waiver and the percentage of enrollees who disenroll and then re-enroll onto the waiver. These trends could indicate improvement (decrease) in the time needed to successfully stabilize youth so waiver services are no longer needed. Additionally, only a small percentage of youth with SED in the waiver end up with enrollment into Plan A**. **These are positive indications, albeit only descriptive and subject to caveats, that waiver services do help maintain children in their homes and communities.**

CSSP-SED Plan A Expansion

In total, nearly 700 youth with SED were enrolled in Medicaid at some point from July 2016 through December 2019 as a result of this eligibility expansion. On average about 34% were gaining Medicaid eligibility through this expansion for the very first time. **We examined rates of inpatient stays, inpatient days, ED visits, avoidable ED visits, mental illness hospitalizations, and admissions to a residential treatment center for a cohort of youth remaining enrolled in Plan A Medicaid through the end of 2019 and cross-sectional annual rates for all youth with Medicaid under the expansion. Without a pre-period, we cannot put observed trends in context to know if gaining Medicaid eligibility changed the trajectory of utilization.** The cohort population is likely comprised of youth with higher intensity needs than all point-in-time Plan A enrollees since these youth must remain or return to an out-of-home setting to maintain Plan A eligibility at each yearly redetermination. **In general, rates of outcomes were higher for the cohort staying enrolled in Plan A than for the population enrolled at a given point in time and utilization increased over time for both populations, although we only had two years to compare for the cohort. Given these are youth with SED gaining access to Medicaid coverage, these increases could reflect pent up demand for needed care that would have otherwise been**

forgone. A positive finding was that between 2018-2019 the percentage in the SED Plan A cohort with a residential treatment center admission declined from 68.3% to 34.6%.

ED visits were the most frequent type of utilization of the outcomes we observed. **'Mental, behavioral, and neurodevelopmental disorders' was the most common classification of ED visits among both all SED Plan A enrollees and our identified cohort in all years, with 'Injury, poisoning, and other external causes' the second most common.** Comparing 2018 to 2019 for the cohort, these two classifications continue to account for over half of ED visits with 'Mental, behavioral, and neurodevelopmental disorders' making up a larger share in 2019. **The specific diagnoses on ED visits for all Plan A enrollees shows that Major Depressive Disorder is one of the most prevalent diagnosis codes followed by Other long-term (current) drug therapy.**

DCF-Reported Quality Assurances

As of the DY7 report, **14 of the 16 assurances specified in the DCF Quality Strategy had one or more years of reporting, with generally high outcomes**. **Two assurances remained under development for the period covered by this evaluation.** ASD and ID/DD-MI enrollees showed high and steadily increasing levels of improvement in assessment scores. Unusual incident reporting (UIR) was timely at least 91% of the time and needed follow-up was documented in a timely way at least 83% of the time. There were 7 incidents of UIRs involving restrictive interventions and while they were not documented sufficiently to determine whether appropriate remediation was done, there were no injuries. In DY4 and DY5, 5% or fewer of enrollees (all of whom are at risk of out of home placement) needed out of home care.

Conclusions

On selected hospital and ambulatory care outcomes, we do not observe any significant impact of providing home and community-based services to Medicaid/CHIP beneficiaries with Autism Spectrum Disorder under the waiver pilot program. Some of the null findings may be driven by our comparison group receiving similar services that are not observed in our data. The waiver ASD pilot has been discontinued and services are now part of the Medicaid State Plan package. Providing home and community-based services to Medicaid and CHIP beneficiaries with intellectual/developmental disabilities with and without co-occurring mental illness is associated with better care outcomes including lower ED use and avoidable spending. As with the ASD waiver program, these estimates are likely conservative.

Descriptive trends in enrollment duration, re-enrollment, and out-of-home placement suggest positive impacts overall of the SED waiver services on stabilizing youth, preventing institutionalization, and reducing dependency on waiver services; however, there may be other reasons for the trends we observe, such as administrative changes in the activation and de-activation of waiver special program codes. For youth with SED receiving eligibility for Medicaid

State Plan services after an out-of-home placement, descriptive, unadjusted trends in hospital and ED use do not show declines, but instead show increases in avoidable use in the first two years. Roughly a third of ED visits are related to mental and behavioral health conditions. Admissions to residential treatment centers do show a downward trend in the cohort of Plan A enrollees we examined. Longer-term outcomes could provide a different picture of the impact of this eligibility expansion.

There are generally high outcomes on all assurances reported as part of the DCF Quality Strategy.

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Appendix 5A: 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. These measures are prepared using specifications developed in consultation with the Business Intelligence Unit of the Division of Medical Assistance and Health Services. Our preparation of these metrics considers utilization at any general acute care hospital, inside or outside NJ.

For emergency department visits, we used HCUP's Clinical Classifications Software Refined (HCUP 2020) to classify the first diagnosis field on the ED claim into one of 21 affected body systems. The first diagnosis on an ED claim is not necessarily the primary diagnosis, thus limiting our ability to comprehensively characterize the nature of conditions being treated in the ED with this method.

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. These are known as the Prevention Quality Indicators (PQI) for adults (ages 18 and above) and Pediatric Quality Indicators for children (ages 6-17). For years 2011 through September of 2015 we used version 4.5 of AHRQ's quality indicators software. The latest version (version 6.0) of the software accommodates ICD-10 codes and was used for calculating PQIs and PDIs from October 2015 through December 2019 (AHRQ 2016a; 2016b). Updates and enhancements made to the version 6.0 software included the exclusion of one very low prevalence component indicator. Appendix 5C gives a list of ACS conditions that constitute a composite index that measures the overall rate of avoidable IP hospitalizations per unit of population which is the index used in the analyses in this chapter.

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 5D. ICD-10 versions of diagnosis codes for this metric were provided on the New York University website.[90]

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.

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 (NCQA 2014; 2016; 2018). Our preparation of this metric considers hospitalizations for mental illness occurring at any general acute care or short-term psychiatric hospital, inside or outside NJ. In accordance with the metric specification for FUH, index hospitalizations for mental illness were only identified for the population age 6 and older.

Admissions to Residential Treatment Centers: This measure assesses the extent to which children received treatment in a residential treatment center. Our preparation of this metric considers utilization at any Joint Commission-accredited or non-accredited residential treatment center, inside or outside NJ.

Hospital-Wide 30-day 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

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[90] http://wagner.nyu.edu/faculty/billings/nyued-background.

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 are endorsed by the National Quality Forum (NQF) and are adapted for the Medicaid claims data from the Centers for Medicare and Medicaid Services methodology available at QualityNet (2016).[91] For hospital-wide readmissions, we use version 3.0 for years 2012-2015, version 6.0 for 2016, version 7.0 for 2017, version 8.0 for 2018, and version 9.0 for 2019. To accommodate the transition in October 2015 to the ICD10-CM coding system, diagnoses on claims from this last quarter of 2015 were mapped back to the ICD9-CM system using crosswalks from CMS's general equivalence mappings prepared by the National Bureau of Economic Research (2016). We also modified the metric slightly by expanding it to include hospitalizations for children less than 18 years old and identifying readmissions for hospital discharges through December 31 of the calendar year (instead of through December 1) in order to support adjustments for continuous time trends in regression analyses.

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.

Well Child Visits in the 3rd, 4th, 5th, and 6th Year of Life: It is recommended that children have regular well-child visits in the early years of life to receive necessary preventive care and track growth and development. This measure determines the percentage of children 3-6 years of age who had at least one well-child visit with a primary care provider during the measurement year. We followed the National Committee of Quality Assurance's specifications for the calculation of this metric (NCQA 2016; 2018). In accordance with these specifications, we required that the beneficiary be enrolled for 12 months (ignoring gaps of 45 days or less) to be included in this measure.

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

Appendix 5B: Conditions Classified as Intellectual/Developmental Disabilities

Down Syndrome
Chromosomal Anomalies and Autosomal Deletion Syndromes
Fragile X Syndrome
Cerebral Degenerations Manifest in Childhood
Lesch Nyhan Syndrome
Tuberous Sclerosis
Prader-Willi Syndrome
Fetal Alcohol Syndrome
Cerebral Palsy Including Diplegic, Hemiplegic, Quadriplegic, Monoplegic, Unspecified and Athetoid
Pervasive Developmental Disorders Including Autistic Disorder
Moderate-to-Profound Intellectual Disability
Mild Intellectual Disability
Unspecified Intellectual Disability

Note: See McDermott et al. 2018.

Appendix 5C: 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[92]
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[13]
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 6.0, September 2016; http://www.qualityindicators.ahrq.gov/Modules/PQI_TechSpec.aspx.

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[92] This component was retired in Version 6.0 of the PQI software which accommodated ICD-10 coding. This software version was used for generating the overall composite indicator beginning in October 2015.

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 6.0, September 2016;
https://www.qualityindicators.ahrq.gov/Archive/PQI_TechSpec_ICD10_v60.aspx

Appendix 5D: 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 5E: Definition of Mental Health and Substance Abuse

We use the Agency for Health Care Research and Quality (AHRQ) Clinical Classifications Software Refined (CCSR). The software aggregates more than 70,000 diagnosis codes from the International Classification of Diseases, 10th Revision, Clinical Modification/Procedure Coding System (ICD-10-CM/PCS) codes into a number of clinically meaningful categories across 21 body systems. The CCSR balances the retention of the clinical concepts included in the CCS categories under ICD-9-CM and capitalizes on the specificity of ICD-10-CM diagnoses by creating new clinical categories. In addition, the CCSR allows ICD-10-CM diagnosis codes to be cross classified into more than one category because individual codes can be used to document multiple conditions or a condition and a common symptom/manifestation. Using the CCSR version 2020.2 software we identified mental health conditions and substance abuse disorder from three of the twenty-one body system categories, (MBD) Mental, behavioral and neurodevelopmental disorders, (FAC) Factors influencing health status and contact with health services, and (SYM) Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified. Mental health conditions fall under body systems MBD and FAC and include mood disorders, schizophrenia, anxiety disorder, delirium, and dementia among other related conditions. Substance abuse is primarily a subcategory of mental health conditions identified under body system MBD but also body system SYM and includes alcohol and substance-related disorders. For a complete list of what is included in the definition of mental health (MH) and substance abuse (SA) indicators please refer to the first table below. It lists the AHRQ CCSR category codes used for MH and SA. A complete listing of all CCSR categories and their associated descriptions can be found in the version specific CCSR Reference File that is packaged with the software user guide and program on the AHRQ website.[93] These codes can then be cross-referenced to determine exactly which ICD-10 diagnoses comprise the MH and SA designations.

We also identify patients who are severely mentally ill based on findings from the national comorbidity survey – replication (Kessler et al. 2005) and subsequent work by Coffey et al. (2011) at AHRQ. These patients experienced functional and social impairment and had a diagnosis of psychoses, bipolar disorder, drug dependence, obsessive compulsive disorder, dysthymia (chronic depression), or related diagnoses. The severe mental illness indicator (SMI) utilizes diagnoses which cross CCSR categories. See the second table below for the ICD-10 codes used to create the SMI indicator. To identify SMI in ICD-10 claims, we applied the General Equivalence

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[93] https://www.hcup-us.ahrq.gov/toolssoftware/ccsr/ccsr_archive.jsp#ccspcs (At the time of this document we used version 2020.2.)

Mappings[94] available from the Centers for Medicare & Medicaid Services to the ICD-9 SMI diagnoses, coupled with manual review and input from clinical consultation.

Also, it's important to note, that anyone with an SMI diagnosis was also coded into the MH or SA indicators, even if their diagnosis did not put them in one of the CCSR categories that define MH or SA. Thus, the full logic for our creation of these indicators is as follows:

- SA is defined by any claim mapped into the CCSR category under BH Flag "Substance Abuse"
- MH is defined by any claim mapped into the CCSR category under BH Flag "Mental Health"
- SMI is defined by any claim having an SMI diagnosis.
- Back code into MH or SA categories based on SMI.
- BH is defined by any claim designated as either MH or SA after completing steps above.

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[94] https://www.cms.gov/Medicare/Coding/ICD10/2017-ICD-10-CM-and-GEMs.html

CCSR Category	**CCSR Category Description**	BH Flag
FAC002	Encounter for mental health services related to abuse	Mental Health
FAC007	Encounter for mental health conditions	Mental Health
FAC008	Neoplasm-related encounters	Mental Health
MBD001	Schizophrenia spectrum and other psychotic disorders	Mental Health
MBD002	Depressive disorders	Mental Health
MBD003	Bipolar and related disorders	Mental Health
MBD004	Other specified and unspecified mood disorders	Mental Health
MBD005	Anxiety and fear-related disorders	Mental Health
MBD006	Obsessive-compulsive and related disorders	Mental Health
MBD007	Trauma- and stressor-related disorders	Mental Health
MBD008	Disruptive, impulse-control and conduct disorders	Mental Health
MBD009	Personality disorders	Mental Health
MBD010	Feeding and eating disorders	Mental Health
MBD011	Somatic disorders	Mental Health
MBD012	Suicidal ideation/attempt/intentional self-harm	Mental Health
MBD013	Miscellaneous mental and behavioral disorders/conditions	Mental Health
MBD014	Neurodevelopmental disorders	Mental Health
MBD017	Alcohol-related disorders	Substance Abuse
MBD018	Opioid-related disorders	Substance Abuse
MBD019	Cannabis-related disorders	Substance Abuse
MBD020	Sedative-related disorders	Substance Abuse
MBD021	Stimulant-related disorders	Substance Abuse
MBD022	Hallucinogen-related disorders	Substance Abuse
MBD023	Inhalant-related disorders	Substance Abuse
MBD024	Tobacco-related disorders	Substance Abuse
MBD025	Other specified substance-related disorders	Substance Abuse
MBD026	Mental and substance use disorders in remission	Mental Health
MBD027	Suicide attempt/intentional self-harm; subsequent encounter	Mental Health
MBD028	Opioid-related disorders; subsequent encounter	Substance Abuse
MBD029	Stimulant-related disorders; subsequent encounter	Substance Abuse
MBD030	Cannabis-related disorders; subsequent encounter	Substance Abuse
MBD031	Hallucinogen-related disorders; subsequent encounter	Substance Abuse
MBD032	Sedative-related disorders; subsequent encounter	Substance Abuse
MBD033	Inhalant-related disorders; subsequent encounter	Substance Abuse
MBD034	Mental and substance use disorders; sequela	Mental Health
SYM008	Symptoms of mental and substance use conditions	Substance Abuse
SYM009	Abnormal findings related to substance use	Substance Abuse

Mental and Substance Use (M/SU) Related Functional Severity: Classification of severe, moderate, and mild M/SU functional severity, based on percent of survey respondents with specific diagnosis categories who had serious personal or social consequences in the National Comorbidity Survey Replication (NCS-R)

Categories of M/SU disorders	ICD-10-CM Diagnosis Codes by Category and Severity Level
	Severe
Psychoses (not in NCS-R)	'F200', 'F201', 'F202', 'F205', 'F2081', 'F2089', 'F209', 'F22', 'F23', 'F24', 'F259', 'F250', 'F251', 'F258', 'F28', 'F29', 'F323', 'F333', 'F4489’
Bipolar I and II conditions	'F3010', 'F3011', 'F3012', 'F3013', 'F302', 'F303', 'F304', 'F308', 'F3110', 'F3111', 'F3112', 'F3113', 'F312', 'F3130', 'F3131', 'F3132', 'F314', 'F315', 'F3160', 'F3161', 'F3162', 'F3163', 'F3164', 'F3173', 'F3174', 'F3175', 'F3176', 'F3177', 'F3178', 'F3181', 'F319', 'F328', 'F3289', 'F348', 'F3481', 'F3489', 'F39'
Drug dependence	'F1120', 'F1121', 'F1220', 'F1221', 'F1320', 'F1321', 'F1420', 'F1421', 'F1520', 'F1521', 'F1620', 'F1621', 'F1920', 'F1921', 'O355XX0', 'O99320', 'O99321', 'O99322', 'O99323', 'O99324', 'O99325', 'T400X1A', 'T400X2A', 'T400X3A', 'T400X4A', 'T401X1A', 'T401X2A', 'T401X3A', 'T401X4A', 'T402X1A', 'T402X2A', 'T402X3A', 'T402X4A', 'T403X1A', 'T403X2A', 'T403X3A', 'T403X4A', 'T404X1A', 'T404X2A', 'T404X3A', 'T404X4A', 'T40601A', 'T40602A', 'T40603A', 'T40604A', 'T40691A', 'T40692A', 'T40693A', 'T40694A', 'P0441', 'P0449', 'P0440', 'P0442', 'P961', 'P962'
Obsessive-compulsive disorder	'F42', 'F422', 'F423', 'F424', 'F428', 'F429'
Dysthymia (chronic depression)	'F341', 'F6089'
Borderline Personality disorder	'F603'
Oppositional defiant disorder	'F913'
Related ICD-10-CM codes "severe"	'F322', 'F323', 'F329', 'F332', 'F333', 'F339', 'F601', 'F911', 'F912', 'F918', 'Z658'

Source: https://www.hcup-us.ahrq.gov/reports/SOI.jsp#appa

Chapter 6: Analysis of Medicaid Claims Data to Examine Care Outcomes for Individuals Receiving HCBS under DDD Waivers

Introduction

In this chapter, we address the following research questions and associated hypotheses relating to Medicaid-enrolled adults with intellectual and developmental disabilities in accordance with the approved evaluation design for the §1115 Comprehensive Demonstration (CMS 2019).

Research Question 5: **" What is the impact of providing additional home and community-based services to Medicaid and CHIP beneficiaries with serious emotional disturbance, opioid addiction, behavioral/mental health issues, or intellectual disabilities/developmental disabilities?";**

Hypothesis 5: **"Providing home and community-based services to Medicaid and CHIP beneficiaries and others with serious emotional disturbance or intellectual disabilities/developmental disabilities with and without co-occurring mental illness will lead to better care outcomes including those relating to ambulatory care."**

Q6. **What is the impact of providing home and community-based services to expanded eligibility groups, who would otherwise have not been eligible for Medicaid or CHIP absent the demonstration?**

Hypothesis 6: **Providing home and community-based services to expanded eligibility groups, who would otherwise have not been eligible for Medicaid or CHIP absent the demonstration will lead to improvements in preventive care and avoidable utilization.**

Addressing these research questions require us to examine and estimate the impact of three policy changes: 1) inclusion in the §1115 Comprehensive Demonstration of services through the Supports Program, initiated under the 2012-2017 Waiver to provide a basic level of support services to Medicaid adults with intellectual disabilities/developmental disabilities who live with family members or in other unlicensed settings in the community; 2) inclusion of the Community Care Waiver (CCW) under §1115 authority in 2017 as the Community Care Program (CCP). The CCP provides services and supports to Medicaid adults meeting the ICF-ID level of care requirements who reside in the community 3) Expanded eligibility for the Supports Program that allowed individuals up to 300% Federal Benefit Rate (FBR) to receive Medicaid State Plan and waiver home and community-based services (HCBS).

The first policy change directly relates to Research Question (RQ) 5 examining the impact of additional HCBS provided through the Supports program to adults with intellectual and developmental disabilities (IDD). The second policy change also falls within the purview of RQ5, but has a slightly different focus. It examines the impact of a change in the financing structure on outcomes of waiver-enrolled beneficiaries, specifically the impact of incorporating the previous Community Care Waiver into the §1115 demonstration structure as the Community Care Program (CCP). The third policy change relates to RQ6 and examines the impact of expanded eligibility for Medicaid state plan and support services.

For assessing the impact of each of the three policy changes, we first identify the specific populations which were subject to each of the policies and examine their health outcomes and service utilization. The outcomes that are assessed for the evaluation include specific categories of preventable hospitalizations that are relevant to adults with IDD, follow up after hospitalization for mental illness and utilization of specific preventive care services**.** For identifying the impact of receiving HCBS waiver services under the Supports Program, we examine among beneficiaries who receive such support services, pre-post changes in outcomes i.e. changes in outcomes that occur due to availability of such services compared to similar individuals who do not receive such services. For assessing the impact of the transition of the Community Care Waiver to §1115 Demonstration authority (as the Community Care Program), we examine potential changes in outcomes before and after the transition in 2017, among individuals enrolled in CCW. For assessing the impact of the expansion in eligibility for the Supports Program, we will first utilize beneficiary programmatic information to identify individuals who, absent the demonstration, would not have been eligible for Medicaid. Due to the absence of baseline data for these populations (since prior to the policy change they were not Medicaid-eligible and hence would not show up in our claims data), we will conduct trend analyses of outcomes over time, after policy implementation**.**

Background

A brief background on the Supports and CCW/CCP Programs is provided here as context for the analytic methods and quantitative findings that we present in this chapter. Both programs are managed by the Division of Developmental Disabilities (DDD) in the New Jersey Department of Human Services.

The Supports Program, launched in 2016, is a fee-for-service program for Medicaid enrollees who are 21 years of age or older, meet DDD's eligibility criteria, and are not enrolled on any other

Medicaid waiver. Unlike the CCP, the Supports program does not have a wait list. Eligibility criteria for Supports do not require enrollees to meet the ICF/ID (i.e., institutional) level of care, though enrollees may meet that level. The Supports Program continues services that were provided under the prior contract system funded with state-only dollars and adds a number of new services. Each enrollee has a support coordinator who assists them in creating an Individualized Service Plan (ISP). Concurrent with the implementation of the Supports Program during the first §1115 Waiver was a change for New Jersey providers from an annual contract system to a fee-for-service system where providers file claims for units of service and are reimbursed. This represented a large systemic change for providers. By July of 2019, 100% of individuals in the Supports Program were using the fee-for-service system (DMAHS 2019). A 2016 CMS approved amendment to the initial Waiver expanded income eligibility for the Supports program allowing individuals up to 300% FBR to receive Medicaid State Plan and waiver home and community-based services. This amendment also included the inclusion of PDN services from MLTSS for certain Supports individuals. These changes were continued in the renewal demonstration.

The CCW was first approved in 1985 and is only for individuals who meet the ICF/ID (i.e., institutional) level of care. The menu of services offered is nearly identical to the Supports Program. The CCW was incorporated into the §1115 Comprehensive Demonstration in 2017, as the CCP with enrollees transitioning from a contract-based system to a fee-for-service system. By July of 2019, 92% of individuals in the Community Care Program were using the fee-for-service system (DMAHS 2019). Unlike the Supports Program, the CCP has a waiting list, divided into general and priority categories. Priority individuals are assigned based on their community placement being at-risk for a variety of reasons, including the age or disability of their caregivers.

Methods

Data Sources

The analyses in this chapter were generated using Medicaid FFS claims and managed care encounter data for January 1, 2013 through January 31, 2020. 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 a minimum of 6 months from the date of service.

Populations

Populations with Intellectual/Developmental Disabilities: The cohorts enrolled in the Community Care Program (CCP) and the Supports Program were identified starting with recipient-level program and waiver enrollment data for each calendar year from 2013 to 2019. Our methodology identifies recipients ever receiving waiver services during the year, therefore, our sample can be larger than any point-in-time estimates of CCP or Supports enrollees. Any recipient with an active 'Special Program Code' (SPC) of 7 was included in the Community Care Program cohort for the year. A SPC of 45 or 46 qualified a recipient for inclusion in the Supports Program cohort for the year. A concurrent active 'Program Status Code' of 220 indicated that the beneficiary was included in the Supports expansion population. To create an annual version of this indicator, we required that an individual satisfy the monthly inclusion criteria at least once over the year. NJ FamilyCare enrolled adults ages 22 and above having 2 outpatient or 1 inpatient claim with an ID/DD diagnosis (see Appendix 6C) during the year (McDermott et al. 2018) and not residing in a developmental center or enrolled in either of the DDD waiver programs made up the residual adult ID/DD cohort.

Measures

We utilized the metrics detailed in Table A below. Each metric has inclusion and exclusion criteria specified by the measure steward. We limited our analyses to adults (age 22+) since the DDD waiver programs we evaluate are predominantly for adult beneficiaries.[95] If not already part of the metric specification, an inclusion criteria imposed on all metrics was 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. See Appendix 6A for additional details on the preparation of each of these measures.

Table 6A: Inventory of Measures

Avoidable hospitalizations for conditions relevant to persons with ID/DD (age 22+)[a] -epilepsy, -reflux, -constipation -schizophrenia
Follow-up (7 days and 30 days) after hospitalization for mental illness (age 22+)
Hemoglobin A1C Testing (age 22-75)
Diabetic eye exam (age 22-75)

[a]These specific ambulatory care sensitive conditions are applicable to individuals with ID/DD (Balogh et al. 2011).

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[95] The CCP mainly serves adults, but there are some children who qualify for the program under grandfathered criteria.

Analytic Approach

We follow three distinct analytic strategies to examine the impact of the three policy changes that come under the purview of the research questions in this chapter.

For examining the impact of the Supports program, we utilize a difference-in-differences framework where we first identify adults who were enrolled in the Supports program at some point of time (but not in CCP, so as to identify the distinct effect of the Supports program). We examine outcomes for this group when they were enrolled in the program comparing to population of adults with IDD who were never enrolled in Supports or the CCP. Some of these Support-enrolled individuals may have received state-paid services prior to enrolling in Supports resulting in a conservative estimate of the impact of support services. To ensure comparability, we choose this comparison group by matching (through propensity score matching) on multiple beneficiary characteristics including gender, age, number of chronic conditions, chronic disability payment score (CDPS), presence of behavioral health condition, presence of severe mental illness and dual eligibility status.[96] We utilize 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 (Kronick et al. 2000). We next utilize a regression analysis examining differences in outcomes between individuals ever in the Supports waiver comparing to matched individuals with IDD who are not enrolled in the Supports waiver.

For examining the impact of the inclusion of the CCW into the waiver, we identify individuals who were in the CCP/CCW in all years of the study period and assess potential changes post of 2017 compared to the time prior to that year. Here too, we utilize a multivariate regression approach controlling for beneficiary characteristics detailed above. All regressions generate robust standard errors to account for potential non-independence of observations.

Evaluating the expansion in eligibility for Medicaid State Plan services for those in the Supports program up to 300% FBR is not amenable to the pre-post approach because we cannot observe outcomes for these individuals before they gained Medicaid eligibility. Therefore, our strategy is limited to observing trends in outcomes for enrolled beneficiaries for the period after the eligibility expansion. We implement this by selecting a cohort of individuals enrolled in the Supports due to the expansion in 2016-2017 and examining outcomes of selected metrics over 2018-2019 while they remain enrolled under this eligibility expansion. Alternatively, we also calculate yearly enrollment-adjusted rates of outcomes for all beneficiaries enrolling under the expansion at any time over 2017-2019. The cohort approach compares the same people over time to ensure that observed changes in utilization are not due to differences in characteristics

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[96] See Appendix 6B for definitions of behavioral health and severe mental illness.

of beneficiaries newly enrolling or disenrolling during this time period. The repeated cross-sectional rates give a picture of outcomes for all individuals gaining eligibility under the expansion.

Finally, to provide contextual information, we also present trends in different types of HCBS utilization among individuals who were enrolled in CCP, Supports and, additionally, those who qualified due to the Supports expansion program. We look at utilization of some of the services which were new under the 2017 Demonstration renewal: Natural Supports Training, Supports Brokerage, Interpreter Services, Goods and Services, and Community Inclusion Services. We also identify the 10 home and community-based waiver services provided under the Supports and CCP with the most claims volume in 2018 and 2019 and calculate the percentage of Supports and CCP waiver enrollees receiving each identified service. It is possible we are missing service claims under the CCP due to the transition to fee-for-service billing which was not fully completed for the years examined.

Results

Supports Waiver

Table 6.1 provides the adjusted effects based on the regression estimation comparing changes over time for adults enrolled in the Supports programs (relative to the comparison group) for each of the outcome measures after adjustment for patient characteristics and time indicators. There is an estimated 0.1 fewer inpatient hospitalizations each for epilepsy and reflux per 100 beneficiaries per year associated with participation in the Supports program. However, neither of these effects were statistically significant. There is a statistically significant decline of 0.8 hospitalizations for schizophrenia per 100 beneficiaries per year attributable to the Support programs. Overall, there is a 0.7 percentage point (pp) lower probability of any I/DD-relevant avoidable hospitalization in a year and about 1 fewer avoidable hospitalizations per 100 beneficiaries per year associated with the Supports program and these estimates are statistically significant.

There was also no statistically significant differences in diabetes monitoring outcomes (HbA1c testing or eye exams) due to the Supports program although point estimates are a 3 pp decline in HbA1c testing and a 2 pp increase in eye exams. The impact of Supports enrollment on follow-up visits after mental illness hospitalizations are mixed and also non-significant with estimates of a 6.3 pp decline in 7-day follow-up visits and a 2.3 pp increase in 30-day visits.

CCW Transition to the §1115 Waiver

Table 6.2 provides the adjusted effects based on the regression estimation comparing changes over time for adults enrolled in the Community Care Waiver before and after transition to the

§1115 Waiver. There is no comparison group, so results indicate only pre-post changes after adjustment for patient characteristics. The models estimate increases in I/DD-relevant avoidable hospitalizations of less than 1 visit per 100 beneficiaries per year and these increases are statistically significant for epilepsy, constipation, and reflux. Overall, there is a statistically significant increase of 0.7 pp in the probability of an I/DD-relevant avoidable hospitalization per year. When looking at total hospitalization count, the increase is 1 additional hospitalization per 100 beneficiaries per year after the CCW transitioned to the CCP.

Diabetes monitoring outcomes show a statistically significant increase of 6 pp per year in the probability of an eye exam and a 1 pp decline in HbA1c testing rates in the period after the CCW transition, effects that are not statistically significant. We also observe statistically significant increases in rates of follow-up visits after mental illness hospitalizations for enrollees in the CCW. There was a 13.8 pp increase in rates of 7-day follow-up visits and 11.3 pp increase in rates of 30-day visits.

Medicaid Eligibility Expansion for Supports

Figure 6.1 shows enrollment under the Supports expansion from March 2016 through December 2019. Enrollment has steadily grown and nearly 2,000 individuals have Medicaid coverage due to this eligibility expansion as of the end of 2019.

We identified a cohort of 801 beneficiaries in the Supports program who were eligible under this expansion in 2016 or 2017 and remained enrolled in 2018 and 2019. We calculated annualized, enrollment-adjusted rates of avoidable hospitalizations for conditions specific to individuals with I/DD (schizophrenia, epilepsy, reflux, and constipation) for this cohort in 2018 and 2019. We also calculated the percentage of individuals in this cohort with diabetes and ages 18-75 who received an HbA1c test and an eye exam in 2018 and 2019. These same outcomes were calculated for all individuals ever enrolled under the Support expansion in 2017-2019.[97] Results are shown in Figures 6.2-6.4.

We do not observe consistent improvements (nor consistent deterioration) in the rates of IDD-specific avoidable hospitalizations or rates of eye exams for diabetics for either the cohort or the cross-sectional group of all enrollees under the Supports expansion. The avoidable hospitalization rate increases by 1 per 100 beneficiaries from 2018-2019 for the cohort. For all enrollees, the rate increases by <1 visit per 100 beneficiaries between 2017 and 2018 and then declines by 1 visit between 2018-2019. Rates of diabetic eye exams go down for both groups

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[97] We were unable to calculate rates of follow-up after mental illness hospitalizations for either of these defined populations due to insufficient numbers of qualifying index hospitalizations.

between 2018-2019. Rates of HbA1c testing for diabetics improve for both groups over time which is a positive finding.

Use of HCBS

Table 6.3 shows the percentage of enrollees in the CCP and Supports programs, with an additional breakout for those Supports enrollees under the eligibility expansion, using certain home and community-based services introduced under the Demonstration renewal. Utilization was too low to report for most services. Goods and Services and Community Inclusion Services were utilized by both those in CCP and Supports, but more so for Supports enrollees. Service use increases slightly between 2018 and 2019.

Table 6.4 shows the percentage of CCP enrollees using the top services in years 2018 and 2019. The greatest proportion of enrollees used Support Coordination (73.3% in 2018 and 87.8% in 2019) followed by Individual Supports.

Table 6.5 shows the percentage of Supports enrollees, and the percentage of the subset of enrollees eligible under the expansion, using the top services in years 2018 and 2019. The proportions using each service are very similar for these two populations. The greatest proportion of enrollees used Support Coordination followed by Day Habilitation. A greater proportion of enrollees used Community Based Supports in 2019 than 2018.

Table 6.1: Adjusted Supports waiver program impact on I/DD-relevant avoidable hospitalizations, diabetic HbA1c testing, diabetic eye exams, and follow-up visits after mental illness hospitalizations

Outcome Measure	Supports Waiver Program Impact Estimate
Propensity Matched Person-Year Models	*(n=42,137; wtd n=75,108)*
I/DD-relevant Avoidable Hospitalizations	
Epilepsy hospitalizations	-0.0012 (0.0028)
Constipation hospitalizations	0.0011 (0.0010)
Schizophrenia hospitalizations	-0.0080*** (0.0026)
Reflux hospitalizations	-0.0013 (0.0015)
Any I/DD-relevant avoidable hospitalization	-0.0072*** (0.0022)
Total I/DD-relevant avoidable hospitalizations	-0.0095** (0.0039)
	(n=3,345; wtd n=4,120)
Diabetes HbA1c Testing	-0.0320 (0.0241)
Diabetic Eye Exam	0.0186 (0.0274)
Propensity Matched Index Event Models	*(n=387; wtd n=448)*
Follow-up After Mental Illness Hospitalization	
7-day	-0.0626 (0.0826)
30-day	0.0232 (0.0818)

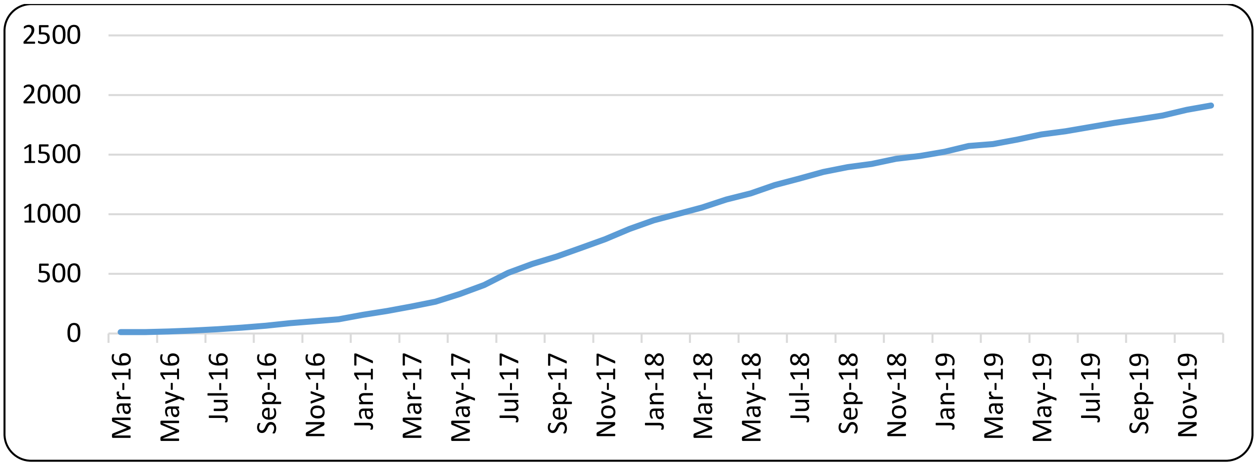
Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2013-2019; Analysis by Rutgers Center for State Health Policy
Notes: Difference-in-difference regression analyses
ID/DD=Intellectual Disabilities/Developmental Disabilities; wtd=weighted
Person-year level models adjusted for age, sex, dual status, CDPS risk score category, presence of comorbidities, behavioral health status, and year indicators. Coefficients indicate reflect changes in per person, per year
Index event models adjusted for age, sex, dual status, enrollment days, CDPS risk score category, presence of comorbidities, behavioral health status, year and quarter indicators. Coefficients indicate changes per index event.
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.2: Adjusted impact of the CCW transition to the §1115 Waiver on I/DD-relevant avoidable hospitalizations, diabetic HbA1c testing, diabetic eye exams, and follow-up visits after mental illness hospitalizations

Outcome Measure	CCW/CCP Transition Impact Estimate
Person-Year Models	*(n=57,994)*
I/DD-relevant Avoidable Hospitalizations	
Epilepsy hospitalizations	0.0085*** (0.0025)
Constipation hospitalizations	0.0018** (0.0009)
Schizophrenia hospitalizations	0.0014 (0.0015)
Reflux hospitalizations	0.0050*** (0.0017)
Any I/DD-relevant avoidable hospitalization	0.0073*** (0.0021)
Total I/DD-relevant avoidable hospitalizations	0.0108*** (0.0030)
	(n=7,049)
Diabetes HbA1c Testing	-0.0125 (0.0114)
Diabetic Eye Exam	0.0602*** (0.0124)
Index Event Models	*(n=568)*
Follow-up After Mental Illness Hospitalization	
7-day	0.1381*** (0.0421)
30-day	0.1129*** (0.0409)

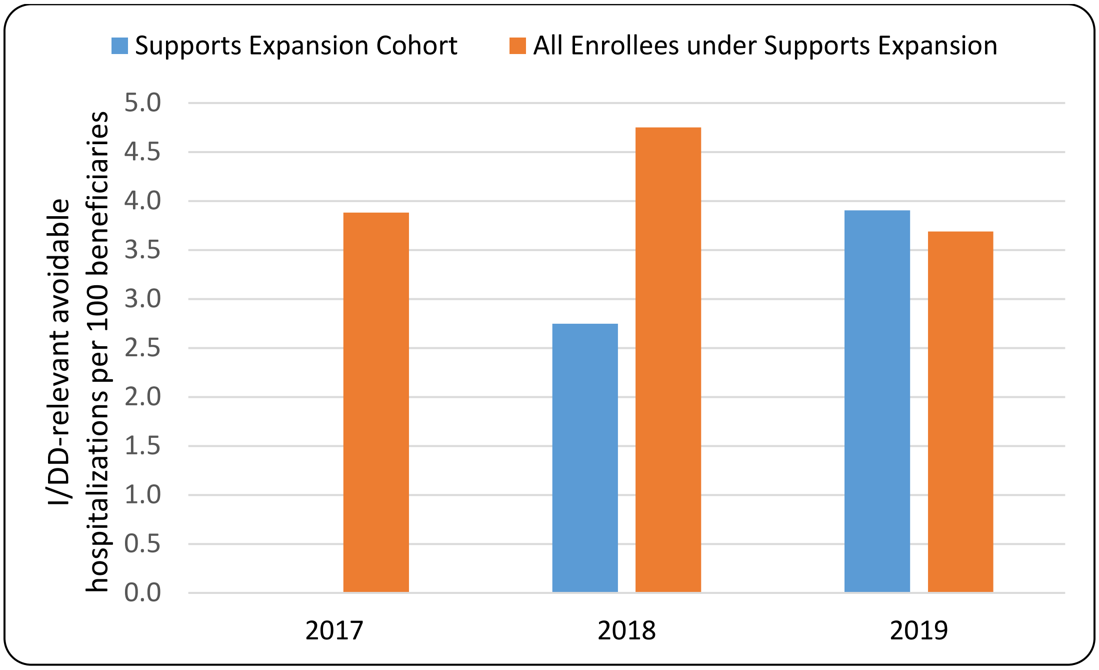
Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2013-2019; Analysis by Rutgers Center for State Health Policy
Notes: Multivariate regression analyses
I/DD=Intellectual/Developmental Disabilities; CCW=Community Care Waiver; CCP=Community Care Program
Person-year level models adjusted for age, sex, dual status, CDPS risk score category, presence of comorbidities, behavioral health status, and year indicators. Coefficients indicate reflect changes in per person, per year.
Index event models adjusted for age, sex, dual status, enrollment days, CDPS risk score category, presence of comorbidities, behavioral health status, year and quarter indicators. Coefficients indicate changes per index event.
Robust standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Figure 6.1: Average monthly enrollment under the Supports waiver program eligibility expansion, 2016-2019



Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2016-2019; Analysis by Rutgers Center for State Health Policy

Figure 6.2: I/DD-relevant avoidable hospitalizations per 100 beneficiaries in the Supports waiver program under the eligibility expansion, 2017-2019

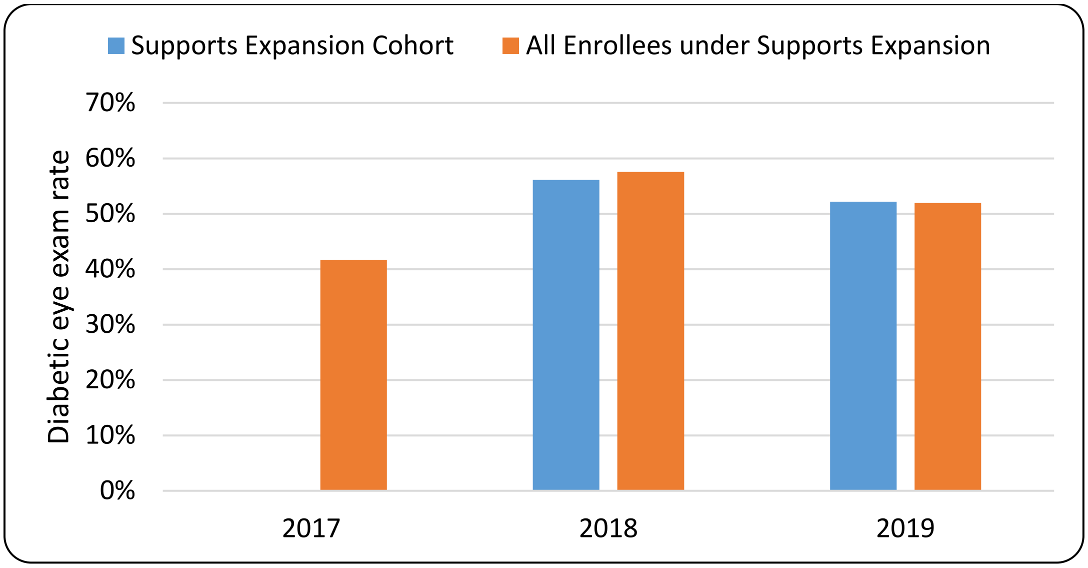


Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2017-2019; Analysis by Rutgers Center for State Health Policy

Notes: I/DD=Intellectual/developmental disabilities

I/DD-relevant avoidable hospitalizations are hospitalizations for schizophrenia, epilepsy, reflux, or constipation (Balogh et al., 2011)

Figure 6.3: Annual rates of eye exams for beneficiaries with diabetes (age 22-75) in the Supports waiver program under the eligibility expansion, 2017-2019

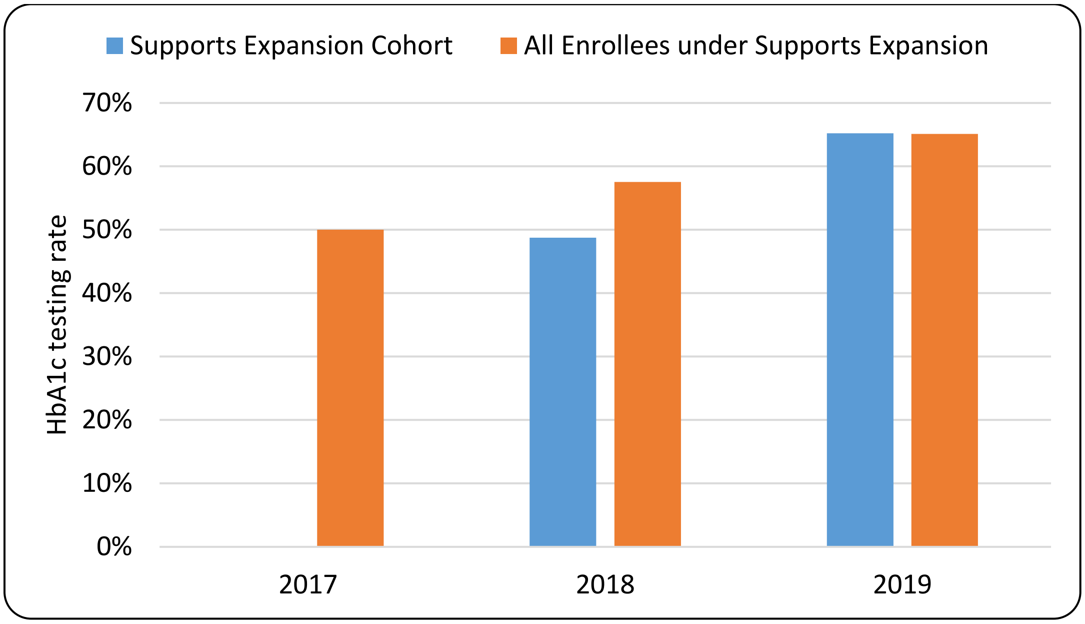


Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2017-2019; Analysis by Rutgers Center for State Health Policy

Notes: I/DD=Intellectual/developmental disabilities

I/DD-relevant avoidable hospitalizations are hospitalizations for schizophrenia, epilepsy, reflux, or constipation (Balogh et al., 2011)

Figure 6.4: Annual rates of HbA1c testing for beneficiaries with diabetes (age 22-75) in the Supports waiver program under the eligibility expansion, 2017-2019



Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2017-2019; Analysis by Rutgers Center for State Health Policy

Notes: I/DD=Intellectual/developmental disabilities

I/DD-relevant avoidable hospitalizations are hospitalizations for schizophrenia, epilepsy, reflux, or constipation (Balogh et al., 2011)

Table 6.3: Percent of CCP and Supports enrollees using new home and community-based services, 2018-2019

	2018			2019		
	CCP	**Supports**	**Supports under Expansion**	**CCP**	**Supports**	**Supports under Expansion**
Natural Supports Training	--	--	--	--	0.1%	--
Supports Brokerage	--	--	--	--	--	--
Interpreter Services	--	--	--	--	--	--
Goods and Services	2.5%	19.9%	19.1%	6.2%	21.1%	20.4%
Community Inclusion Services	2.1%	6.7%	6.6%	3.6%	7.7%	7.5%

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2018-2019; Analysis by Rutgers Center for State Health Policy

Notes: CCP=Community Care Program (formerly Community Care Waiver)

Table 6.4: Percent of CCP enrollees using top home and community-based services, 2018-2019

	2018	2019
Top most utilized services	% of CCP enrollees (N=11,878) receiving service	% of CCP enrollees (N=12,157) receiving service
Support Coordination	73.3%	87.8%
Individual Supports	72.8%	84.1%
Day Habilitation	66.3%	65.3%
Transportation	11.6%	15.5%
Personal Care Assistance[a]	11.5%	12.8%
Social Adult Day Care	9.2%	8.5%
Behavioral Supports	4.3%	6.8%
Prevocational Training	3.1%	3.9%
Supported Employment	0.8%	1.7%

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2018-2019; Analysis by Rutgers Center for State Health Policy

Notes: CCP=Community Care Program (formerly Community Care Waiver)

The transition to a fee-for-service billing system for the CCP was largely, though not entirely, completed during the years examined. Therefore, some claims may be missing from our database.

[a] PCA is a State Plan service.

Table 6.5: Percent of Supports enrollees using top home and community-based services, 2018-2019

	2018		2019	
Top most utilized services	% of Supports enrollees (N=9,309) receiving service	% of enrollees under Supports expansion (N=1,736) receiving service	% of Supports enrollees (N=11,056) receiving service	% of enrollees under Supports expansion (N=2,339) receiving service
Support Coordination	96.5%	94.7%	97.6%	97.2%
Day Habilitation	45.3%	46.3%	43.2%	45.8%
Community Based Supports	35.4%	34.3%	43.7%	41.5%
Personal Care Assistance	32.8%	28.5%	35.0%	31.4%
Financial Management	31.1%	29.3%	43.2%	41.2%
Transportation	21.4%	22.0%	19.7%	20.5%
Goods and Services	19.7%	19.0%	21.0%	20.1%
Prevocational Training	11.5%	11.0%	10.2%	10.0%
Respite	8.3%	9.1%	8.8%	10.4%
Supported Employment	7.3%	5.8%	8.2%	7.0%
Social Adult Day Care	3.6%	3.9%	3.8%	3.6%
Community Inclusion Services	1.6%	1.2%	1.8%	1.6%
Private Duty Nursing	1.3%	1.7%	1.5%	1.8%

Source: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2018-2019; Analysis by Rutgers Center for State Health Policy

Discussion

In this chapter, we utilized Medicaid claims data to calculate a set of measures relevant for evaluating the effects of waiver programs administered by the Division of Developmental Disabilities. These are 1) the home and community-based services provided in the Supports program to Medicaid adults with intellectual disabilities/developmental disabilities who live with family members or in other unlicensed settings in the community; 2) inclusion of the Community Care Waiver (CCW), which provides services to community-residing adults meeting the ICF-ID level of care requirements, under §1115 authority in 2017 as the Community Care Program (CCP), and 3) expanded eligibility for the Supports Program that allowed individuals up to 300% Federal Benefit Rate (FBR) to receive Medicaid State Plan and waiver home and community-based services.

Supports Program

Difference-in-difference regression models estimate a statistically significant 0.7 percentage point (pp) lower probability of any I/DD-relevant avoidable hospitalization in a year and about 1 fewer avoidable hospitalizations per 100 beneficiaries per year associated with the Supports program. Outcomes related to diabetes care and follow-up visits after mental illness hospitalizations are mixed and not statistically significant.

CCW Transition

Examining the transition of the CCW to the §1115 Waiver compares outcomes for enrollees after the Demonstration renewal in 2017 to outcomes in the years prior. **The regression models estimate small, but statistically significant, increases in I/DD-relevant avoidable hospitalizations of less than 1 visit per 100 beneficiaries per year. The probability of an eye exam among CCW enrollees with diabetes increased by 6 percentage points (pp) per year in the period after the transition and rates of follow-up visits after mental illness hospitalizations also show statistically significant increases** of 13.8 pp (7-day) and 11.3 pp (30-day).

Medicaid Eligibility Expansion for Supports

Descriptive trends in outcomes in the years after gaining Medicaid eligibility for individuals in the Supports program who are Medicaid-eligible due to the income expansion **do not show consistent improvements in the rates of IDD-specific avoidable hospitalizations or rates of eye exams for diabetics. However, rates of HbA1c testing for diabetics improve.**

Conclusions

We find partial support in our analyses for positive outcomes associated with providing home and community-based services to Medicaid adults with intellectual disabilities/developmental disabilities under the Demonstration. The Supports waiver was associated with improvements in preventable hospitalization rates, but there was no evidence of improved preventive or follow up care. Providing HCBS to an expanded eligibility group under the Supports waiver program, who would otherwise have not been eligible for Medicaid absent the demonstration did not lead to consistent improvements in the rates of IDD-specific avoidable hospitalizations or rates of diabetic eye exams, but rates of HbA1c testing for diabetics did increase in the period following Medicaid enrollment. These conclusions for the expansion group are based only on descriptive trend data for a short period.

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See Appendix A - Master List (updated 2/9/2017): https://dsrip.nj.gov/Documents/2%20-%20Appendix%20A-%20Value%20Set%20Master%20List_v3.0.xlsx and Appendix A - Value Sets - Codes (updated 2/9/2017): https://dsrip.nj.gov/Documents/3%20-%20Appendix%20A%20-%20Value%20Sets%20-%20Codes_v3.0.xlsx

Appendix 6A: Description of Measures

Ambulatory Care Sensitive (ACS) Inpatient Hospitalizations for Conditions Relevant to Individuals with Intellectual/Developmental Disabilities: Due to their unique health challenges and evidence of the inadequacy of primary care provided to individuals with intellectual disabilities living in the community, specific ambulatory care sensitive conditions are applicable to this population. We identified hospitalizations for epilepsy, gastroesophageal reflux disease, constipation, and schizophrenia using diagnosis codes from Balogh et al. (2011) and the Chronic Conditions Warehouse (CMS 2018). Our preparation of these metrics considers utilization at any general acute care hospital, inside or outside NJ.

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 using value sets from the 2014 specifications (NCQA 2014) for 2013, 2016 specifications (NCQA 2016) for 2014-2016, and 2018 specifications (NCQA 2018) for 2017-2019. We also used crosswalks from the New Jersey Department of Health to identify mental health practitioners and to crosswalk place of service codes (NJDOH 2017) since our claims data does not contain the detailed place of service indicators called for in the metric specifications. We also modified the metric slightly by identifying follow-up visits for hospital discharges through December 31 of the calendar year (instead of through December 1) in order to support adjustments for continuous time trends in regression analyses.

Hemoglobin A1C Testing and Diabetic Eye Exam: Unmanaged diabetes can lead to serious health complications. We used National Committee of Quality Assurance's Comprehensive Diabetes Care measure specifications to assess whether individuals age 18-75 with diabetes had Hemoglobin A1c testing and a retinal eye exam performed during the measurement year. We used 2014 value specs for 2013-2014, 2016 specs for 2015-2016, and 2018 specs for 2017-2019 (NCQA 2014; 2016; 2018). In accordance with these specifications, we required that the beneficiary be enrolled for 12 months (ignoring gaps of 45 days or less) to be included in this measure.

Appendix 6B: Definition of Mental Health and Substance Abuse

We use the Agency for Health Care Research and Quality (AHRQ) Clinical Classifications Software (CCS) and Clinical Classifications Software Refined (CCSR). The CCS software aggregates diagnosis codes from the International Classification of Diseases, 9th Revision, Clinical Modification/Procedure Coding System (ICD-9-CM/PCS) and the CCSR aggregates codes from 10th Revision (ICD-10-CM/PCS) into a number of clinically meaningful categories.

CCS (ICD-9)

Mental health conditions fall under CCS category 5 and include mood disorders, schizophrenia, anxiety disorder, delirium, and dementia. Substance abuse is a subcategory of mental health conditions identified by CCS categories 5.11, 5.12, and 5.14.2 and includes alcohol and substance-related disorders. For a complete list of what is included in the definition of mental health (MH) and substance abuse (SA) indicators please refer to Table 1 below. It lists the AHRQ CCS category codes for MH and SA. These codes can then be cross-referenced to the AHRQ website[98] to determine exactly which ICD-9 diagnoses comprise the MH and SA designations.

CCS (ICD-10)

The CCSR balances the retention of the clinical concepts included in the CCS categories under ICD-9-CM and capitalizes on the specificity of ICD-10-CM diagnoses by creating new clinical categories. In addition, the CCSR allows ICD-10-CM diagnosis codes to be cross classified into more than one category because individual codes can be used to document multiple conditions or a condition and a common symptom/manifestation. Using the CCSR version 2020.2 software we identified mental health conditions and substance abuse disorder from three of the twenty-one body system categories, (MBD) Mental, behavioral and neurodevelopmental disorders, (FAC) Factors influencing health status and contact with health services, and (SYM) Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified. Mental health conditions fall under body systems MBD and FAC and include mood disorders, schizophrenia, anxiety disorder, delirium, and dementia among other related conditions. Substance abuse is primarily a subcategory of mental health conditions identified under body system MBD but also body system SYM and includes alcohol and substance-related disorders. For a complete list of what is included in the definition of mental health (MH) and substance abuse (SA) indicators please refer to tTable 2 below. It lists the AHRQ CCSR category codes used for MH and SA. A complete listing of all CCSR categories and their associated descriptions can be found in the version specific CCSR Reference

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[98] https://www.hcup-us.ahrq.gov/toolssoftware/ccs/AppendixCMultiDX.txt

File that is packaged with the software user guide and program on the AHRQ website.[99] These codes can then be cross-referenced to determine exactly which ICD-10 diagnoses comprise the MH and SA designations.

We also identify patients who are severely mentally ill based on findings from the national comorbidity survey – replication (Kessler et al. 2005) and subsequent work by Coffey et al. (2011) at AHRQ. These patients experienced functional and social impairment and had a diagnosis of psychoses, bipolar disorder, drug dependence, obsessive compulsive disorder, dysthymia (chronic depression), or related diagnoses. The severe mental illness indicator (SMI) utilizes diagnoses which cross CCSR categories. See the Table 3 below for the original ICD-9 codes used to create the SMI indicator and Table 4 below for the ICD-10 codes. To identify SMI in ICD-10 claims, we applied the General Equivalence Mappings[100] available from the Centers for Medicare & Medicaid Services to the ICD-9 SMI diagnoses, coupled with manual review and input from clinical consultation.

Also, it's important to note, that anyone with an SMI diagnosis was also coded into the MH or SA indicators, even if their diagnosis did not put them in one of the CCSR categories that define MH or SA. Thus, the full logic for our creation of these indicators is as follows:

- SA is defined by any claim mapped into the CCSR category under BH Flag "Substance Abuse"
- MH is defined by any claim mapped into the CCSR category under BH Flag "Mental Health"
- SMI is defined by any claim having an SMI diagnosis.
- Back code into MH or SA categories based on SMI.
- BH is defined by any claim designated as either MH or SA after completing steps above.

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[99] https://www.hcup-us.ahrq.gov/toolssoftware/ccsr/ccsr_archive.jsp#ccspcs (At the time of this document we used version 2020.2.)

[100] https://www.cms.gov/Medicare/Coding/ICD10/2017-ICD-10-CM-and-GEMs.html

Table 1

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.

Table 2

CCSR Category	CCSR Category Description	BH Flag
FAC002	Encounter for mental health services related to abuse	Mental Health
FAC007	Encounter for mental health conditions	Mental Health
FAC008	Neoplasm-related encounters	Mental Health
MBD001	Schizophrenia spectrum and other psychotic disorders	Mental Health
MBD002	Depressive disorders	Mental Health
MBD003	Bipolar and related disorders	Mental Health
MBD004	Other specified and unspecified mood disorders	Mental Health
MBD005	Anxiety and fear-related disorders	Mental Health
MBD006	Obsessive-compulsive and related disorders	Mental Health
MBD007	Trauma- and stressor-related disorders	Mental Health
MBD008	Disruptive, impulse-control and conduct disorders	Mental Health
MBD009	Personality disorders	Mental Health
MBD010	Feeding and eating disorders	Mental Health
MBD011	Somatic disorders	Mental Health
MBD012	Suicidal ideation/attempt/intentional self-harm	Mental Health
MBD013	Miscellaneous mental and behavioral disorders/conditions	Mental Health
MBD014	Neurodevelopmental disorders	Mental Health
MBD017	Alcohol-related disorders	Substance Abuse
MBD018	Opioid-related disorders	Substance Abuse
MBD019	Cannabis-related disorders	Substance Abuse
MBD020	Sedative-related disorders	Substance Abuse
MBD021	Stimulant-related disorders	Substance Abuse
MBD022	Hallucinogen-related disorders	Substance Abuse
MBD023	Inhalant-related disorders	Substance Abuse
MBD024	Tobacco-related disorders	Substance Abuse
MBD025	Other specified substance-related disorders	Substance Abuse
MBD026	Mental and substance use disorders in remission	Mental Health
MBD027	Suicide attempt/intentional self-harm; subsequent encounter	Mental Health
MBD028	Opioid-related disorders; subsequent encounter	Substance Abuse
MBD029	Stimulant-related disorders; subsequent encounter	Substance Abuse
MBD030	Cannabis-related disorders; subsequent encounter	Substance Abuse
MBD031	Hallucinogen-related disorders; subsequent encounter	Substance Abuse
MBD032	Sedative-related disorders; subsequent encounter	Substance Abuse
MBD033	Inhalant-related disorders; subsequent encounter	Substance Abuse
MBD034	Mental and substance use disorders; sequela	Mental Health
SYM008	Symptoms of mental and substance use conditions	Substance Abuse
SYM009	Abnormal findings related to substance use	Substance Abuse

Table 3: Mental and Substance Use (M/SU) Related Functional Severity: Classification of severe, moderate, and mild M/SU functional severity, based on percent of survey respondents with specific diagnosis categories who had serious personal or social consequences in the National Comorbidity Survey Replication (NCS-R)1

Severe M/SU disorders	ICD-9-CM Diagnosis Codes
Psychoses (not in NCS-R)	295(all); 297(all); 298(all)
Bipolar I and II conditions	296.00-06, 10-16, 40-46, 50-56, 60-66; 296.7; 296.80-82, 89, 90, 99
Drug dependence	304 (all); 648.3(all); 655.5(all); 760.72, 73, 75; 779.5; 965.0(all)
Obsessive-compulsive disorder	300.3
Dysthymia (chronic depression)	300.4; 309.1; 301.11-12
Oppositional defiant disorder	313.81
Related ICD-9-CM codes "severe"	296.20, 23, 24, 30, 33, 34; 301.20; 312.03, 13, 21; V11.0

Source: https://www.hcup-us.ahrq.gov/reports/SOI.jsp#appa

Table 4. Mental and Substance Use (M/SU) Related Functional Severity: Classification of severe, moderate, and mild M/SU functional severity, based on percent of survey respondents with specific diagnosis categories who had serious personal or social consequences in the National Comorbidity Survey Replication (NCS-R)

Severe M/SU disorders	ICD-10-CM Diagnosis Codes
Psychoses (not in NCS-R)	'F200', 'F201', 'F202', 'F205', 'F2081', 'F2089', 'F209', 'F22', 'F23', 'F24', 'F259', 'F250', 'F251', 'F258', 'F28', 'F29', 'F323', 'F333', 'F4489'
Bipolar I and II conditions	'F3010', 'F3011', 'F3012', 'F3013', 'F302', 'F303', 'F304', 'F308', 'F3110', 'F3111', 'F3112', 'F3113', 'F312', 'F3130', 'F3131', 'F3132', 'F314', 'F315', 'F3160', 'F3161', 'F3162', 'F3163', 'F3164', 'F3173', 'F3174', 'F3175', 'F3176', 'F3177', 'F3178', 'F3181', 'F319', 'F328', 'F3289', 'F348', 'F3481', 'F3489', 'F39'
Drug dependence	'F1120', 'F1121', 'F1220', 'F1221', 'F1320', 'F1321', 'F1420', 'F1421', 'F1520', 'F1521', 'F1620', 'F1621', 'F1920', 'F1921', 'O355XX0', 'O99320', 'O99321', 'O99322', 'O99323', 'O99324', 'O99325', 'T400X1A', 'T400X2A', 'T400X3A', 'T400X4A', 'T401X1A', 'T401X2A', 'T401X3A', 'T401X4A', 'T402X1A', 'T402X2A', 'T402X3A', 'T402X4A', 'T403X1A', 'T403X2A', 'T403X3A', 'T403X4A', 'T404X1A', 'T404X2A', 'T404X3A', 'T404X4A', 'T40601A', 'T40602A', 'T40603A', 'T40604A', 'T40691A', 'T40692A', 'T40693A', 'T40694A', 'P0441', 'P0449', 'P0440', 'P0442', 'P961', 'P962'
Obsessive-compulsive disorder	'F42', 'F422', 'F423', 'F424', 'F428', 'F429'
Dysthymia (chronic depression)	'F341', 'F6089'
Borderline Personality disorder	'F603'
Oppositional defiant disorder	'F913'
Related ICD-10-CM codes "severe"	'F322', 'F323', 'F329', 'F332', 'F333', 'F339', 'F601', 'F911', 'F912', 'F918', 'Z658'

Appendix 6C: Conditions Classified as Intellectual/Developmental Disabilities

Down Syndrome
Chromosomal Anomalies and Autosomal Deletion Syndromes
Fragile X Syndrome
Cerebral Degenerations Manifest in Childhood
Lesch Nyhan Syndrome
Tuberous Sclerosis
Prader-Willi Syndrome
Fetal Alcohol Syndrome
Cerebral Palsy Including Diplegic, Hemiplegic, Quadriplegic, Monoplegic, Unspecified and Athetoid
Pervasive Developmental Disorders Including Autistic Disorder
Moderate-to-Profound Intellectual Disability
Mild Intellectual Disability
Unspecified Intellectual Disability

Note: See McDermott et al. 2018.

Chapter 7: Assessment of Medicaid Cost Savings from the Premium Support Program

Introduction

The Premium Support Program (PSP), implemented in July 2001 as part of the state's broader SCHIP waiver, provides financial support to cover the cost of the premiums for employer-sponsored health insurance (ESI) provided: 1) the individuals are eligible for the NJ Family Care program (NJFC), 2) the employer plan meets certain requirements, and 3) it is more cost-effective to cover the beneficiary through employer's plan (a minimum of 5 percent cost savings) (N.J.S.A. 10:78). In 2001, the coverage included parents up to 200 percent of the federal poverty level (FPL) and childless adults up to 100 percent FPL (Belloff & Fox, 2006). In 2003, the coverage was expanded to include Plan D families up to 300 percent FPL, and later it was further expanded to include families with incomes up to 355 percent FPL. In 2016, the employer's contribution to the health insurance premium decreased from 50 percent to 20 percent, and in August 2017 the PSP was brought under §1115 Waiver authority as part of the NJ FamilyCare Comprehensive Demonstration renewal.

Under the PSP, assistance is provided periodically, as a direct subsidy, and the reimbursement amount includes the beneficiary's ESI premium contribution minus the NJFC/PSP premium amount for which the beneficiary is responsible.[101] If the coverage offered through the employer-sponsored insurance plan is not equivalent to NJFC Plan D benefits package, then NJFC provides wraparound services for children and adults. Overall, the total beneficiary contribution is capped at 5 percent of the individual or family's gross income.

Examining potential Medicaid cost savings for beneficiaries participating in PSP provides evidence needed to test Hypothesis 8, which flows from the eighth Research Question enumerated in the approved evaluation design (CMS 2019).

Research Question 8. "**What is the impact of mandating individuals who are eligible for NJFC and have access to employee sponsored insurance into the premium assistance program; as conditional of eligibility?"**

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[101] Effective July 1, 2021 NJFC premiums are no longer applicable.

Hypothesis 8: “**Mandating individuals who have access to employee sponsored insurance into the premium assistance program will cost the State at least 5% less than providing individuals coverage in NJFC.”**

Methods

Data Source

We requested data from the State for beneficiaries who were in the PSP at any point in the period from August 1, 2015 through July 31, 2020. No changes were made to the program when it was brought under §1115 Waiver authority, but including historical data allows us to examine program performance across the period of this administrative transition. The Division of Medical Assistance and Health Services (DMAHS) provided the NJ Data Report to examine per-member, per-month net savings for a Medicaid beneficiary (and any eligible dependents) enrolled in the PSP.[102] The report provides effective start and end dates in PSP and total months enrolled. However, it does not provide monthly enrollment information. For our analysis, we grouped by effective start date and only included individuals who entered PSP between August 2015 and July 2019. We compared the savings for the beneficiaries who entered PSP in the second Waiver demonstration period (between August 2017 and July 2019, referred as “Waiver 2” period) with the beneficiaries who entered PSP between August 2015 and July 2017 (referred as “pre-Waiver 2” period). For consistency, we used the same enrollment window (24 months) for defining the two groups. We will add additional years of data for the final evaluation report.

Analysis

The NJ Data Report included the net savings to Medicaid for each family. This was the difference between the projected cost of NJ FamilyCare enrollment and the actual cost to Medicaid of premium and wraparound benefits under the PSP. We calculated per month savings and per member per month savings for each beneficiary enrolled in PSP. Dollars were not inflation-adjusted so results reflect actual savings. Although groups are defined by enrollment entry period, we count total enrollment time for each member until the earlier of either the termination date, or July 31, 2020. We also calculated net percentage of savings for each beneficiary enrolled in PSP. We provide estimates for the two periods and the total combined estimate. The estimates were calculated using the following formulas:

Per member per month savings= (net savings to Medicaid/total months in PSP)/total members in each family

Percentage savings per family = (net savings to Medicaid/projected cost of NJ FamilyCare coverage) 100*

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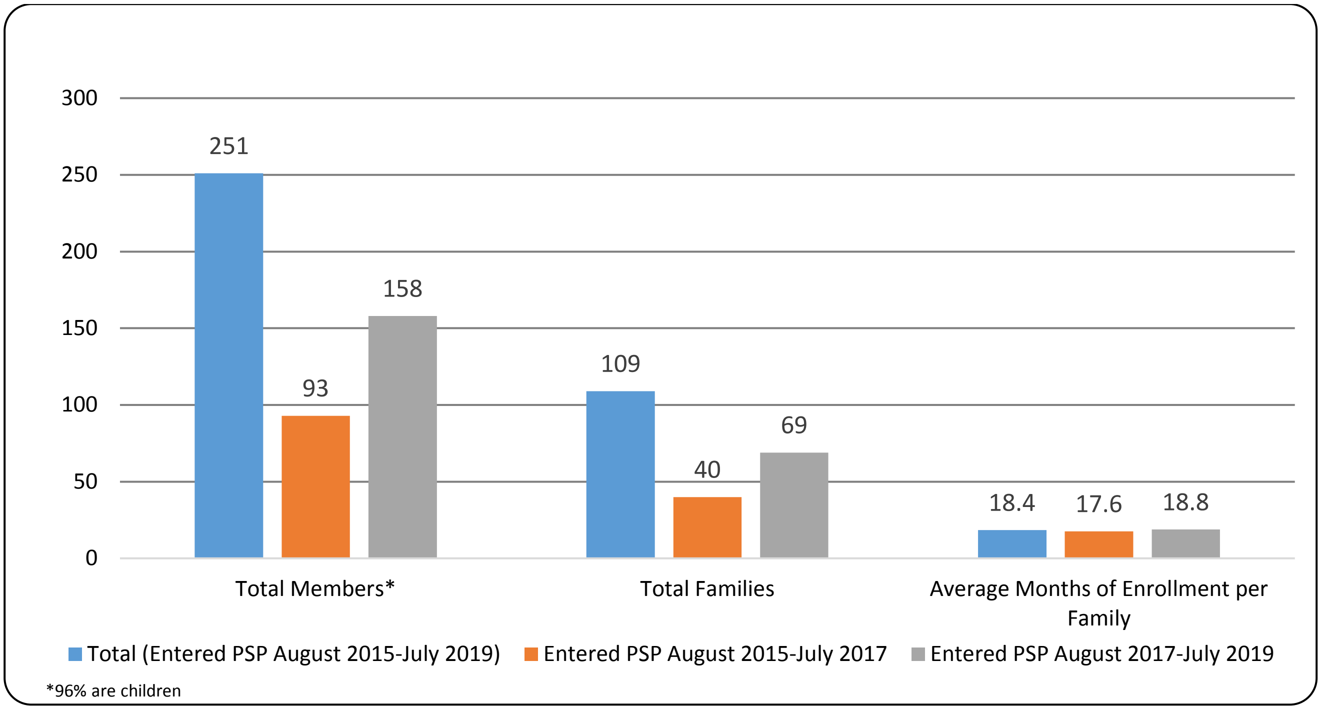
[102] The NJ Data Report included enrollees who entered PSP in 2005 or later and were in the PSP at any point in the period from August 1, 2015 to July 31, 2020.

Results

Overall, 109 families (total members=251) entered the PSP between August 2015 and July 2019. More than three-fifths (69 families, 158 members) entered in the Waiver 2 period. Most members (95.6%) were children. The families in the Waiver 2 period enrolled in the PSP for an average of 18.8 months per family and the pre-Waiver 2 period for an average of 17.6 months per family (see Figure 7.1 and Table 7.1).

Figure 7.1: Total number of families and average number of months of enrollment per family (entered PSP August 2015-July 2019)

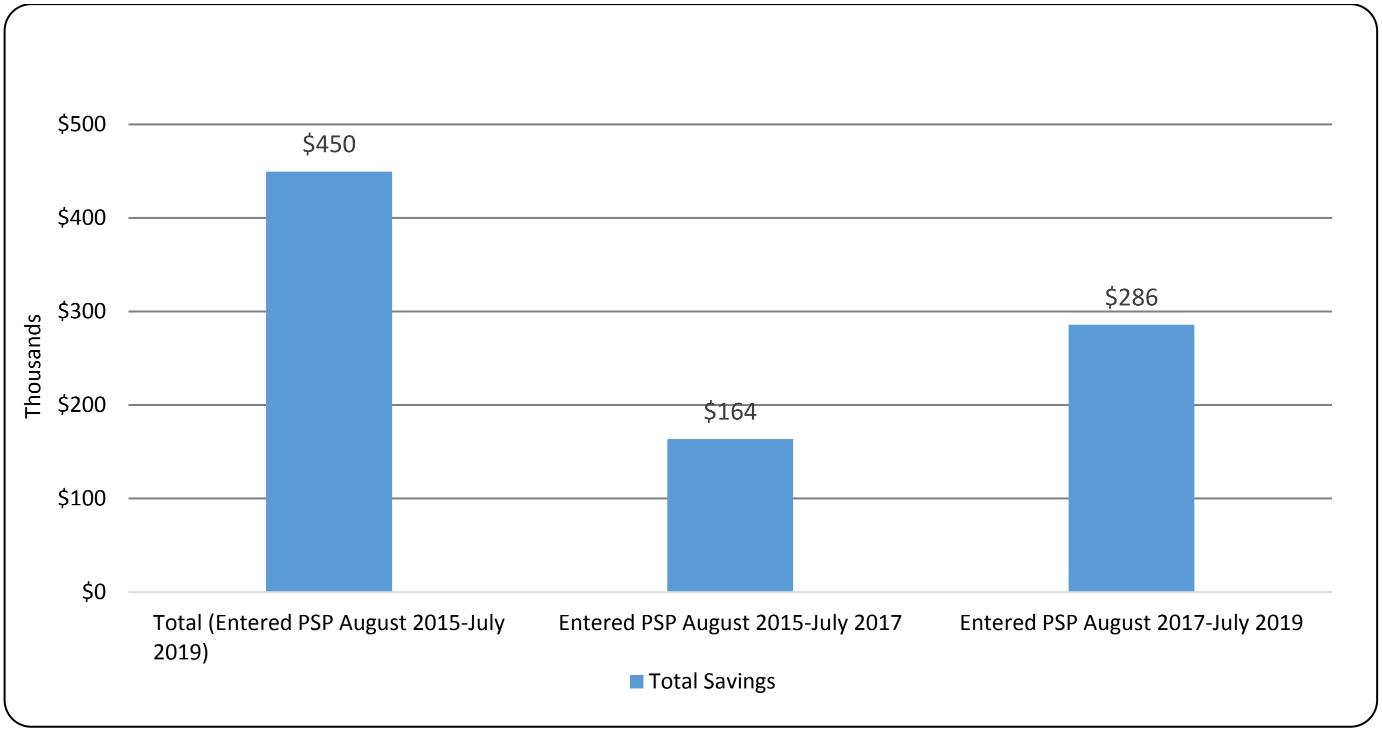


Source: NJ Data Report from NJ Division of Medical Assistance and Health Services, 2005-2020; Analysis by Rutgers Center for State Health Policy.

Net Savings: Participation in PSP saved Medicaid a total of $449,659 during the two time periods. The net savings during the Waiver 2 period was $285,828 and in the pre-Waiver 2 period was $163,831 (see Figure 7.2 and Table 7.1).

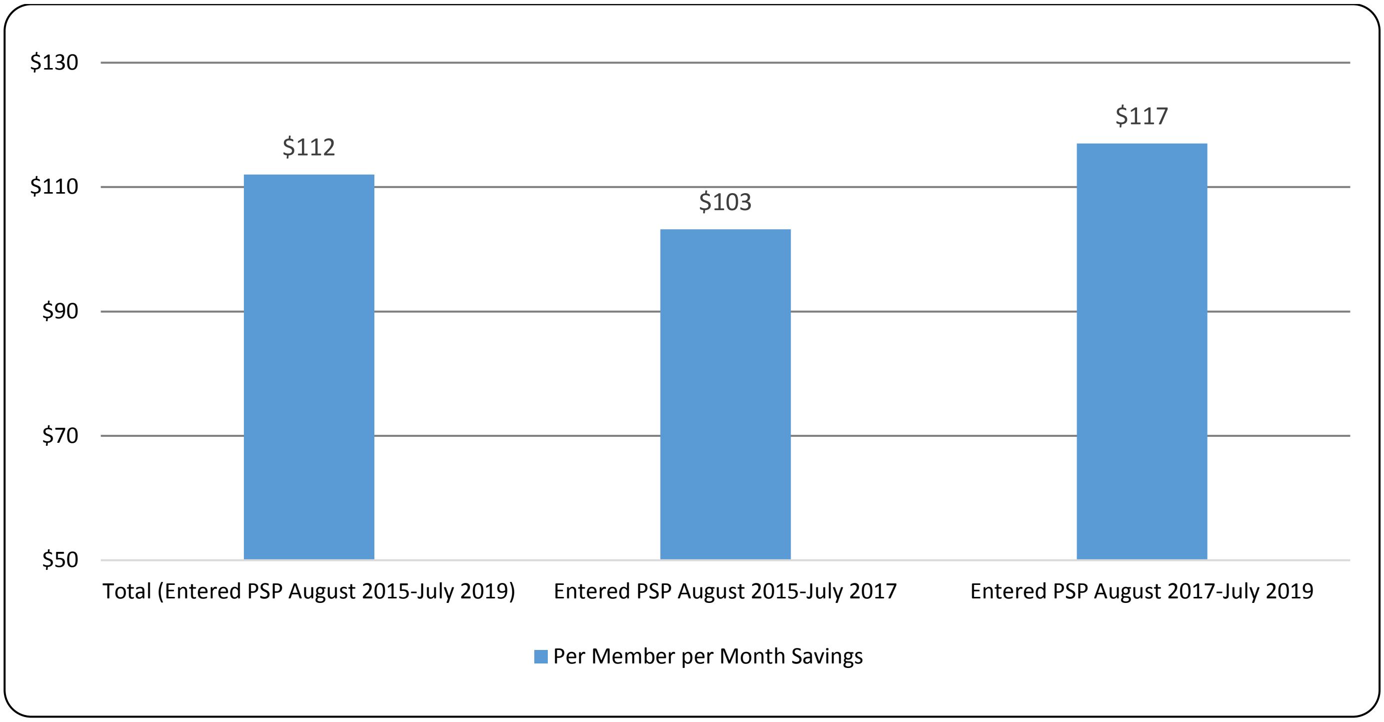
Average per Member per Month Savings: The average per member per month savings to Medicaid was $112 for the two time periods. Medicaid saved an average of $117 per member per month during the Waiver 2 period and an average of $103 per member per month during the pre-Waiver 2 period (see Figure 7.3 and Table 7.1).

Figure 7.2: Total savings from participation in the Premium Support Program (entered PSP August 2015-July 2019)



Source: NJ Data Report from NJ Division of Medical Assistance and Health Services, 2005-2020; Analysis by Rutgers Center for State Health Policy.

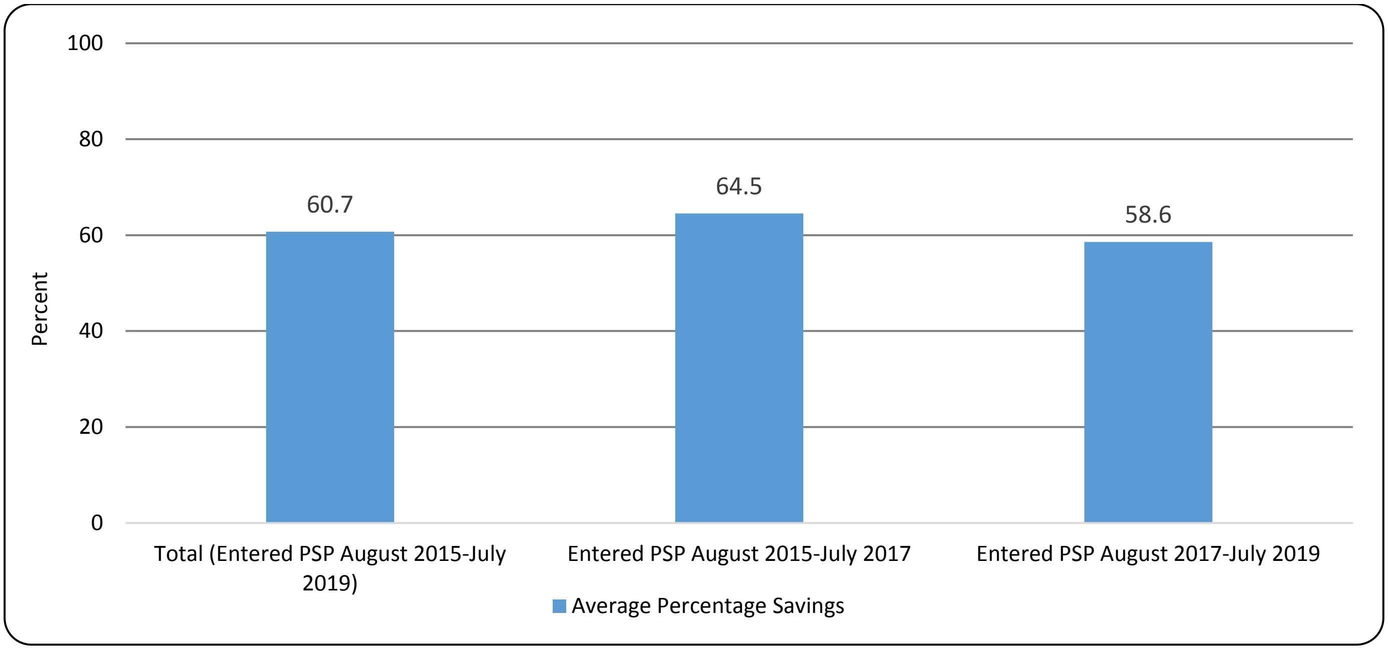
Figure 7.3: Average per member per month savings from participation in the Premium Support Program (entered PSP August 2015-July 2019)



Source: NJ Data Report from NJ Division of Medical Assistance and Health Services, 2005-2020; Analysis by Rutgers Center for State Health Policy.

Percentage of Medicaid Savings: Overall, the average percentage cost savings for Medicaid from family enrollment in the PSP program compared to providing full coverage under NJ FamilyCare was 60.7% in the four-year period, far above the 5% threshold. The average percentage cost savings in the Waiver 2 period was 58.6% compared to 64.6% during the pre-Waiver 2 period (see Figure 7.4 and Table 7.1).

Figure 7.4: Average percentage of Medicaid savings from participation in the Premium Support Program (entered PSP August 2015-July 2019)



Source: NJ Data Report from NJ Division of Medical Assistance and Health Services, 2005-2020; Analysis by Rutgers Center for State Health Policy.

Table 7.1: Premium Support Program: Enrollment and net savings

	Total Members	Total Families	Average months of enrollment per Family	Net Savings	Average per Member per Month Savings* (Range)	Average Medicaid Savings** % (Range)
Total (entered PSP January 2005- March 2020)+	731	303	21.5	$1,405,429	$107 (-378.4-921.3)	62.1 (-379.8-100)
Total (entered PSP August 2015-July 2019)	251	109	18.4	$449,659	$112 (-176.7-531.0)	60.7 (-317.5-100)
Pre-Waiver 2 Period (entered PSP August 2015-July 2017)	93	40	17.6	$163,831	$103 (-176.7-311.4)	64.5 (-73.6-100)
Waiver 2 Period (entered PSP August 2017-July 2019)	158	69	18.8	$285,828	$117 (-73.5-531.0)	58.6 (-317.5-100)

*Per member per month savings= (net savings/total months in PSP)/total members in each family
**Percentage savings per family = (net savings/projected cost of NJ FamilyCare coverage)* 100
+These are only families who remained enrolled at any point from August 2015 – July 2020. Families disenrolling before this period are not included.

Discussion

In this chapter, we examined the financial impact of participation in the PSP program on Medicaid costs. We presented data for the Waiver 2 period (2017-2019) and the pre-Waiver 2 period (2015-2017), and also examined the combined estimate for the two time periods (beneficiaries entering PSP between August 2015-July 2019). **The evidence from the metrics we examined in this chapter suggests considerable cost savings to Medicaid because of the Premium Support Program which continued when the program came under the §1115 Demonstration.** The average percentage of savings from the PSP program participation was much higher than the threshold set by Medicaid (a minimum of 5 percent cost savings). Although projected cost savings is a condition of enrollment in PSP, there are some families where the premium, cost-sharing, and wraparound services cost Medicaid more than enrollment in a NJ FamilyCare managed care plan. However, the substantial savings from sharing premiums across the employer, family, and Medicaid for most of the PSP enrollees is large enough to offset these cases and keep Medicaid well above the 5% savings threshold overall. **The findings support the conclusion that overall cost savings from participation in PSP was substantial and more attention in increasing the PSP enrollment may help Medicaid offset coverage cost.**

While examining the findings presented in this report it is important to remember that **estimates are descriptive and speak only to the financial value of the program and not the health of members.** The risk profile of beneficiaries in the PSP will vary and could increase Medicaid costs for PSP beneficiaries causing fluctuations in net and per member, per month savings. Additionally, the data available didn’t include all the beneficiaries enrolled in the program. These findings could change as additional years of data are added in the final evaluation report.

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Chapter 8: Cost Effectiveness Analysis

Introduction

In this chapter, we examine the reforms under the New Jersey FamilyCare Comprehensive Demonstration that transitioned the provision of LTSS received by beneficiaries assessed to be needing NF-level of care to the MLTSS program. The following research question and evaluation hypothesis in the approved evaluation design (CMS, 2019) is addressed:

Research Question 1: **"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?"**

Hypothesis 1: **"The managed care expansion will improve access to care, the quality, efficiency, and coordination of care, and the cost of care for the overall population in managed care."**

Background

This chapter summarizes the methods and interim findings of a cost-effectiveness analysis (CEA), required for the evaluation. This approach has been widely used in healthcare for decades as a formal method to quantify the value of healthcare programs. In the case of this evaluation, CEA entails measuring the cost and effects of the policies implemented as a part of New Jersey FamilyCare Comprehensive Demonstration. Strictly speaking, CEA is intended to measure the total costs of implementing a new treatment or program compared to an existing treatment or program, the latter of which is a standard of care. In addition, the effectiveness component of CEA should be a clear and measurable health outcome or quality of life measure. In the case of NJ FamilyCare, the policies being evaluated are broad and may have many health and quality of life impacts, but it is difficult to establish a linkage between these impacts and the policies, nor were they measurable in the administrative data available to complete the evaluation. Accordingly, we have used several healthcare utilization outcomes as proxy measures of effectiveness (avoidable hospitalizations, avoidable emergency department visits, and 30 day-readmissions) but these are limited in scope, and are unlikely to capture the full costs and benefits of the program.

Formal guidance on CEA has been published by the US Panel on Cost Effectiveness in Health and Medicine (Neumann et al, 2016). Important to this method is the ability to compare the cost and effectiveness of the new policies to a reference case. The reference case may consist of a concurrent standard of care, for example, a comparable policy available during the same time as the new policy, or if no concurrent comparator exists then pre-policy costs and effects may serve as the reference case. In this particular analysis, the pre-policy costs and effects have been adopted. The reference case can perhaps be more easily thought of as usual care (care in the absence of the new policy, which is the pre-period in this analysis).

The cost and effects of the new policy compared to the reference case are calculated using a difference-in-differences (DID) approach, which examines how costs and effects changed before versus after the MLTSS policy was implemented. With respect to the costs included in CEA, best practice guidelines call for inclusion of all relevant costs fitting the perspective of the analysis chosen. The most common perspectives taken in CEA are healthcare payer, healthcare provider, or societal. Of these, the healthcare payer is the most relevant to our evaluation. In this case, the payer most directly involved in MLTSS implementation is the New Jersey Medicaid program, which is funded through federal and state taxation. Taking this perspective, relevant costs include those relating to all healthcare services under the new policy versus the reference case, as well as implementation costs to develop the systems and practices necessary for the policy. In terms of program implementation costs, both human time (i.e., state staff and vendor costs), as well as supplies, travel, and other resources should be included.

Effectiveness measures included in the CEA should be a) the outcomes associated with the policy or those that the policy is specifically targeting; AND b) measurable with available data. Typically, CEA is expected to employ an effectiveness measure that is a clinical outcome measure, not a surrogate or process measure. Most importantly, the effectiveness measure chosen should be a meaningful indicator of the value of the policy being assessed.

In this interim report, we describe preliminary results of our CEA on the first policy evaluated—**the managed care expansion of Medicaid long-term services and supports** (MLTSS; pertaining to evaluation research question #1). Our team gave considerable deliberation to identifying relevant clinical outcome measures to serve as the CEA effectiveness measures for evaluating this policy. Given that one of the goals of MLTSS is to avoid unnecessary healthcare use in the form of avoidable hospitalizations, ED visits, and readmissions, we decided that these events would be relevant to include as the effectiveness measures in the CEA. Hence, our analysis examines cost per avoidable event for each of these three types of events. To avoid biasing our CEA ratios with double-counting, (for example, inclusion of the costs of avoidable hospitalizations in the numerator and simultaneously with the number of avoidable hospitalizations in the denominator), we excluded the outcome-specific costs from the numerator.

It is important to note that CEA is best done in parallel with the program being implemented to 1) collect all necessary information, 2) avoid temporal bias, and 3) minimize recall bias. However, in the case of this evaluation, CEA is being performed years after the policy was first being developed, going back as far as 2012. This presented practical challenges with gathering the necessary data. Data pertaining to policy implementation costs were particularly limited due to staff turnover and lack of historical records on the people and processes involved in implementing the policies. Nonetheless, we administered a survey that was developed in partnership with state stuff to estimate their time developing the policy and are gathering records on other costs (such as vendors and supplies) to the best extent possible.

Methods

Data Sources

Data sources for this analysis included 1) a survey of key personnel to determine time spent on MLTSS program development and implementation, and 2) a query of unadjusted outcomes events and costs from the Medicaid claims data from 2011-2019 for MLTSS-HCBS beneficiaries and a non-MLTSS comparator group. The comparator group was drawn from the ABD group and defined on a yearly basis, and individuals were excluded from the comparator group if they had ever been enrolled in HCBS or NF in that year, or were ever in a NF from 2011 through 2019. Additionally, we reviewed the project plan from the primary contractor, Mercer, to identify non-personnel costs (e.g., costs of services, information technology infrastructure, etc.).

Measures

The MLTSS program was rolled out beginning in July 2014. Given that certain components of our data were available annually, defining the pre-policy and post-policy periods in whole years was necessary. Cost and outcome measures were captured for both the period prior to rollout (January 2012 through December 2013, “pre-period”) and the period after rollout began (January 2014 through December 2019, “post-period”). Cost measures include the HCBS cost portion of MLTSS personnel time spent on program planning and implementation, plus the costs of avoidable hospitalizations, avoidable emergency department visits, and thirty-day hospital readmissions. Outcome measures include the number of avoidable hospitalizations, avoidable emergency department visits, and 30-day hospital readmissions. All costs are reported in $US 2019, consistent with the most recent year of data included in the analysis.

MLTSS Program Planning and Implementation

Personnel time costs were estimated based on staff time spent in meetings for MLTSS program development and implementation. Key staff involved in these tasks were surveyed using a two-week sampling period for each quarter from January 2012 through December 2016. The survey was conducted in the 2nd quarter of 2021. Survey respondents indicated the number of hours spent in each sampling frame on program development and implementation tasks and the number of other full-time equivalent (FTE) employees who were also involved in the meetings. Time reported for each quarter's two-week sampling period was scaled up to cover all 13 weeks of the quarter. Costs were estimated for this time by multiplying the number of FTEs involved in the task by the hours spent on each task, and applying an average hourly wage rate for the FTEs (US Office of Personnel Management) derived from the NJOIT Open Data Center Agency Payroll Explorer (State of NJ, 2021), plus fringe benefits per the Bureau of Labor Statistics (2017), and inflating to $US 2019 (Halfhill, 2021). Because MLTSS comprises both nursing facilities (NF) and HCBS, the personnel time costs were downward adjusted to represent the HCBS component only, and a per-beneficiary cost was calculated by dividing the adjusted personnel time costs by the number of MLTSS-HCBS beneficiaries.

Non-personnel costs were explored by obtaining historical project management documents, including a project planning spreadsheet from Mercer. These documents were reviewed to identify materials and services required for the program, along with data sources pertaining to their costs (e.g., vendor invoices). For the interim report, source data on non-personnel costs has not yet been obtained, thus these are not included in the present analysis. The final report will contain these material cost estimates.

Analysis 1. MLTSS-HCBS Cost-Effectiveness Analysis

To assess the cost-effectiveness of MLTSS vs. a non-MLTSS population for HCBS, we performed a pre versus post analysis comparing net per-beneficiary, per-year costs of MLTSS-HCBS against those of an unadjusted comparator group (the general population of non-MLTSS aged/blind/disabled Medicaid beneficiaries). The pre-period comprised years 2011-2013, and the post-period comprised 2014-2019. For each outcome measure, we calculated the numerator and denominator of the incremental cost-effectiveness ratio (ICER) shown Equation 1:

$$\text{ICER} = \frac{\text{Net costs}_{\text{MLTSS-HCBS}} - \text{Net costs}_{\text{Comparator group}}}{\text{Net \# Outcomes}_{\text{MLTSS-HCBS}} - \text{Net \# Outcomes}_{\text{Comparator group}}} \qquad (1)$$

where "Net costs" for each group comprise the per-beneficiary, per-year post-period healthcare costs plus program planning and implementation costs, minus the per-beneficiary, per-year pre-period healthcare costs.

To calculate the net costs for each group (numerator of Eq. 1), all healthcare service costs were first inflated to $US 2019 using medical cost inflation rates. This is a common step in health economic analyses since costs should be valued in a common year. Per-beneficiary healthcare costs were calculated as the total costs of all-cause healthcare service use minus costs related to the outcome of interest (for example, for the "avoidable hospitalizations" outcome, costs of avoidable hospitalizations were subtracted from total healthcare costs), and then divided by the number of beneficiaries enrolled in that year. Per-beneficiary program planning and implementation costs were included in the post-period and were calculated as described above (MLTSS-HCBS group only). Because the purpose of this analysis was to capture the additional costs of implementing the new MLTSS-HCBS program, ongoing (post-implementation) program costs from January 2017 to present were excluded. Costs were then summed within each time period and divided by the number of years in the time period (i.e., 3 years for the 2011-2013 pre-period; 6 years for the 2014-2019 post-period) to yield the per-beneficiary, per-year net cost.

The net per-beneficiary, per-year number of outcomes in each group (denominator in Eq. 1) was calculated similarly within each group for each outcome of interest as the per-beneficiary, per-year number of post-period outcome events minus the per-beneficiary, per-year number of pre-period outcome events. The numerator and denominator of Eq. 1 thus represent the aforementioned "difference-in-differences" (DID) calculation.

It should be noted that calculation of ICERs is only relevant when the new policy either costs more money than usual care but results in additional effectiveness, or it costs less money than usual care but results in less effectiveness. In cases when the new policy is more costly and less effective than usual care, the decision would be to stick with usual care; whereas in cases when the new policy is less costly and more effective, the decision would be to adopt the new policy. In the latter case, we say that the new policy is dominant in that it achieves better outcomes at lower cost than usual care. In addition, ICERs have limited ability to inform decisions unless there are benchmarks that serve as a basis of comparison. In the case of the results presented herein, we include net cost and effectiveness differences (i.e., the "difference in differences" result), but did not specifically calculate ICERs because CEA benchmarks for long term care policies where effectiveness is based on avoidable events do not exist. Thus, it would be impossible to put ICERs generated from our analysis into context. However, to allow for easy visualization of the results of the CEA, incremental costs and effectiveness for the MLTSS-HCBS group vs. comparator were plotted on the incremental cost-effectiveness (ICE) plane. The horizontal axis of the ICE plane represents incremental effectiveness, the vertical axis represents incremental costs, and the costs and effectiveness of the comparator group occupy the origin. The four quadrants of the ICE plane then show the relative costs and effectiveness experienced by beneficiaries in the MLTSS-HCBS program vs. the comparator group.

Analysis 2. Per-Beneficiary Savings

Per-beneficiary savings for HCBS for each outcome were calculated per Eq. 2:

$$\text{Per-beneficiary savings} = (\text{per-beneficiary health care savings from pre- to post-period}) - (\text{per-beneficiary program cost}) \tag{2}$$

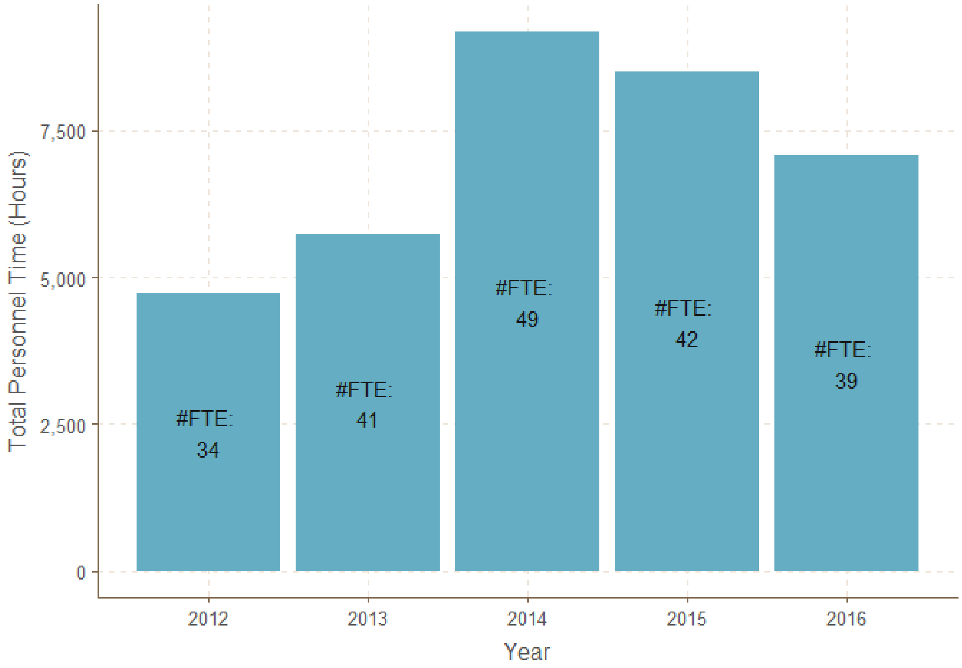
where the incremental per-beneficiary healthcare savings is the difference in mean per-person all-cause healthcare costs (post-period minus pre-period) and the per-beneficiary program cost is the mean per-person cost of personnel time for program planning and implementation as described above. The first term in Eq. 2 was found by inflating total all-cause healthcare costs for each year in the analysis to $US 2019 using medical cost inflation rates (Halfhill 2021), dividing each year's costs by the number of beneficiaries for that year to find mean per-beneficiary costs, averaging these costs separately for pre-period (2011-2013) and post-period (2014-2019), and calculating the difference (post-period minus pre-period). This savings calculation is based on the policy group and does not take into account potential savings that may have occurred even without the policy implementation.

Results

MLTSS Program Planning and Implementation Staff Time and Associated Costs

Findings of the personnel time survey indicate that 102 individuals spent a combined 35,179 hours in MLTSS planning and implementation meetings from January 2012 through December 2016, for a total cost of $2,471,730. Annual personnel time and associated costs are presented in Figs. 1 and 2 respectively. Based on 52,577 unique HCBS beneficiaries enrolled from July 2014 through December 2019, the per-beneficiary cost of MLTSS-HCBS program planning and implementation is $47.01 over a 5 year period, or an annualized per-beneficiary cost of $9.40.

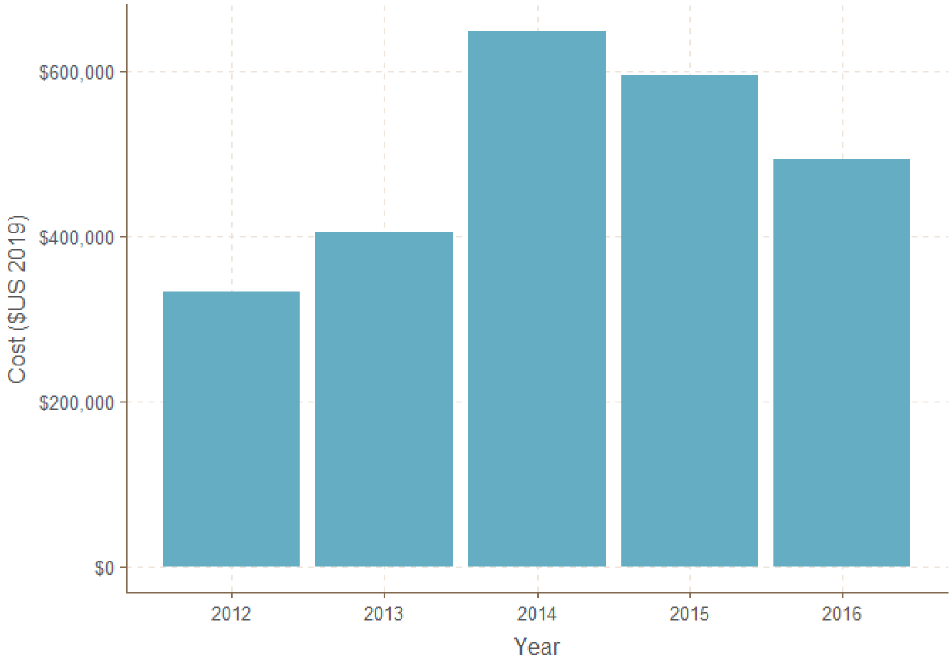
Figure 8.1: MLTSS Personnel Time by Year



Source: DHS Personnel Time Survey conducted by authors

Notes: FTE = Full Time Equivalents (represents the number of full time employees included in the total number of hours shown)

Figure 8.2: Cost of MLTSS Personnel Time by Year



Source: DHS Personnel Time Survey conducted by authors, costs estimated as described in text, drawing on Bureau of Labor Statistics (2017), Halfhill (2021), State of NJ (2021), US Office of Personnel Management (2021).

Non-personnel costs identified in the Mercer project plan include costs of information technology infrastructure and materials (e.g., printed manuals and mailings). Vendor invoices bearing the costs of these services and items will be requested for future analysis.

Analysis 1. Cost-Effectiveness of MLTSS-HCBS vs. Comparator Group

Interim results of the cost-effectiveness analysis comparing MLTSS-HCBS beneficiaries to the comparator group are presented in Table 1. Avoidable hospitalizations showed a difference-in-difference cost increase of $309 per beneficiary per year and a corresponding increase of 0.0095 events on DID analysis. These are changes in the HCBS population relative to the change in the ABD group, pre-post (e.g., for avoidable hospitalizations the increase in cost of $309 equals the decrease in HCBS of $243 relative to a decrease of $553 in the comparison group). Similarly, for avoidable ED visits, the DID costs increased by $338 with 0.083 additional events. For thirty-day readmissions, the DID analysis showed a savings of $160 with 0.0182 additional events.

The ICE plane is presented in Fig. 3. Thirty-day readmissions appear in Quadrant III, indicating that with respect to readmissions, MLTSS-HCBS was less costly but less effective in the MLTSS-HCBS group than the comparator. Avoidable hospitalizations and avoidable ED visits both appear in Quadrant II, indicating that with respect to these measures, MLTSS-HCBS was more costly and also less effective than the comparator.

Since the comparator group in this CEA was the overall ABD population as previously defined, it is possible that results will change in the final analysis.

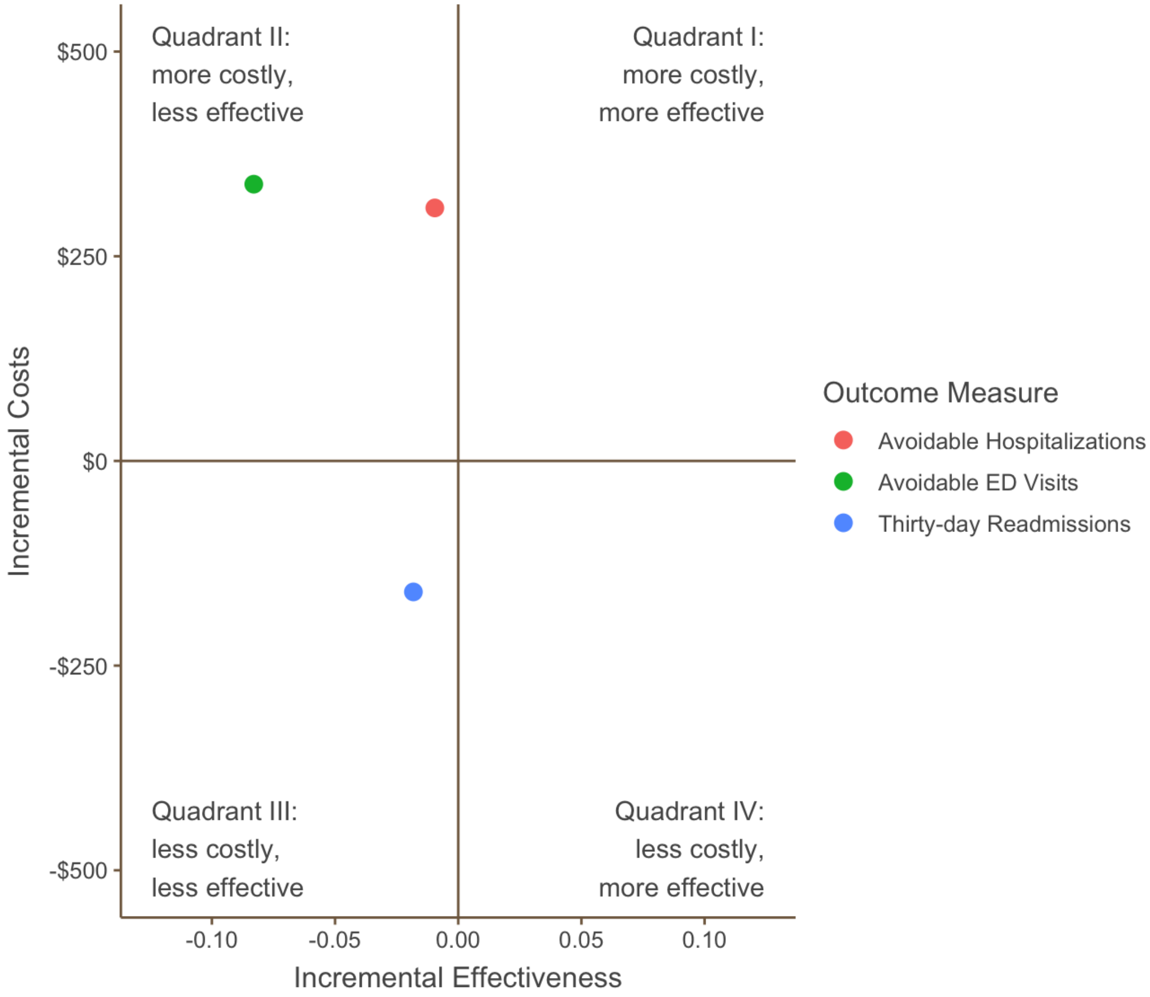
Table 8.1: Per-Beneficiary, Per-Year Cost-Effectiveness Analysis, MLTSS-HCBS vs. Comparator Group

Outcome Measure	Type	Population	Pre-period (2011-2013)	Post-period (2014-2019)	Difference	Difference-in-Difference
Avoidable Hospitalizations	Costs	HCBS	$26,706	$26,462	-$243	$309
		Comparator	$17,374	$16,821	-$553	
	Number of Events	HCBS	0.0861	0.0864	0.0003	0.0095
		Comparator	0.0422	0.0330	-0.0093	
Avoidable ED Visits	Costs	HCBS	$26,715	$26,505	-$209	$338
		Comparator	$17,184	$16,637	-$547	
	Number of Events	HCBS	0.2117	0.2854	0.0737	0.0830
		Comparator	0.3711	0.3617	-0.0093	
Thirty-day Readmissions	Costs	HCBS	$26,690	$25,910	-$780	-$160
		Comparator	$17,434	$16,814	-$620	
	Number of Events	HCBS	0.0208	0.0325	0.0117	0.0182
		Comparator	0.0255	0.0191	-0.0064	

Sources: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy; implementation costs derived from DHS Personnel Time Survey conducted by authors with methods described in text.

Notes: Post-period cost includes implementation costs. ED = Emergency Department, HCBS = Home- and Community-Based Services

Figure 8.3: Incremental Cost-Effectiveness of MLTSS-HCBS vs. Comparator



Analysis 2. Per-Beneficiary Savings among MLTSS-HCBS Beneficiaries

When looking only within the MLTSS-HCBS population itself without comparison to the ABD population (comparator), the MLTSS-HCBS program showed a per-beneficiary savings of $152. (Table 2).

Table 8.2: Per-Person Savings among HCBS Beneficiaries

Per-Beneficiary Costs				Net Per-Beneficiary Savings***
Pre-period (2011-2013) Mean Total Healthcare Costs per Beneficiary	**Post-period (2014-2019) Mean Total Healthcare Costs per Beneficiary**	**Difference***	**Program Cost****	
$26,738	$26,539	-$199	$47	$152

Sources: Medicaid Fee-for-Service Claims & Managed Care Encounter Data, 2011-2019; Analysis by Rutgers Center for State Health Policy; implementation costs derived from DHS Personnel Time Survey conducted by authors with methods described in text.

Notes: HCBS = Home- and Community-Based Services

*The negative difference in this column indicates a savings in pre- versus post-period costs in the MLTSS-HCBS group per beneficiary

**As calculated earlier in text

**Savings as defined in Equation 2

Discussion

This chapter presents findings on the personnel time and costs of implementing the MLTSS program for HCBS beneficiaries. The total cost for the measurement period is $2,471,730, and is $47.01 per MLTSS-HCBS participant during the measurement period. Though state staff time are likely to be the largest component of the total cost of MLTSS-HCBS policy implementation, the total policy cost will increase once other costs (currently being gathered) are added. These costs include outside contractors/vendors, supplies, and travel.

In terms of cost effectiveness (analysis 1), interim DID analysis findings show small per-beneficiary, per-year increases for the MLTSS-HCBS population relative to the non-MLTSS ABD population in the number of events observed for all three outcomes of interest, with the smallest increase found for avoidable hospitalizations (0.0095 events), followed by thirty-day readmissions (0.0182 events) and avoidable ED visits (0.0830 events). Cost savings of $160 were found associated with thirty-day readmissions, and cost increases of $309 and $338 were observed for avoidable hospitalizations and avoidable ED visits respectively. It is important to keep in mind that the cost component of the CEA does not include all elements of intervention costs—just estimated staff time costs—however it is unlikely that the costs not yet included in this calculation (i.e., those which are still being gathered, such as consultant vendors, supplies) are unlikely to greatly increase the costs observed since typically staff time comprises the largest cost of healthcare interventions. In addition, the comparison group is the general group of non-MLTSS Medicaid ABD beneficiaries who were not adjusted to match the MLTSS-HCBS sample. The adjusted analysis is currently being planned.

From the Medicaid perspective, a more meaningful way to quantify the value of MLTSS-HCBS than CEA is to consider whether it results in per-beneficiary cost savings (analysis 2). This analysis specifically examined whether the total cost of MLTSS-HCBS is offset by savings in this population. The per-beneficiary savings presented in Table 2 reveal that the cost of implementing MLTSS-HCBS is offset by the savings experienced in the population who received care under the new policy, yielding a per-beneficiary savings of $152. These findings suggest that MLTSS-HCBS has been a worthwhile investment in that its cost has been offset by savings in total healthcare costs during the measurement period. Though this per-beneficiary savings analysis shows a savings associated with MLTSS-HCBS whereas the CEA showed increased costs for all but one outcome of interest, it should be noted that the per-beneficiary savings analysis considers the MLTSS-HCBS population only (it does not include a comparator population).

Limitations

There are several limitations to this interim analysis. Primarily, program planning and implementation took place during 2012-2017, and in the intervening years many staff members who were involved in these tasks have left their employment with the State of New Jersey. Therefore, rather than surveying only those individuals who do remain, we selected three key high-level individuals with historical experience to report on time for all relevant staff members. Second, since the time lag between program implementation and fielding of the survey exceeds four years, survey respondents relied on calendar entries and meeting minutes to when responding to the survey, but it is likely that some gaps in the records and institutional memory exist. Third, in an effort to keep the survey's response burden manageable, we employed a two-week sampling approach for each quarter in the five years covered by the survey. This sampling approach may have led to some missing data, in cases where one-time or infrequent meetings or events took place outside of the sampling frame. Fourth, we were unable to obtain non-staff costs in time for this interim report, which will be added to staff time costs to arrive at the total policy costs in the next evaluation report. Thus, the policy costs presented herein underestimate its total costs.

Another important limitation is the lack of effectiveness measures that fit traditional cost effectiveness analysis. As mentioned in the Background section of this chapter, the effectiveness measure used in CEA is ideally a health outcome, not a surrogate or process/utilization measure. Given that this evaluation relies on administrative data, health measures such as those typically captured in medical records were not available to us. This is an important lesson learned about the feasibility of conducting cost effectiveness analyses post-hoc to assess a state health policy. If cost effectiveness analyses will be necessary for future policy evaluations, it is advisable that the evaluation be initiated in parallel with policy development so that precise and relevant data can be captured.

It is important to note that the CEA was performed using unadjusted Medicaid claims data. We took this approach because CEA is primarily a tool to inform healthcare decision makers, thus unadjusted values provide a naturalistic or "real world" analysis. However, a CEA based on regression model results ("adjusted data") is planned as future work to elucidate whether accounting for sampling bias in the analytical cohorts results in more or less favorable cost effectiveness findings. Because MLTSS and prior waiver programs were created to serve beneficiaries with higher needs than the general ABD population, their utilization and costs may differ.

Future Work

Regarding MLTSS planning and implementation, the only costs presented herein are the personnel time costs. Future work includes using vendor invoices and other historical project documents to estimate the costs of materials and services used in program planning and implementation. Additional future work includes using adjusted regression results to perform a "what-if" analysis, and comparing the results to the numbers we calculated from the unadjusted data.

We have initiated discussions with the Department of Children and Families (DCF) to obtain historical project planning documents and to determine the best means of estimating the time and costs required for implementation of other relevant policies.

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Appendix 1: Interpretations, Policy Implications and Interactions with Other State Initiatives

[This section was written by New Jersey Medicaid officials to fulfill required core component H. specified in Special Terms and Conditions (STCs), Attachment L "Preparing the Evaluation Report" for the Interim Evaluation Report]

H. Policy Implications and Interactions with Other State Initiatives

The broad goals of the NJ FamilyCare Comprehensive Demonstration 1115 Waiver were to continue streamlining and expanding programs, eligibility, and benefits in order to provide comprehensive services to all Medicaid populations. For example, converting the Children with Serious Emotional Disturbance (SED) and Intellectual/Developmental Disabilities with Co-Occurring Mental Health Diagnosis (IDD/MI) pilot programs into the Children's Support Services Program (CSSP) simplified and streamlined the administration and oversight of the programs and broke down previously existing silos of care for youth with complex needs. Through working with our partners in the Division of Developmental Disabilities (DDD) and the Division of Children and Families we continue to improve access to individuals who previously received services from other delivery systems.

We also remain committed to increasing access to HCBS for more beneficiaries and evidence to date suggests that expanding managed care to include LTSS has resulted in improved access, reduced costs, and allows more individuals to live in their communities. The shift to managed care also accounts for increased accountability and efficiency in the program that we plan to continue into the next demonstration period.

New Jersey remains committed to our efforts to advance quality improvement. The State was an early adopter of the National Core Indicators for Aging and Disabilities (NCI-AD), and we continue to measure and improve the quality of our MLTSS systems that serve older adults with physical disabilities. The 2018 – 2019 survey showed that the State outperformed the national average on measures for individuals receiving a physical and wellness exam, flu shots, dental visits, and vision exams. For 2019 – 2020, in addition to the standard survey questions, we also elected to utilize NCI-AD's optional Person-Centered Planning Module and to add a number of New Jersey-specific questions to address specific concerns relevant to our members in the State.

Providing our members with additional flexibility in how and where they receive services also remains a goal and priority of the demonstration. New Jersey was recognized by The Scan Foundation with its 2020 Pacesetter Prize for Choice of Setting and Provider. The Scan

Foundation called the State “a national leader in utilizing managed care to give people needing LTSS more choices of care providers and settings for receiving care”.[103]

This demonstration also includes authority for several eligibility and enrollment flexibilities. The Qualified Income Trust (QIT) was shown to allow more individuals to qualify for Medicaid as well as increase the number of long-term care recipients in community settings. Additionally, allowing for self-attestation of assets during the look back period for beneficiaries seeking long-term care services and earning 100% or less of FPL has created an easier pathway to home and community-based services while also not compromising program integrity.

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[103] See https://www.thescanfoundation.org/recognizing-excellence/pacesetter-prize/2020-choice-of-setting-and-provider-winner-new-jersey/ (accessed February 2, 2022).

Appendix 2: Lessons Learned and Recommendations

[This section was written by New Jersey Medicaid officials to fulfill required core component I. specified in Special Terms and Conditions (STCs), Attachment L "Preparing the Evaluation Report" for the Interim Evaluation Report]

I. Lessons Learned and Recommendations

Key lessons learned from these evaluation results include:

Lesson: The managed care delivery system supports access to quality and efficient care.

> **Recommendation:** Continue to rely on the managed care delivery system, and consider expansion of services delivered through managed care in a deliberate stakeholder driven way.

Lesson: Expanding managed care to long-term services and supports has been successful in improving access, reducing costs, and allowing individuals to live in their communities. The State continues to achieve a rebalancing of the long-term care population and associated spending to home and community-based settings. While the long-term care population has grown, the population has shifted from the majority of the beneficiaries residing in nursing facilities to the majority living in home and community-based settings. Spending for the HCBS population has also seen a decline in average per-person spending.

> **Recommendation:** Continue with rebalancing towards the community through continued evolution of the MLTSS program. Continue to identify additional benefits and supports, along with refinements to the existing program that will allow members requiring long-term care to thrive in the community.

Lesson: Providing home and community-based services to children and adults with intellectual disabilities, and children with serious emotional disorders has been tied to lower avoidable utilization and quality improvements on many, but not all, metrics.

> **Recommendation:** Continue to develop and, where appropriate, expand access to these services. Continue to refine the benefit package to reflect opportunities to further improve quality and access.

Lesson: Eliminating the look back period for assets transfers when determining Medicaid eligibility for certain individuals has simplified the enrollment process, without leading to any program integrity issues.

Recommendation: Maintain this policy.

Lesson: Utilizing Qualified Income Trusts allows more individuals to qualify for Medicaid and increases the number of long-term care recipients in the community.

Recommendation: Maintain the Qualified Income Trust option. Consider changes to implementation to make this option even more accessible and user-friendly to beneficiaries.

Lesson: Mandating that individuals with access to employer sponsored insurance participate in the premium assistance program generates savings to Medicaid

Recommendation: Maintain this policy.

Appendix 3: CMS-Approved Evaluation Design

(begins on next page)

DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop S2-25-26
Baltimore, Maryland 21244-1850

CENTERS FOR MEDICARE & MEDICAID SERVICES
CENTER FOR MEDICAID & CHIP SERVICES

State Demonstrations Group

October 1, 2019

Jennifer Langer Jacobs
Director, Department of Human Services
Division of Medical Assistance and Health Services
P.O. Box 712
Trenton, NJ 08625-0712

Dear Ms. Langer Jacobs:

We appreciate the efforts of you and your staff on developing the demonstration evaluation design, which is a component of the state's section 1115, titled “New Jersey FamilyCare Comprehensive Demonstration” (Project Number 11-W-00279/2). The evaluation design submitted to the Centers for Medicare & Medicaid Services (CMS) on November 24, 2017 has been found to fulfill the requirements set forth in section XIII of the Special Terms and Conditions (STC).

The evaluation design is approved for the demonstration approval period starting July 27, 2017 through June 30, 2022. Per 42 CFR 43 l.424(c), the approved evaluation design may now be posted to your state's Medicaid website.

If you have any questions, please contact your CMS project officer, Ms. Sandra Phelps. Ms. Phelps is available to answer any questions concerning your section 1115 demonstration, and her contact information is as follows:

Centers for Medicare & Medicaid Services
Center for Medicaid and Chip Services
Mail Stop: S2-25-26
7500 Security Boulevard
Baltimore, MD 21244-1850
Phone: (410) 786-1968
E-mail: Sandra.Phelps@cms.hhs.gov

We look forward to our continued partnership on the New Jersey FamilyCare Comprehensive section 1115 demonstration.

Sincerely,

/s/

Danielle Daly
Director
Division of Demonstration
Monitoring and Evaluation

/s/

Angela D. Garner
Director
Division of System Reform
Demonstrations

Enclosure

cc: Francis McCullough, Director, Division of Medicaid Field Operations - East
Ricardo Holligan, Deputy Director, Division of Medicaid Field Operations - East

New Jersey FamilyCare Comprehensive Demonstration: 8/1/2017-6/30/2022

I. Evaluation Plan by Rutgers Center for State Health Policy

Background

The Special Terms and Conditions (STCs) relating to the NJ Demonstration Waiver outlines the 11 evaluation questions that are designed to examine the impact of several policy changes under the waiver on patient access to care, quality of care and costs. These policy changes include: a managed care expansion to cover long term services and supports (Questions 1 and 2); expanded income eligibility, and administrative simplifications for enrolling in managed long term services and supports (Questions 3 and 4); additional home and community-based services, and expansion of eligibility for children with intellectual and developmental disabilities and severe emotional disturbance (Questions 5, 6 and 7); cost savings from a premium assistance program for Medicaid beneficiaries who have access to employer sponsored health insurance (Question 8); expanded access and benefits for substance use disorder services (Question 9), and a three year renewal of the DSRIP program (Questions 10 and 11).

Evaluation Questions

The evaluation questions enumerated in the STCs are:

1. 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?
2. 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?
3. What is the impact of the hypothetical 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?
4. What is the impact of using self-attestation on the Transfer of assets look-back period of long term care and home and community based services for individuals who are at or below 100 percent 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?
5. What is the impact of providing additional home and community-based services to Medicaid and CHIP beneficiaries with serious emotional disturbance, opioid addiction, behavioral/mental health issues, or intellectual disabilities/developmental disabilities?
6. What is the impact of providing home and community-based services to expanded eligibility groups, who would otherwise have not been eligible for Medicaid or CHIP absent the demonstration?

7. 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 would otherwise be at risk for, institutionalization?
8. What is the impact of mandating individuals who are eligible for NJFC and have access to employee sponsored insurance into the premium assistance program; as conditional of eligibility?
9. What is the impact of providing substance use disorder services to Medicaid beneficiaries? Including paying for services rendered in an institution for mental disease (IMD)?
10. Was the DSRIP program effective in achieving the goals of better care for individuals (including access to care, quality of care, health outcomes), better health for the population, or lower cost through improvement? To what degree can improvements be attributed to the activities undertaken under DSRIP?
11. What do key stakeholders (representing covered individuals and families, advocacy groups, providers, health plans) perceive to be the strengths and weaknesses, successes and challenges of the expanded managed care program, and of the DSRIP pool? What changes would these stakeholders recommend to improve program operations and outcomes?

Managed Long-term Services and Supports

Research Questions

Q1. 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?

Q2. 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 1: *The managed care expansion will improve access to care, the quality, efficiency, and coordination of care, and the cost of care for the overall population in managed care.*

Hypothesis 2: *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.*

In New Jersey, home and community services received by the long-term care eligible population shifted from fee for service to managed care in July 2014 while the shift for nursing home residents was gradual. Members in nursing facilities at the time of enrollment were allowed to continue as fee-for-service unless they transitioned to a new level of care or moved to the community. Any new members in nursing facilities were enrolled into MLTSS. The evaluation will assess the impact of this managed care expansion to cover long-term services and supports (LTSS) over the medium and longer term, subsequent to the policy change. It will assess changes in hospitalization outcomes, preventative care rates, and measures related to spending and rebalancing over the demonstration period compared to a baseline period, prior to the demonstration, using comparison groups to control for secular changes in such measures. The analysis will also take into account intermediate policy changes such as quality initiatives surrounding the “any willing provider” provision for nursing facility services and potential impacts on outcomes. It will examine separately specific populations of interest such as those with behavioral health (BH) conditions to examine the effect of integration of BH, physical health and LTSS under the managed long term services and supports (MLTSS).

Outcome Measures

Claims-based: Avoidable hospitalizations and ED visits; 30-day readmission rates; rates of follow up care after any hospitalization and after mental health hospitalization; overall rates of hospitalization and ED visits; avoidable inpatient and ED hospital spending; HbA1c testing; diabetic eye exam; LDL Screening; dental utilization; share of first time LTSS users receiving HCBS (rather than institutional services); share of all LTSS beneficiaries using HCBS; per capita LTSS spending; HCBS share of total LTSS spending.

HEDIS and CAHPS®: Quality measures related to preventive care, behavioral health, chronic conditions, and consumer satisfaction.

Metrics reported by MCOs, EQROs, State Government, and other partners: While we do not possess the data utilized for creating these metrics (as we do the claims data), we will review reports by such entities, such as the MLTSS Quality Metrics reported by managed care organizations (MCOs), state departments, and external quality review organizations (EQROs). We will also review the National Core Indicators—Aging and Disability reports. If furnished reports contain metrics that are relevant for measuring access to care and quality of care and for exhibiting trends over time, we will include them as context in our reporting. In past evaluation reports, we presented data on assessment timeliness, critical incidents and appeals, complaints and grievances, assessments of care plans and the timeliness of service onset. We also presented the current status of former waiver enrollees, which showed that they have been able to remain in community settings rather than transitioning to nursing homes. With respect to the NCI-AD, we examined and reported differences in participant demographics and outcomes between the following groups: MLTSS enrollees in New Jersey with MLTSS enrollees in other participating states; MLTSS enrollees in New Jersey compared with other LTSS programs in New Jersey; and MLTSS enrollees among different MCOs in New Jersey. The frequency of data reporting varies for these sources—some are monthly, some quarterly, some semiannually and others annually.

Stakeholder feedback: We will conduct approximately 20 interviews with MLTSS stakeholders. Stakeholders are defined as representatives of organizations that serve a client group also served by MLTSS, and we anticipate that they will include consumer advocates, provider associations, community partner agencies (such as County Welfare

Agencies, Area Agencies on Aging, Centers for Independent Living, and local emergency responders), managed care organizations, and state officials. Potential interviewees will be identified based on membership in the MLTSS Steering Committee that has advised state officials before and after MLTSS implementation, recommendation of Steering Committee members, representatives who have contacted the Center for State Health Policy (CSHP) based on prior waiver evaluation work, or additional organizations identified by CSHP as serving a relevant population. At a minimum, we will invite for interviews representatives that serve the different waiver populations as defined prior to MLTSS, including older adults, younger adults and children with disabilities (physical, developmental, and traumatic brain injury), and children and adults with HIV/AIDS. We will ask questions about their views on the impact of MLTSS on the population groups with whom they work with respect to service adequacy, care management, continuity of care, and access to services in community settings, as well as how MLTSS has evolved over time. We will also ask about impacts on providers and other community partners, such as Area Agencies on Aging and Centers for Independent Living.

Administrative Simplifications in Eligibility and Enrollment

Research Questions

Q3. What is the impact of the hypothetical 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?

Q4. What is the impact of using self-attestation on the transfer of assets look-back period of long term care and home and community based services for individuals who are at or below 100 percent 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 3: Utilizing Qualified Income Trusts will allow more individuals to qualify for Medicaid and will increase the number of Medicaid long-term care recipients in community settings.

Hypothesis 4: 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.

Qualified Income Trusts (QITs), which are the mechanism through which enrollees qualify for long-term care services if their income exceeds eligibility limits, effectively create a new eligibility pathway for long-term care services in home and community settings. QITs allow clinically eligible individuals whose monthly income is above 300% of the Supplemental Security Income rate to have excess income disregarded in determining Medicaid eligibility. Income above the threshold is deposited in a separate bank account which is dedicated exclusively to Medicaid-approved uses. The introduction of the QIT mechanism required discontinuing the Medically Needy program which reduced the resource limits for eligibility for nursing home care to community levels.

Also under the initial demonstration and continuing in the renewal, individuals with income at or below 100% of the Federal Poverty Level (FPL) applying for institutional or home and community-based services are permitted to self-attest that they have made no disqualifying asset transfers during the past five years. This procedure is intended to expedite eligibility approvals for very low-income applicants by eliminating the need for the time intensive five-year lookback process.

The evaluation will examine outcome measures related to the implementation of these administrative simplifications. We will examine changes in the mix and characteristics of individuals qualifying for Medicaid LTSS by setting of care in the pre and post-policy periods. Contingent on the availability of published reports or administrative data collected by the State, we will examine the extent to which QIT use varies by long-term care setting (nursing facility (NF), assisted living (AL), home and community-based settings (HCBS)) and characteristics of QIT users.

Outcome Measures

Claims-based

QIT: Proportion of LTSS beneficiaries in NF, AL, HCBS

Audit data from Bureau of Quality Control

Self-attestation: Error rate on audited self-attestations

Published reports and communications with State representatives

QITs: Number of submitted, eligible, and approved QITs each quarter overall and by setting of care; Proportion of QIT users who are in the community; Volume of QIT use by county.

Self-attestation: Number of self-attestations received each quarter overall and by county, setting of care, and MCO

Targeted Home and Community-Based Services for Children and Youth

Research Questions

Q5. What is the impact of providing additional home and community-based services to Medicaid and CHIP beneficiaries with serious emotional disturbance, opioid addiction[1], behavioral/mental health issues, or intellectual disabilities/developmental disabilities?

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[1] Examination of waiver polices affecting beneficiaries with opioid addiction will be conducted under research question 9 which is addressed in a standalone evaluation plan.

Q7. 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 would otherwise be at risk for, institutionalization?

Hypothesis 5: Providing home and community-based services to Medicaid and CHIP beneficiaries and others with serious emotional disturbance or intellectual disabilities/developmental disabilities with and without co-occurring mental illness will lead to better care outcomes including those relating to ambulatory care.

Hypothesis 7: Providing home and community-based services to Medicaid and CHIP beneficiaries and others with serious emotional disturbance who have, or who would otherwise be at risk for, institutionalization will reduce avoidable utilization.

The Children's Support Services Program (CSSP) absorbs the pilot programs for children with serious emotional disturbance (SED) and children with intellectual/developmental disabilities and a co-occurring mental health diagnosis (ID-DD/MI) administered by the Division of Children and Families' Children's System of Care (DCF-CSOC). It also covers ID-DD children without a co-occurring mental health diagnosis. Under the CSSP, eligible children can receive targeted home and community-based services and supports and/or behavioral health services which promote their success and stability in a community setting. The pilot for children with Autism Spectrum Disorder (ASD) will continue under the demonstration until approval of a State Plan Amendment which will incorporate the services into the NJ Medicaid State Plan.

The Supports Program was initiated under the 2012-2017 Waiver to provide a basic level of support services to Medicaid adults with intellectual disabilities/developmental disabilities who live with family members or in other unlicensed settings in the community. This program continues under the Waiver renewal. The Community Care Waiver, formerly excluded from the 1115 Waiver, came under 1115 authority as the Community Care Program (CCP). The CCP provides services and supports to Medicaid adults meeting the ICF-ID level of care requirements who reside in the community.

The evaluation will characterize the populations and assess volume and array of service use in the CSSP, Supports, and CCP. It will assess relevant outcome measures over the pre- and post-policy period for individuals receiving these additional services to examine potential effects of this policy change. We will construct comparison groups, for instance, matching youth receiving waiver services with Medicaid youth having ID-DD or SED, but uninvolved with DCF-CSOC. We will examine the appropriateness of such comparison groups for isolating the policy impact by comparing demographic and clinical characteristics of the intervention and comparison groups and also qualitatively, through discussions with state policymakers. We will also look at outcomes among young adults who had and did not have services under DCF-CSOC waiver programs to determine the extent to which the waiver services supported the transition to adulthood for these youth.

Outcome Measures

Claims-based

ASD: overall inpatient hospitalizations; avoidable hospitalizations; ED visits; avoidable ED visits; 30-day readmissions; stays in out-of-home care settings; well-child visits; avoidable and overall hospital spending per beneficiary.

ID-DD: overall inpatient hospitalizations and length of stay; avoidable hospitalizations; ED visits; avoidable ED visits; 30-day readmissions; stays in out-of-home care settings; well-child visits; avoidable and overall hospital spending per beneficiary.

ID-DD/MI: overall inpatient hospitalizations and length of stay; avoidable hospitalizations; ED visits; avoidable ED visits; 30-day readmissions; inpatient stays for mental health conditions, stays in out-of-home care settings; well-child visits.

SED at-risk: stays in out-of-home care settings

SED 217-like: overall inpatient hospitalizations and length of stay; avoidable hospitalizations; ED visits; avoidable ED visits; 30-day readmissions; inpatient stays for mental health conditions, stays in out-of-home care settings; well-child visits.

Supports: Rates of Hemoglobin A1C Testing, Pneumococcal Vaccination, diabetic eye exam, follow up after hospitalization for mental illness; IDD specific preventable hospitalizations (e.g., epilepsy, Gastro-esophageal reflux disease).

CCP: Rates of Hemoglobin A1C Testing, Pneumococcal Vaccination, diabetic eye exam, follow up after hospitalization for mental illness; IDD specific preventable hospitalizations (e.g., epilepsy, Gastro-esophageal reflux disease).

DCF-CSOC Reported Quality Metrics

ID-DD, ID-DD/MI, and SED: Improvement in Child and Adolescent Needs and Strength composite rating; Services delivered in accordance with the approved plan of care; CSOC verification that providers of waiver services continually meet required qualified status; Percentage of Unusual Incident Reports submitted involving waiver participants

Eligibility Expansions for Populations in Need of Home and Community-Based Services

Research Question

Q6. What is the impact of providing home and community-based services to expanded eligibility groups, who would otherwise have not been eligible for Medicaid or CHIP absent the demonstration?

<u>Hypothesis 6:</u> *Providing home and community-based services to expanded eligibility groups, who would otherwise have not been eligible for Medicaid or CHIP absent the demonstration will lead to improvements in preventive care and avoidable utilization.*

The CSSP-ID/DD allows for expanded Medicaid eligibility for children meeting functional criteria and having a plan of care with CSOC's Care Management Organization. Children with income up to 300% FBR receive State Plan services and waiver home and community-based services. Eligibility for the Supports Program also allows individuals up to 300% FBR to receive Medicaid State Plan and waiver home and community-based services.

The income eligibility expansions authorized under the 2012-2017 demonstration for children with SED and the adoption of Qualified Income Trusts for higher-income individuals in need of long-term care services continue under the waiver renewal.

The evaluation will identify individuals in the data who, absent the demonstration, would not have been eligible for Medicaid. It will characterize the volume and patterns of service use for the expansion populations and assess relevant outcome measures for individuals receiving these additional services to examine potential effects of this policy change. When feasible, we will construct appropriate comparison groups to help isolate the policy impact, and in the absence of such appropriate controls, will investigate differences in beneficiary characteristics and service use between those with favorable versus unfavorable outcomes.

Due to the absence of baseline data for these populations (since prior to the policy change they were not Medicaid-eligible and hence would not show up in our claims data), we will conduct trend analyses of outcomes over time only after policy implementation.

Outcome Measures

<u>Claims-based</u>

CSSP: overall inpatient hospitalizations and length of stay; avoidable hospitalizations; ED visits; avoidable ED visits; 30-day readmissions; inpatient stays for mental health conditions, stays in out-of-home care settings; Well-child visits.

Supports: Rates of Hemoglobin A1C Testing, Pneumococcal Vaccination, diabetic eye exam, follow up after hospitalization for mental illness; IDD specific preventable hospitalizations (e.g., epilepsy, Gastro-esophageal reflux disease).

MLTSS: Avoidable hospitalizations and ED visits; 30-day hospital-wide and pneumonia readmission rates; rates of follow up care after hospitalization; overall rates of hospitalization and ED visits; HbA1c Testing; diabetic eye exam; LDL Screening

<u>Premium Support Program</u>

Research Question

Q8. What is the impact of mandating individuals who are eligible for NJFC and have access to employee sponsored insurance into the premium assistance program; as conditional of eligibility?

<u>Hypothesis 8:</u> Mandating individuals who have access to employee sponsored insurance into the premium assistance program will cost the State at least 5% less than providing individuals coverage in NJFC.

The Premium Support Program (PSP) will provide premium reimbursement to NJFC-eligible individuals with access to health insurance through an employer if such reimbursement is determined to be more cost-effective than NJFC enrollment. If the employer-sponsored insurance (ESI) plan is not equivalent to at least the NJFC Plan D service package, then wraparound NJFC services are provided. In addition, NJFC-eligible individuals enrolled in ESI through the PSP have their out-of-pocket costs capped, with NJFC covering any payments incurred in excess of 5% of gross income.

We will use data provided by DMAHS to calculate the actual net cost savings due to a Medicaid beneficiary (and any eligible dependents) enrolling in the premium support program. This will be calculated using costs incurred by Medicaid for a beneficiary enrolled in the PSP (premium reimbursement +wraparound benefit +cost sharing above 5% cap) less the cost incurred if this person were enrolled in NJFC instead of the PSP.

Outcome Measures

DMAHS PSP Net Savings to NJ Data Report: Per-member per-month net savings due to PSP.

<u>Provision of substance use disorder services</u>

Research Question

Q9. What is the impact of providing substance use disorder services to Medicaid beneficiaries? Including paying for services rendered in an institution for mental disease (IMD)?

The SUD initiative is addressed in a standalone evaluation plan that will be provided in a separate document

<u>The Delivery System Reform Incentive Payment Program</u>

Research Question

Q10. Was the DSRIP program effective in achieving the goals of better care for individuals (including access to care, quality of care, health outcomes), better health for the population, or lower cost through improvement? To what degree can improvements be attributed to the activities undertaken under DSRIP?

Q11. What do key stakeholders (covered individuals and families, advocacy groups, providers, health plans) perceive to be the strengths and weaknesses, successes and challenges of the expanded managed care program, and of the DSRIP pool? What changes would these stakeholders recommend to improve program operations and outcomes?

See Section II for the detailed evaluation plan related to the DSRIP.

Measure Definitions

The table below provides details on the proposed measures for evaluation of Research Questions 1-8.

ANALYTIC STRATEGY

The component of the evaluation examining research questions 1-8 (we have separate analytic strategies for the DSRIP and SUD demonstration) will utilize both quantitative as well as qualitative analysis. The quantitative component will involve analysis of Medicaid claims/encounter data and aggregated or summary statistics from secondary sources. The claims data provides information on patient, provider and geographic characteristics, and we will adjust for such factors while examining the policy effects on our outcomes of interest. We will not have such information for secondary metrics that we may use to provide context but will calculate statistical significance of annual trends wherever possible.

The qualitative component will be key informant interviews that will capture stakeholder perceptions relating to program implementation, potential, and perceived impacts.

Quantitative Analysis

This description, specifically the multivariate statistical analysis, is mostly relevant to the claims data analysis where it is possible to adjust for patient and provider characteristics and examine trends over time. Depending on the frequency at which summarized statistics from secondary sources are available, we will construct trends and examine for statistical differences.

Measure Descriptions and Crosswalk to Hypotheses for Research Questions 1-8

Measure	Source	NQF	Description/Numerator	Denominator (f)	Hypotheses
Source: Medicaid Claims and Encounter Data					
Inpatient (IP) hospitalizations			Inpatient stays at general acute care hospitals	(g)	1, 2, 5, 6, 7
Inpatient days			Number of days for inpatient stays at general acute care hospitals	(g)	5, 6, 7
Emergency department (ED) visits			Treat-and-release emergency department visits	(g)	1, 2, 5, 6, 7
Overall hospital spending (IP+ED)			Payments on facility claims for inpatient and treat-and-release ED visits	(g)	5
Avoidable hospitalizations	AHRQ		Prevention Quality Indicator (PQI) #90 and Pediatric Quality Indicator (PDI) #90 are potentially avoidable hospitalizations for ambulatory care sensitive conditions that reflect issues of access to, and quality of, ambulatory care in a given geographic area.	Medicaid recipients age 6-17 (PDI #90); Medicaid recipients age 18 and older (PQI #90)	1, 2, 5, 6, 7
Avoidable inpatient hospitalization costs			Payments on facility claims for avoidable inpatient visits	(g)	1, 2
Avoidable ED visits	(a)		Treat-and-release emergency department visits that are: -Non-emergent -Emergent/primary care treatable -Emergent, ED care needed - preventable/avoidable -Emergent, ED care needed - not preventable/avoidable	(g)	1, 2, 5, 6, 7
Avoidable ED visit costs			Payments on claims for avoidable treat-and-release ED visits	(g)	1, 2
Overall avoidable hospital spending (IP+ED)			Payments on facility claims for avoidable inpatient and avoidable treat-and-release ED visits	(g)	5

Measure Descriptions and Crosswalk to Hypotheses for Research Questions 1-8

Measure	Source	NQF	Description/Numerator	Denominator (f)	Hypotheses
Inpatient stays for mental health conditions			Hospitalizations with a primary diagnosis of mental illness	Medicaid recipients ages 6 and older	5, 6, 7
Follow-up after hospitalization			Ambulatory visit 7 or 14 days after discharge from an inpatient stay	Hospital discharges to a home/community setting; excludes patients discharged against medical advice.	1, 2, 6
Follow-up after mental illness hospitalization	NCQA	576	Percentage of discharges for Medicaid recipients hospitalized for treatment of selected mental illness diagnoses who had a follow-up visit with a mental health practitioner within 7 and 30 days of discharge	Hospital discharges to a home/community setting with a primary diagnosis of mental illness for Medicaid recipients age 6 and older	1, 2, 5, 6
HbA1c testing	NCQA	57	Percentage of adult patients receiving one or more A1c test(s) per year	Medicaid recipients ages 18-75 with diabetes	1, 2, 5, 6
Diabetic Eye Exam	NCQA	55	Percentage of adult patients who received an eye screening for diabetic retinal disease during the measurement year.	Medicaid recipients ages 18-75 with diabetes	1, 2, 5, 6
LDL screening	NCQA	63	Percentage of adult patients receiving one or more LDL-C tests per year	Medicaid recipients ages 18-75 with diabetes	1, 2, 6
Annual dental visit	NCQA	1388	Percentage of Medicaid recipients who had at least one dental visit during the measurement year	Modified from measure steward's age specifications of 2-20 years to apply to Medicaid recipients of all ages.	1, 2
Frequency of stays in out-of-home care settings			Stays in an accredited residential treatment facility for youth	Medicaid recipients up to age 20	5, 6, 7

Measure Descriptions and Crosswalk to Hypotheses for Research Questions 1-8

Measure	Source	NQF	Description/Numerator	Denominator (f)	Hypotheses
Well-Child Visits in the Third, Fourth, Fifth, and Sixth Years of Life	NCQA	1516	Percentage of Medicaid recipients who received one or more well-child visits with a PCP during the measurement year.	Medicaid recipients 3 to 6 years of age	5, 6, 7
Pneumococcal Vaccination for Older Adults	NCQA (b)		Percentage of Medicaid recipients who have received the recommended series of pneumococcal vaccines	Medicaid recipients age 65 and older	5, 6
Hospitalization for epilepsy	(c)		Rate of potentially avoidable hospitalizations for ambulatory care sensitive conditions applicable to persons with an intellectual disabilities that reflect issues of access to, and quality of, ambulatory care in a given geographic area.	Medicaid recipients with intellectual/ developmental disabilities	5, 6
Hospitalization for GERD	(c)				5, 6
Hospitalization for constipation	(c)				5, 6
Hospitalization for schizophrenic disorders	(c)				5, 6
30-day hospital-wide all-cause readmissions	CMS	1789	Percentage of discharges followed by an unplanned readmission to any acute care hospital within 30 days of discharge.	Hospital discharges to a home/community setting for Medicaid recipients age 18 and older; excludes patients discharged against medical advice	1, 2, 5, 6, 7
30-day pneumonia readmission	CMS	506	Percentage of discharges followed by an unplanned readmission to any acute care hospital within 30 days of discharge from a hospital.	Hospital discharges to a home/community setting for Medicaid recipients age 18 and older following a hospitalization with a primary diagnosis of pneumonia; excludes patients discharged against medical advice	6

Measure Descriptions and Crosswalk to Hypotheses for Research Questions 1-8

Measure	Source	NQF	Description/Numerator	Denominator (f)	Hypotheses
LTSS spending			Payments on claims for long-term services and supports	All long-term care Medicaid recipients	2
Share of first-time LTSS users receiving HCBS	(d)		Medicaid recipients entering MLTSS who receive services in a home or community-based setting in their first month of receiving LTSS.	Medicaid recipients entering MLTSS	2
Share of all LTSS beneficiaries using HCBS			Medicaid recipients in MLTSS receiving services in a home or community-based setting for the majority of their program enrollment	Medicaid recipients in MLTSS	2
HCBS share of total LTSS spending			Spending for home and community-based long-term care services	Spending for all long-term care services	2
LTSS beneficiaries by setting of care			Proportion of all long-term care Medicaid recipients in nursing facilities, assisted living, and living at home.	All long-term care Medicaid recipients	3
Source: Secondary Data (e)					
HEDIS quality metrics for NJ Medicaid MCOs	NCQA		Performance of Medicaid managed care organizations on metrics related to quality of preventive care, treatment of chronic conditions, and behavioral health care. Example metrics are: -Childhood vaccinations rates -Rates of follow-up after mental illness hospitalizations -Rates of blood pressure control	(h)	1
CAHPS survey results for NJ Medicaid MCOs	NCQA		Consumer satisfaction with care provision under managed care. Example metrics are perceptions around: -Getting care quickly -How well doctors communicate -Personal doctor informed about care from other providers	(h)	1, 2 (i)

Measure Descriptions and Crosswalk to Hypotheses for Research Questions 1-8

Measure	Source	NQF	Description/Numerator	Denominator (f)	Hypotheses
Metrics reported by MCOs, EQROs, and State Government			Quality metrics related to MLTSS reported by MCOs and data on MLTSS progress reported by the State to stakeholders. Example metrics are: -Assessment timeliness -Assessment of care plans -Status of former 1915(c) waiver enrollees	(h)	2
National Core Indicators - Aging and Disability	NASUAD and HSRI		Survey data for long-term care populations assessing receipt of services, satisfaction with services, and quality of life. Example metrics are: -Whether assistance received meets needs and goals -Whether people feel in control over the life -Utilization of health services	(h)	2
Use of Qualified Income Trusts (QITs)			Number of submitted, eligible, and approved QITs; Proportion of QIT users who are in the community; Volume of QITs use by county	Number of QITs	3
Use of self-attestations			Number of self-attestations received by State overall and by setting of care.	Number of self-attestations	4
Error rate on audited self-attestations			Proportion of audited self-attestations having a transfer of assets in the past five years	Number of sampled and audited self-attestations	4
Division of Children and Families - Children's System of Care (CSOC) Quality Metrics			Quality metrics from the CSOC Quality Strategy. Example metrics are: -Improvement in child and adolescent needs and strength composite rating -Services delivered in accordance with plan of care -Percentage of unusual incident reports	(h)	5, 7

Measure Descriptions and Crosswalk to Hypotheses for Research Questions 1-8

Measure	Source	NQF	Description/Numerator	Denominator (f)	Hypotheses
			submitted involving waiver participants		
Cost savings for Premium Support Program (PSP)			Net savings calculated as the difference between costs to Medicaid for NJ FamilyCare enrollment and costs for PSP.	PSP member months	8

AHRQ = Agency for Healthcare Research Quality; NCQA = National Committee for Quality Assurance; CMS = Centers for Medicare & Medicaid Services; LTSS= Long-term Services and Supports; MCO=Managed Care Organization; NASUAD = National Association of States United for Aging and Disability; HSRI=Human Services Research Institute

(a) https://wagner.nyu.edu/faculty/billings/nyued-background

(b) This is an electronic clinical data system measure introduced in HEDIS 2018 which we will calculate using Medicaid claims.

(c) Balogh, R. S., Ouellette-Kuntz, H., Brownell, M.,& Colantonio, A. (2011). Ambulatory care sensitive conditions in persons with an intellectual disability - Development of a consensus. J of Applied Research in Intellectual Disabilities, 24, 150-158.

(d) Long-term Care Scorecard, http://www.longtermscorecard.org/~/media/Microsite/Files/2017/2_RankingMethodology_June12_v2.pdf.

(e) Review and analysis of all secondary data is contingent upon availability and completeness of data received from the State.

(f) General inclusion or exclusion criteria (if any) for the denominator are noted here. Any other inclusion or exclusion criteria in measure specifications will also be followed (e.g. history of certain conditions, length of enrollment, etc.). Measures will also be calculated for subpopulations relevant to each hypothesis. See description of target and comparison populations in Analytic Strategy section.

(g) No denominator inclusion or exclusion criteria for this measure.

(h) Measures are not independently calculated. Numerator and denominator criteria are set by the agency collecting and calculating these measures.

(i) CAHPS data can be used to address hypothesis 2 if reported specifically for the managed care subpopulation in MLTSS.

We first describe the general aspects of different statistical models that are applicable to multiple research questions and the related hypotheses. We also provide information on the data used for the quantitative analysis.

Next we have specific subsections providing further details on analysis pertaining to specific research questions such as pre-post periods, statistical modeling approach or comparison groups when relevant.

Data: Depending on the particular analysis, we will utilize Medicaid claims and managed care encounter data over the period January 2011 to June 2022 utilizing a minimum six month runout period. The State has estimated that the majority of FFS and managed care claims are received within six months of the date of service, and this lag efficiently balances data completeness with the timely completion of analyses. Monthly extracts are received and used to build static analytic claims files. Our analytic files are validated against a real-time database query from DMAHS on total payment amounts, total number of claims, and recipient eligibility counts for a specified period and differ by <1%. Additionally, constructed population indicators (e.g. nursing facility residents, children enrolled in DCF-CSOC waivers, etc.) are always benchmarked against State figures for these same populations when available.

New Jersey managed care plans must submit all services provided to MLTSS recipients to the State. The accuracy and completeness of provider payment amounts reported on these encounter claims is assured through a number of validation checks. First, service encounters are reviewed for accuracy by New Jersey’s fiscal agent before being considered final. The State implements liquidated damages on its health plans for excessive duplicate encounters and excessive denials. Further, accurate payment reporting processes are ensured by the requirement that after a defined period of time the total dollar value of encounters accepted by the State’s fiscal agent must also equal 98 percent of the medical cost submitted by the plans in their financial statements.

Our claims database is constructed with all the updates, voids, and adjustments to costs available from the State at the point of construction with no month having less than six month runout period. This structure was decided in consultation with the State to balance data completeness with the timely completion of evaluation analyses.

Medicare claims will not be available for this evaluation. Utilization is available for fee-for-service dually eligible beneficiaries in our Medicaid claims database. Utilization by managed care duals is present in our Medicaid claims database if there is a Medicaid liability for the encounter. Such liability arises when Medicaid covers the co-insurance and any cost difference between the provider charges and Medicare reimbursement so that dual beneficiaries are not billed for medically necessary services. In a limited number of situations where there is no Medicaid liability at all for the encounter, the presence of the utilization in our database is dependent on MCO reporting protocols.

Although we expect any undercount of utilization, especially for hospitalization outcomes, to be minimal, our analytic strategy (described below) utilizes difference-in-differences to evaluate the impact of MLTSS which further mitigates data incompleteness issues. We select our control group so as to achieve balance on a number of covariates that may affect outcomes. Similarly we will balance our MLTSS and comparison group on dual eligibility status so that both are similarly affected by any residual outcome measurement issues related to their dual status. All analyses will include a control for dual eligibility status.

Only spending by Medicaid will be counted in outcome measures related to costs consistent with our focus on Medicaid spending.

Pre- and post-implementation period: Analysis of Medicaid claims data will entail examining changes in the levels and trends of the selected metrics (relating to each hypothesis) subsequent to the policy implementation. Measuring differences in these outcomes between time periods before and after the implementation of the program/policy change will identify the program effect. During such identification we will incorporate wherever feasible, trends in comparison groups to account for secular changes unrelated to the policy effects (see greater discussion of this in the difference-in-differences section below). For policies in the renewal demonstration period that are related to those in the initial demonstration, we will assess potential changes in trends over three distinct periods. These include the baseline period for the first evaluation: January 1, 2011-September 30, 2012; the first demonstration period: Oct 1, 2012–July 31st, 2017; and the second demonstration period: August 1, 2017-June 30, 2022. The statistical model will account for these three distinct periods by incorporating indicator variables for specific years or rounds of demonstration. This will allow estimation of changes in outcomes during the first demonstration period from policy changes, and additional changes in outcomes during the second demonstration period from continuation of those policy changes. For new policies during the second demonstration period, such as those relating to SUD services, we will examine a baseline period prior to the time of policy implementation and examine changes in outcomes between the baseline and the post-implementation period.

Difference-in-Differences Estimation: For estimating the policy effect, the evaluation will utilize a difference-in-differences (DD) estimation technique when it is possible to define appropriate comparison groups for the study population. DD modeling identifies the impact of the policy change by comparing the trend in outcomes for the program eligible/targeted (intervention) population from the pre- to the post-implementation period to that of a comparison group which is otherwise similar, but not subject to the policy effect. 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 does not change over time. This last assumption is tested by examining whether trends in outcomes prior to policy implementation (pre-trends) for the intervention and comparison group are parallel to each other. This is described in detail in the next section.

Examining validity of DD estimates: The crucial assumption relating to the DD approach is there are no unmeasured factors whose effect on the intervention group relative to the comparison groups changes over time. This may not always be fulfilled. In that case, the unobserved factors may result in the two groups having differential pre-policy trends (pre-trends), and the computed effect size will need to adjust for this difference in pre-trends. Accordingly, we will test to see whether there existed statistically significant differences in trends between the intervention and comparison group prior to policy implementation. If this difference is in the same direction as the DD estimate and of comparable magnitude that would imply that the DD model may be overestimating the effect. Accordingly our estimated regression coefficient providing the policy effect will be adjusted for these differential pre-trends based on well-established methods in peer-reviewed academic publications.[2]

Segmented Regression Analysis: While we will develop comparison groups wherever feasible in our evaluation analyses to facilitate separation of program impact from secular trends, it may not be always possible to have suitable comparison groups. In those cases we will use Segmented Regression Analysis. Such a model assumes that the policy effect may lead 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. The regression analysis is able to measure this change in trend or level. Potential confounding may arise in the rare circumstances when factors that determine our outcomes of interest change at exactly the same time as the policy implementation. However, our multivariate analysis adjusting for patient, provider and geographic factors are expected to mitigate such effects. As shown in our previous evaluation work,[3] this approach also allows us to model the effect of separate policy changes at other points of time, and separate those effects from our policy of interest.

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[2] Harman, J. S., Hall, A. G., Lemak, C. H., & Duncan, R. P. (2014). Do provider service networks result in lower expenditures compared with HMOs or primary care case management in Florida's Medicaid program? Health Serv Res, 49(3), 858-877. PMCID: PMC4231575

[3] Chakravarty, S., Lloyd, K., Farnham J., Brownlee, S., & DeLia D. (2017). Examining the Effect of the NJ Comprehensive Waiver on Access to Care, Quality, and Cost of Care: Draft Final Evaluation Report. New Brunswick, New Jersey: Rutgers Center for State Health Policy. Available at: http://www.cshp.rutgers.edu/publications/examining-the-effect-of-the-nj-comprehensive-waiver-on-access-to-care-quality-and-cost-of-care-draft-final-evaluation-report.

Adjusting for Patient, Provider and Geographic Factors: Our multivariate analysis will control for patient characteristics that may affect outcomes. These include beneficiary demographics, Medicaid eligibility category, health history (including chronic illness and behavioral health co-morbidities), chronic disability payment score, and any other information relevant to the policy of interest. We will 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. We will utilize when required, statistical matching techniques such as "Mahalanobis matching" or propensity score matching to create comparison cohorts of patients unaffected by policy changes for patients subject to policy effects.

Dose Response: Wherever applicable and relevant we will examine whether there is a "dose-response" relationship. Findings of a higher response when the "dose" of a policy change will strengthen causal inferences.

Methodological Limitations: As mentioned above, it may sometimes not be possible to generate an appropriate comparison group if the policy universally impacts a broad category of beneficiaries, for instance, individuals with a particular behavioral health condition. In addition, sometimes data relating to a pre-policy baseline period are not available, if the beneficiaries are newly Medicaid-eligible, or reported data is collected only after policy implementation. In that case we will assess time trends in the post-policy period and assess changes in outcomes over time. Our ability to calculate metrics and determine accurate policy effects may be limited by accuracy and availability of program status codes and relevant data.

We next provide information on specific aspects of the statistical modeling that are distinct to the individual research questions and for testing related hypotheses.

Research Questions 1 & 2 relating to MLTSS: In New Jersey, all LTSS eligible individuals living in the community, and receiving home and community based services (HCBS) shifted from fee-for-service to managed care for their LTSS in July 2014. Individuals residing in the nursing facilities shifted more gradually to managed care and the enrollment trigger was transitioning to a new facility or the community. Because of such differences in the managed care enrollment process, and also in the extent of disability between individuals receiving HCBS and those in the NFs, we will separately examine the effect of MLTSS on these two populations.

For the population receiving HCBS, the DD analysis will compare changes in outcomes from the pre (January 2011-June 2014) to the post- period (July 2014-June 2022) for this treatment group relative to a comparison group of individuals selected from the Medicaid 'aged, blind, disabled' (ABD) eligibility category who do not receive such LTSS services. This comparison group is utilized to account for trends in outcomes unrelated to the MLTSS policy implementation.

Statistical methods for incorporating comparison group in DD analysis: We will use propensity score analysis while selecting Medicaid beneficiaries categorically eligible as ABD as comparison individuals. Such a method takes into account patient characteristics determining evaluation outcomes that may also determine the likelihood of receiving HCBS. An initial logistic regression models the likelihood of receiving HCBS in the sample of community-based Medicaid beneficiaries (that include our treatment group and the ABD group of beneficiaries) as a function of characteristics that determine the likelihood of receiving HCBS. Such variables may include age, sex, behavioral health, dual eligible status, chronic disability payment score and enrollment history. The predicted probabilities from this model will be used to weigh observations in the comparison group that are above a threshold probability level. Incorporating such propensity score reweighting (Nichols, A, 2007, 2008)[4] will generate an optimal comparison group for the difference-in-differences analysis that is similar to the intervention group.

NF residents: For the NF residents, we will utilize similar methods to generate a comparison group using propensity score modeling. However, we will also utilize additional analytic techniques since the comparison categorically eligible ABD group are community-dwelling and may differ in unobserved ways from the NF residents in terms of disability and health. Accordingly, we will examine changes in outcomes of NF individuals as they transition from FFS to managed care. While we will not be able to use the traditional interrupted time series design[5] since the transition occurs for different individuals at different points of time, the proposed analytic technique utilizes a similar identification strategy. Changes in outcomes of individuals that are contemporaneous with exposure to the policy (when they transition to FFS to managed care) will be estimated through regression analysis. We will also conduct sensitivity analysis through a falsification test that estimates a placebo model by excluding data after 2014 and falsely assuming that the policy change was implemented in 2013. Based on methods previously used by the evaluation team[6], this examines whether there were any

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[4] Nichols, A. 2007. Causal inference with observational data. Stata Journal 7: 507–541; Nichols, A. 2008. Erratum and discussion of propensity–score reweighting. The Stata Journal. 2008. Volume 8 Number 4: pp. 532-539.

[5] Wagner AK, SB Soumerai, F Zhang, and D Ross-Degnan. 2002. “Segmented Regression Analysis of Interrupted Time Series Studies in Medication Use Research.” *Journal of Clinical Pharmacy and Therapeutics* 27 (4): 299–309.

[6] Cantor, J.C., Monheit, A.C., DeLia, D. and Lloyd, K. (2012). Early impact of the affordable care act on health insurance coverage of young adults. Health Serv Res, 47(5), 1773-90.

statistically significant changes in outcomes, one year prior to the change in financing from FFS to managed care.

Research Questions 3 & 4 relating to Administrative Simplifications: Suitable comparison populations are not available among Medicaid beneficiaries and will not be used in evaluating the hypotheses for these research questions.

Research Question 6 relating to Eligibility Expansion for populations receiving HCBS: The policy change of expanded Medicaid eligibility results in a study population that is a newly enrolled group of Medicaid beneficiaries. We will isolate a cohort of these newly eligible beneficiaries to the extent possible in the claims data. However, being limited to Medicaid data, we cannot identify healthcare utilization for this study population during their pre-period. We will examine their trends in health outcomes subsequent to Medicaid enrollment that will shed light on the long term impact of the policy.

Research Questions 5 and 7 relating to HCBS services for Medicaid and CHIP beneficiaries: We will utilize a DD strategy utilizing comparison groups for each of the three study populations of children: with ASD, ID-DD(/MI) and SED receiving home and community services. Comparison groups will be Medicaid/CHIP beneficiaries identified in the Medicaid claims having similar diagnosis and demographics, but not receiving waiver services. The DD estimate will shed light on the policy effect by estimating the pre-post change in outcomes for the study population relative to the comparison population. As discussed above, we will examine whether pre-trends are parallel and if not, will account for such trends using methods discussed above.

Research Question 8 relating to the Premium Support Program: We will utilize comparison estimates that indicate costs if the beneficiaries in the Premium Support Program were to instead be covered under NJ FamilyCare.

Research Question 9 relating to the OUD/SUD initiative: This is a standalone evaluation plan that will be provided in a separate document.

Research Questions 10 and 11 relating to DSRIP: Please see the DSRIP section for potential comparison groups in DD analysis, alternative strategies including interrupted time series modelling and sensitivity analysis including falsification tests, and checking pre-trend parallel assumption.

Qualitative Analysis

Qualitative analysis regarding the DSRIP program appears later. Regarding our MLTSS interviews, interviewers will use a semi-structured guide containing key questions to ensure data collection consistency while allowing for follow-up questions and probes to elicit more in-depth responses to the primary questions. We will consider emergent themes as well as unique comments, as some of our stakeholders may represent unique populations. We will consider stakeholder comments regarding different consumer populations (e.g., older adults, younger people with disabilities, etc.), different kinds of provider organizations (e.g., nursing homes, in-home care providers, medical day providers, etc.), and different kinds of community organizations (e.g., county welfare agencies, Area Agency on Aging, etc.) with respect to their ability to serve consumers. That is, we are interested in obtaining from our interviewees a picture of the processes through which consumers progress as they access Medicaid long-term services and supports—from information and referral, eligibility determination and redetermination (financial and clinical), MCO enrollment, care planning, receipt of services, handling of transitions due to clinical or social changes with regard to the consumer, and other issues that may be mentioned. We will identify themes and patterns in the interviews using an inductive process. Ongoing analysis of completed interviews will inform subsequent interviews with respect to follow-up questions.

Cost-Effectiveness

The evaluation will examine a robust set of measures of provider access and clinical quality to determine the cost-effectiveness of the demonstration policies. We will consider selected outcome measures included above relating to each evaluation hypothesis. We will utilize the results from regression analysis modeling the effect of the policy on such outcomes to assess the magnitude of changes in outcomes due to the policy change relative to a comparison population that was not subject to the policy.

Cost effectiveness methods will be based on best practices set forth by the 2nd US Panel in Cost Effectiveness in Health and Medicine (Neumann, 2016).[7] The primary cost-effectiveness measure for each intervention will be defined as the incremental cost effectiveness ratio (ICER), which represents the incremental difference between pre- versus post- policy costs divided by the difference in pre- versus post-policy outcome, for policies where a clear primary outcome can be defined.

$$\text{ICER}= \frac{\sum \text{Cost}_{\text{post-policy}} - \sum \text{Cost}_{\text{pre-policy}}}{\sum \text{Outcome}_{\text{post-policy}} - \sum \text{Outcome}_{\text{pre-policy}}}$$

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[7] Neumann PJ, Sanders GD, Russell LB, Siegel JE, and Ganiats TG. Cost-Effectiveness in Health and Medicine. New York: Oxford University Press, 2016. Second Edition

The numerators, $\sum \text{Cost}_{\text{post-policy}}$ and $\sum \text{Cost}_{\text{pre-policy}}$ represents the sum of total costs during the post-policy period, and total costs during the pre-policy period, respectively, and the denominator represents the sum of total outcome gained (or lost) during the pre- versus post-period. Each ICER thus indicates the additional costs to bring about one additional unit of benefit (outcome) from the policy. Cost effectiveness will be calculated from the state's perspective. This perspective captures the direct costs paid by government healthcare purchasers. These direct costs may include long term care, hospitalizations, emergency room and urgent care visits, outpatient care and tests, durable medical equipment, and medications. Due to the lack of data available on indirect costs such as productivity of the care recipient and productivity of the caregiver, it is not possible to conduct a societal cost effectiveness analysis.

Subject to availability of such information, costs of the policy change itself will be calculated using wage rates for personnel multiplied by time in preparation, documentation, training and supervision by adapting a model previously employed for CEA of a community-based intervention by the economic investigators.[8] Fringe benefit costs will be added to staff member costs by application of the prevailing state fringe benefit rate. Total costs of the policy intervention, reported in dollars during the year of implementation, will be defined as the sum of five direct cost categories; internal (e.g., staff) and external (e.g., organizations affected by and/or implementing the policy) training, intervention materials, staff travel associated with training and/or implementation of the policy change, and supervision/adherence of the policy change. The value of interventionist time will be calculated as the present value of earnings, and will be calculated as: (number of hours spent on the policy change task) x (interventionist's reported wage rates + fringe benefits). Staff training time for interventionists will be captured and converted to costs based on application of hourly wage rates as above. Material costs will include brochures, documentation forms and other education print and online materials provided to study participants. Staff travel expenses associated with the policy change will be costed based on reimbursement at the government rate (which will be obtained at time of the cost analysis but is expected to approximate $0.55 a mile).

The resulting ICERs we obtain will be examined relative to the previously reported willingness-to-pay thresholds *as available*. Willingness to pay thresholds using the standard metric (which is cost per quality-adjusted life year and ranges from $50,000-$100,000/quality adjusted life year in the US) will not be available since quality adjusted life years (QALYs) are not captured in the data and further, the methods of capturing QALYs in persons with disabilities may require proxy measurement from a caregiver who

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[8] Gitlin LN, Harris LF, McCoy M, Chernett NL, Jutkowitz E, Pizzi LT. A community-integrated home based depression intervention for older African Americans: description of the Beat the Blues randomized trial and intervention costs. BMC Geriatr 2012;12:4.

may or may not have sufficient information and experience with the care recipient to accurately report quality adjusted life. Instead we anticipate the effectiveness measures in our cost effectiveness analyses to be clinical quality measures and/or care process measures. For example, a cost effectiveness analysis for diabetes could reasonably employ a measure of cost per individual achieving HbA1c value ≤ 7% since HbA1c targets are evidence-supported measures pertaining to diabetes control and risk of long-term complications. Our effectiveness measure will thus need to be tailored for each CEA and based on evidence-supported outcomes which are meaningful to the intervention being evaluated.

Sensitivity analyses will be conducted in order to determine the robustness of the ICERs. Both univariate sensitivity analysis (whereby one variable is changed at a time and impact on the ICER is examined), and probabilistic sensitivity analysis (PSA, whereby all relevant variables are simultaneously modified within reasonable ranges) will be conducted. Sensitivity analyses will include those variables where we anticipate "real world" uncertainty.

We will assess and compute all available costs associated with each policy change. When it is not possible to assess cost-effectiveness for lack of information on outcomes, we will assess whether there is any cost-savings as a result of the policy. Costs assessed over multiple periods will be inflation-adjusted (using the medical care price index) and subject to an appropriate discounting factor.

II. Evaluation of the New Jersey Delivery System Reform Incentive Payment (DSRIP) Program

BACKGROUND AND AIMS

The DSRIP is a component of the New Jersey Medicaid Comprehensive Waiver Demonstration initially implemented over the period October 2012 to July 2017. Under the Waiver renewal, the DSRIP program will continue for a period of three years over August 1, 2017 to June 30, 2020. The evaluation will examine the impact across all demonstration years, but distinguishing the effects by the first and the second round of the program, in accordance with the evaluation questions 10 and 11 that are stated in the special terms and conditions document. These are:

Was the DSRIP program effective in achieving the goals of better care for individuals (including access to care, quality of care, health outcomes), better health for the population, or lower cost through improvement? To what degree can improvements be attributed to the activities undertaken under DSRIP?

What do key stakeholders (covered individuals and families, advocacy groups, providers, health plans) perceive to be the strengths and weaknesses, successes and challenges of the expanded managed care program, and of the DSRIP pool? What changes would these stakeholders recommend to improve program operations and outcomes?

The evaluation questions for the DSRIP program based on the DSRIP planning protocol and the special terms and conditions documents relating to the first demonstration period, were the following:

1. To what extent does the program achieve better care?
2. To what extent does the program achieve better health?
3. To what extent does the program lower costs?
4. To what extent did the program affect hospital finances?
5. To what extent did stakeholders report improvement in consumer care and population health?
6. How do key stakeholders perceive the strengths and weaknesses of the program?

As we see above, the evaluation questions for the waiver renewal are identical to those for the first round of evaluation with the sole exception being one question related to the program impact on hospital finances. The stakeholder interviews in the first round also invited views and opinions on improving program implementation, an aspect that is explicitly mentioned in the current set of evaluation questions. Accordingly the evaluation methods for the DSRIP renewal will remain largely unchanged from those in the first round, but there are three enhancements in the analytic strategy. First, we will take into account that comparison groups may be systematically different from DSRIP adopting hospitals and conduct additional analysis to account for these differences. Second, as mentioned above, we will model differences in program impact between the first and second rounds of demonstration. Finally, in addition to the Medicaid fee-for-service and managed care encounter data that we receive from the state, we will additionally use all-payer hospital discharge data to examine DSRIP effects among the uninsured population. Greater details regarding all of these plans and associated identification strategies are provided in the analytic section below.

We begin by providing a brief background, followed by specific hypotheses related to the evaluation questions, description of data sources, outcomes, and statistical and econometrics techniques to identify program effects.

The DSRIP program uses resources from the previously existing hospital relief subsidy fund to establish a system of incentive payments for hospitals based on achieving specific health improvement goals. The stated goals of the program include “better care for individuals (including access to care, quality of care, health outcomes), better health for populations and lower cost through improvement.” In this population health management program, hospitals select specific disease management projects based on the needs of the populations served and are assessed on the basis of quality metrics that measure the effectiveness of their programs in improving access and quality of care and health outcomes.

The evaluation will examine the effectiveness of the DSRIP program overall and specific disease management programs. We formulated specific testable hypotheses related to DSRIP hospital programs, patient access and quality of care, patient health, costs of care, and stakeholder perceptions relating to the program that would answer these questions and ultimately shed light on the effectiveness of the DSRIP program.

The five hypotheses along with their corresponding sub-hypotheses are detailed below. Appendix A1 presents a crosswalk between each of these hypotheses and the DSRIP research question(s) (enumerated above) that it addresses. Below each hypothesis we categorize the measures that will be used to test it. Each category of measures represents one or more metrics that are detailed in Appendix A2 and Tables 1 and 2.

Hypothesis 1: The adoption of hospital projects in a specific focus area (e.g., cardiac care, asthma) will result in greater improvements in related care and outcomes for patients from hospitals adopting these interventions compared to hospitals which do not adopt these interventions.

This general hypothesis can be broken down into seven sub-hypotheses that examine the effectiveness of each of the seven chronic condition projects that include asthma;

behavioral health; cardiac care; chemical addiction/substance abuse; diabetes; obesity; and pneumonia. For instance,

Hypothesis 1a: Rates of 30-day heart failure/acute myocardial infarction readmissions will decrease in hospitals adopting cardiac care interventions during the DSRIP program.

Hypothesis 1b: Rates of asthma admissions and ED visits will decrease for patients in hospitals adopting asthma management programs.

Hypothesis 1c: Rates of follow-up visits after hospitalizations for mental illness will increase for patients from hospitals adopting behavioral health interventions during the DSRIP program.

Hypothesis 1d: Rates of initiation and engagement in alcohol and other drug treatment will increase for patients from hospitals adopting chemical addiction/substance use management projects during the DSRIP program.

Hypothesis 1e: Rates of admissions for diabetes short-term complications will decrease for patients from hospitals adopting diabetes management projects during the DSRIP program.

Hypothesis 1f: Rates of 30-day pneumonia readmissions will decrease for patients from hospitals adopting pneumonia intervention projects during the DSRIP program.

Hypothesis 1g: Rates of children's and adolescents' access to primary care practitioners will increase for patients from hospitals adopting obesity intervention projects under the DSRIP program.

As Appendix A1 outlines, hypothesis 1 addresses the research questions on whether the program achieves better care and outcomes by examining metrics relating to hospital admissions, readmissions, treat-and-release emergency department visits, and recommended care. (The specific metrics are detailed in the 'outcome variables' section in Methods, and also in Appendix A2 that relates each hypothesis to the specific metrics). The focus of hypothesis 1 is the effectiveness of the chronic disease management projects in the DSRIP program.

Hypothesis 2: The DSRIP program will improve the quality of ambulatory care in the communities of participating hospitals consequently reducing avoidable inpatient hospitalizations and avoidable/preventable emergency department visits; it will improve access to care; quality and efficiency of care.

Hypothesis 2 thus examines all three research questions relating to better care, better health and lower costs. The quality and adequacy of ambulatory care will be measured by avoidable inpatient hospitalizations and ED visits. These, and other hospital specific outcomes, and additional measures related to recommended care examine the impact of the program on better care and better health in the population. Finally, a decrease in costs associated with avoidable hospitalizations would indicate increasing efficiencies in care.

Hypothesis 3: The DSRIP program will reduce racial/ethnic and gender disparities in avoidable hospital admissions, treat-and-release ED visits, and hospital readmissions, in participating hospitals.

Hypothesis 3 also sheds light on whether the program improves care and ensures better health in the population. This specifically recognizes the importance of ensuring that program benefits reach all sections of the Medicaid population. Hospitalizations stratified by race/ethnicity and gender will reveal whether readmission rates or ambulatory care sensitive hospitalizations are higher among racial/ethnic minorities and/or women.

Hypothesis 4: Stakeholders will report improvements in consumer care.

Hypothesis 5: Stakeholders will report improvements in population health.

Hypotheses 4 and 5 are tested through key informant interviews and examine whether stakeholders perceive that the DSRIP program will improve consumer care and population health. In order to shed light on such pathways, questions included in the interviews and surveys will also identify implementation experiences, positive or negative, that arise from program characteristics.

EVALUATION STRUCTURE AND PLANNING

Guided by the research questions and the corresponding hypotheses, the evaluation will examine the impact of the DSRIP program on patient care, patient health, and costs of providing care; it will also examine stakeholder perceptions relating to population health and overall strengths and weaknesses of the program. This evaluation will thus utilize a mix of quantitative and qualitative methods.

The quantitative component will provide an independent analysis of key metrics to inform how well the DSRIP Program achieves better care and better health for populations served by hospitals, as well as lower costs through improvement. Qualitative analysis, including key informant interviews and document review, will be conducted throughout planning and implementation of the DSRIP Program, to provide stakeholder perceptions of improvements in care and strengths and weaknesses of the program.

Quantitative process and outcome measures along with inputs from qualitative analyses will be utilized to independently analyze and interpret data evaluating hypotheses 1-3. A qualitative approach will answer questions 4 and 5 based on stakeholder interviews, observations of program meetings, and review of relevant documents.

The evaluation report will meet all standards of leading academic institutions and academic peer review, as appropriate for both aspects of the DSRIP program evaluation, including standards for the evaluation design, conduct, interpretation, and reporting of findings.

The single evaluation report examining the DSRIP program over January 1, 2014 to June 30, 2020 will be completed by the end of December 2021.[9]

QUANTITATIVE EVALUATION

APPROACH AND METHODS

Overall strategy and design

We will identify the effect of the DSRIP program on provision of care and population health by examining changes in specific healthcare and health related outcomes over time. These outcomes calculated through metrics detailed in Tables 1 and 2 will be based on Medicaid fee-for-service claims and managed care encounter data. We will also calculate select metrics based on all-payer hospital discharge data for the uninsured population.

We will use a difference-in-differences analysis for specifications where we can define a comparison group. Here, hospitals will be classified into study or comparison groups based on their participation in the DSRIP program and also individual disease-specific projects, each classification thus varying, depending on the category of the hypothesis being tested (effectiveness of individual programs or success of the overall DSRIP program) The differences in trends (in hospital performance captured through the metrics) between the study and comparison group from the baseline (2011-2013) to the first implementation period (2014-2017) to the second implementation period (2017-2020) will identify the program effects.

We will also utilize interrupted time series modeling that does not require a comparison group.

See details regarding how these methods will be implemented in the analytic section below.

Data:

Sources: The evaluation team will independently calculate evaluation-related measures using NJ Medicaid fee-for-service claims along with managed care encounter data. We will additionally use all-payer hospital discharge data to examine program effects on the uninsured population.

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[9] This timeline is contingent on timely receipt of Medicaid claims/encounter data from DHS.

Availability: Medicaid-paid fee-for-service claims and encounter data will be available from Medicaid during the period of the evaluation. Monthly extracts are received and used to build static analytic claims files. The State has estimated that the majority of FFS and managed care claims are received within six months of the date of service, and we will apply a Medicaid-recommended lag period of at least six months to allow for retroactive adjustments to the data. This will allow accurate measurement of costs and payments and also provide consistency and comparability with other parts of the evaluation. Our analytic files are validated against a real-time database query from DMAHS on total payment amounts, total number of claims, and recipient eligibility counts for a specified period and differ by <1%. Due to this adjustment period and also the time required to analyze data and statistically model evaluation effects, there will be a period of delay from the end of the DSRIP demonstration until the availability of the evaluation report.

All-payer hospital discharge data is available from AHRQ HCUP state inpatient databases (SID) and state emergency department databases (SEDD). If HCUP data are used, the latest year available for our evaluation report will be 2018. We are in discussion with the state of New Jersey on the availability of linked discharge data that will also allow us to calculate metrics that require patients to be followed over time (e.g., readmissions) in addition to point-in-time metrics (e.g., avoidable inpatient stays and ED visits). If data are received directly from the State, data through 2019 may be available.

Outcome variables

The metrics related to our outcomes of interest are detailed in Tables 1 and 2. The first category of metrics included in Table 1 examines effectiveness of hospital-specific chronic condition projects and allows testing of hypothesis 1 and its seven sub-hypotheses. For instance, an increase in follow-up visits after hospitalizations for mental health indicates the effectiveness of behavioral health programs being pursued by some hospitals. The second category of outcomes/metrics listed in Table 2 test the remaining hypotheses assessing the overall impact of the DSRIP program - on quality and efficiency of care within the delivery system, patient health, and racial and ethnic disparities in care. For instance, did avoidable hospitalizations and ED visits that arise from inadequate ambulatory care in the community decrease; did rates of 30-day all-cause readmissions among patients admitted for heart attack, heart failure or pneumonia decrease among DSRIP hospitals?

Appendix A2 gives detailed definitions for calculating these metrics which are of two types, hospital-event based metrics and population-based metrics. The former, such as hospital readmission rates, will be calculated at the hospital level based on all discharges from specific hospitals. For population-based metrics (e.g., rates of avoidable inpatient hospitalizations, ED visits rates for asthma, and rates of patients receiving substance use related treatment), we will calculate zip code population-based rates and then classify those zip codes based on whether the hospitals serving the majority of patients residing there took part in specific DSRIP programs.

Appendix A2 also links each of these metrics to measure domains that enables testing one or more of the three hypotheses related to the quantitative evaluation. The domains are outcomes from the chronic disease programs (Hypothesis 1); additional health outcomes (Hypothesis 2); care processes that capture access to quality care and preventive/recommended care (Hypothesis 2); and racial/ethnic disparities (Hypothesis 3). Some of the metrics may address multiple hypotheses. Diabetes short-term complication admission rate examines the effectiveness of hospital diabetes programs (Hypothesis 1). In addition, being an ambulatory care sensitive condition, it sheds light on improvements in access and quality of care in the community (Hypothesis 2).

While selecting our metrics we chose such measures that reflect the effect of the intervention on the overall delivery system, those that assess inpatient as well as ambulatory care received by patients, in contrast to much narrower inpatient process measures which are further removed from patient outcomes. Metrics were also specifically chosen to reflect the current policy changes related to hospital financing, such as rates of all-cause readmissions from initial hospitalizations of heart failure, AMI and pneumonia. We adopted definitions posted by organizations such as NQF and NCQA; however, it may be necessary to adapt some of those criteria to the evaluation objectives and data availability. An underlying criterion during the metric selection process was to choose measures that can be independently calculated by the evaluator from claims/encounter-based data. Metrics that require medical charts and cannot be independently calculated (e.g., those related to screening for depression) do not fall in this category.

Table 1: Metrics for evaluating hospital specific projects

	Metric
Asthma	Percent of patients who have had a visit to an Emergency Department (ED) for asthma in the past six months.[a] *Adult Asthma Admission Rate**
Behavioral Health	Follow-up After Hospitalization for Mental Illness (30 days post discharge) *Follow-up After Hospitalization for Mental Illness (7 days post discharge)*
Cardiac Care	30-Day All-Cause Readmission Following Heart Failure (HF) Hospitalization *30-Day All-Cause Readmission Following Acute Myocardial Infarction (AMI) Hospitalization*
Chemical Addiction/ Substance Abuse	Engagement of alcohol and other drug treatment *Initiation of alcohol and other drug treatment*
Diabetes	Diabetes Short-Term Complications Admission Rate* *Comprehensive Diabetes Care: Hemoglobin A1C testing* Comprehensive Diabetes Care: Eye exam (retinal) performed
Pneumonia	30-Day All-Cause Readmission Following Pneumonia (PN) Hospitalization
Obesity	Children and Adolescents' Access to Primary Care Practitioners

All metrics will be calculated using FFS claims and managed care encounter data.

*Metric will also be calculated in all-payer hospital discharge data for the uninsured population.
[a]original metric included visits to urgent care office; which cannot be identified in Medicaid claims/encounter data.

Table 2: Metrics for Overall Evaluation of the DSRIP Program

	Description
Mental Health Utilization	The number and percentage of patients receiving inpatient mental health services during the measurement year.
30-Day All-Cause Readmission Following Heart Failure (HF) Hospitalization	The measure estimates a hospital-level, risk-standardized, all-cause 30-day readmission rate for patients discharged from the hospital with a principal discharge diagnosis of Heart Failure (HF).
30-Day All-Cause Readmission Following Acute Myocardial Infarction (AMI) Hospitalization	The percent of 30 day all-cause readmission rate for patients with AMI.
30-Day All-Cause Readmission Following Pneumonia (PN) Hospitalization	The percent of 30 day all-cause readmission rate for patients with pneumonia.
30-Day All-Cause Readmission Following Chronic Obstructive Pulmonary Disease (COPD) Hospitalization	The percent of 30 day all-cause readmission rate for patients with COPD.
Rate of potentially avoidable inpatient hospitalizations reflecting inadequate level of ambulatory care. Based on AHRQ methodology for calculating Prevention Quality Indicators.*,[10]	
Rate of Primary Care Preventable/Avoidable Treat and Release ED visits. Based on methodology by John Billings, New York University.*,[11]	
Hospital costs related to avoidable inpatient stays, and treat-and-release Emergency Department visits	
Well Child Visits in the First 15 Months of Life	Percentage of patients who turned 15 months old during the measurement year and who had well-child visits with a PCP during their first 15 months of life
Emergency Department Visits*	Rates of treat-and-release emergency department visits

All metrics will be calculated using FFS claims and managed care encounter data.
*Metric will also be calculated in all-payer hospital discharge data for the uninsured population.

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[10] Bindman AB, K Grumbach, D Osmond, M Komaromy, K Vranizan, N Lurie, J Billings, and A Stewart. "Preventable Hospitalizations and Access to Health Care." *Journal of the American Medical Association* 274, no. 4 (1995): 305–11.

[11] Billings J, N Parikh, and T Mijanovich. *Emergency Department Use: The New York Story*. New York: Commonwealth Fund, 2000.

Analytic Strategies to Identify Policy Effect

Difference-in-Differences Approach: The evaluation will utilize a difference-in-differences (DD) estimation technique that examines changes in the levels and trends of selected outcomes before and after the implementation of the program/policy comparing DSRIP hospitals in specific programs and comparison hospitals. Such an estimation strategy is able to identify the changes in outcomes that are due to program impact, and distinct from secular trends in outcomes that are unrelated to our policy of interest.

The DD strategy examines the effectiveness of the individual chronic disease management programs as well as the DSRIP program overall in improving care and health by comparing specific metrics (from Tables 1 and 2) for study and comparison hospitals over time. For the first hypothesis, the study group comprises hospitals taking part in specific projects (cardiac care) and comparison group comprises hospitals not taking part in those projects. Project-specific outcomes (e.g., rates of heart failure readmissions) are compared between patients in the study hospitals to those in comparison hospitals in the pre- and post-policy periods. In order to implement this approach, the selected project-specific metrics (see Table 1) will be calculated for all hospitals. For example, rates of heart failure admissions will be calculated for all hospitals, comparing hospitals that selected cardiac care as their DSRIP focus (study group) to those which did not (comparison group). For the remaining hypotheses examining the overall impact of the DSRIP program, all hospitals approved for the DSRIP program will constitute the study group and will be compared to all remaining acute-care hospitals in New Jersey. Over the course of the program, the number of hospitals in the comparison group may increase if some hospitals decide to discontinue participation in the program. Our data analysis will incorporate such changes.

$$Y_{it} = \beta_0 + \beta_1(program)_i + \beta_2(post\_1)_t + \beta_3(post\_2)_t + \beta_4(program_i * post\_1_t) + \beta_5(program_i * post\_2_t) + \gamma X_{it} + \varepsilon_{it} \quad (1)$$

The variable Y_{it} represents the outcome for the ith hospital or zip code depending on the specific outcome, at year t. Post_1= 0 or 1 depending on whether the time is during the first round of the DSRIP program (January 1, 2014- July 31, 2017), post_2=0 or 1 depending on whether the time is during the second round of the demonstration (August 1, 2017- June 30, 2020). The reference category is the baseline period spanning January 1, 2011- December 31, 2013. The statistical model in equation (1) thus accounts for these three distinct periods by incorporating the indicator variables for specific years or rounds of demonstration. This will allow estimation of changes in outcomes during the first DSRIP demonstration period from the policy implementation, and additional changes in outcomes during the second demonstration period from continuation of those policy changes. In the case of a hospital based metric, program =1, if the hospital is taking part in the DSRIP program, 0 otherwise. In case of an outcome metric that has a population-based denominator, the unit of analysis is a zip code and we will follow methods[12] previously developed at Rutgers CSHP. Here, for our baseline specification, program=1 if at least one of the hospitals serving the patients residing in that zip code are taking part in the program; in alternative specifications, program will be a continuous variable reflecting the share of patients belonging to DSRIP hospitals out of the "relevant" set of hospitals serving a zip code. This relevant set of hospitals will comprise the smallest set that account for 75% or more of the total inpatient and ED volume from that zip code. Additional sensitivity analysis will define the relevant set of hospitals based on thresholds of 50% and 90% of total volume of patients from zip codes. We will adopt identical strategies while modeling the effect of a specific DSRIP program.

X is a vector of other control variables relating to patient, zip code and hospital level characteristics. Depending on whether the outcome is assessed at the zip code or hospital-level, we will include zip code or hospital fixed effects[13]. ε_{it} represents the random error term.

In this specification β_5 measures the program impact during the second round of demonstration relative to the baseline period and β_4 measures program impact during the first round of the demonstration, also relative to the baseline period. The difference between these effect sizes will provide the incremental impact of the policy during the second round relative to the first round.

Depending on the specific measure, Y_{it} can be a rate or a binary or count variable, and appropriate functional forms (e.g., ordinary least square, logistic, linear probability model, Poisson, negative binomial) will be chosen accordingly. For example, a logistic specification utilizing a discharge-level analysis may be used to estimate the effect of the program on the likelihood of a patient being readmitted within 30 days. In case of a population-based measure such as asthma admissions, the analysis will be at the zip code level. The outcome variable would be total asthma admissions from patients in a zip code per zip code population. The zip code will be classified based on whether the hospitals serving that zip code took part in asthma management project. Spending will be modeled using a gamma distribution with a log link specification.

The overarching goal of these methods is to support measurement of the impact of these programs on the demonstration goals, examine causal pathways by identifying confounders and accounting for the effect of other interventions in the state that may have interacted with this demonstration, such as the implementation of the Accountable Care Organizations and the effect of 2014 Medicaid expansion.

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[12] DeLia, D., Cantor, J. C., Tiedemann, A., & Huang, C. S. (2009). Effects of regulation and competition on health care disparities: the case of cardiac angiography in New Jersey. *J Health Polit Policy Law, 34*(1), 63-91.

[13] See details regarding these methods in our midpoint and final evaluation of the NJ DSRIP program.

Examining suitability of comparison groups: DD modeling identifies the impact of the policy change by comparing the trend in outcomes for the study population from the pre- to the post-implementation period(s) to that of a comparison group which is otherwise similar, but not subject to the policy effect. The DD estimate is able to account for the effect of unobserved factors and generate an estimate of the true policy effect as long as the impact of the policy on the intervention group relative to the comparison group does not change over time. We will test this by examining whether trends in outcomes prior to policy implementation (pre-trends) for the intervention and comparison group are parallel to each other. Each regression model will examine in supplementary analysis whether there exist statistically significant differences in trends between the intervention and comparison group prior to policy implementation. If this difference is in the same direction as the DD estimate and of comparable magnitude that would imply that the DD model may be overestimating the effect. Accordingly our estimation process of computing effect sizes will adjust for these differential effects based on well-established methods in peer-reviewed academic publications.[14]

Potential differences between intervention and comparison groups: There may be systematic differences between hospitals taking part in certain projects and those that are not. Further such differences may also exist between the communities served by these hospitals. This is because hospitals may choose to implement projects that are relevant to the patients that they serve and/or where they have prior experience and expertise. In our descriptive analysis, we will examine and report outcomes as well as differences in provider and patient characteristics between treatment and comparison hospitals to see whether they are significantly different. It is important to note that DD estimates are valid even when outcomes for program hospitals (even before policy implementation) are systematically different from those of comparison hospitals (which may be the case because of reasons described above) as long as the trends in outcomes are parallel to each other. As mentioned above, we will examine and account for such differences in pre-trends based on academic publications and our previous work.[15,16]

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[14] Harman, J. S., Hall, A. G., Lemak, C. H., & Duncan, R. P. (2014). Do provider service networks result in lower expenditures compared with HMOs or primary care case management in Florida's Medicaid program? Health Serv Res, 49(3), 858-877. PMCID: PMC4231575

[15] Akosa Antwi, Y., Moriya, A. S., Simon, K., & Sommers, B.D. (2015). Changes in Emergency Department Use Among Young Adults After the Patient Protection and Affordable Care Act's Dependent Coverage Provision. Ann Emerg Med, 65(6), 664-672. PMCID: PMC 2576946

[16] Chakravarty, S., Lloyd, K., Farnham J., Brownlee, S., & DeLia D. (2017). Examining the Effect of the NJ Comprehensive Waiver on Access to Care, Quality, and Cost of Care: Draft Final Evaluation Report. New Brunswick, New Jersey: Rutgers Center for State Health Policy. Available at:

Interrupted time series modelling: While we will develop comparison groups wherever feasible in our evaluation analyses to facilitate separation of program impact from secular trends in outcomes, it may not be always possible to have suitable comparison groups. This may be because of systematic differences between intervention and comparison groups discussed above or due to inadequate sample size of non-participating hospitals. For those measures, segmented regression analysis/interrupted time series modeling will be used to allow inferences about DSRIP impact. Such a model assumes that the policy effect may lead 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. The regression analysis is able to measure this change in trend or level. Potential confounding may arise in the rare circumstances when policy-unrelated factors that determine our outcomes of interest change at exactly the same time as the policy implementation. However, our multivariate analysis adjusting for patient, provider and geographic factors are expected to mitigate such effects. The model also allows us to account for policy changes occurring in multiple points of time. Equation (2) below represents such a model based on our previous work.[17]

$$Y_{it} = \beta_0 + \beta_1(time)_t + \beta_2(DSRIP\_1\ post)_t + \beta_3(DSRIP\_1\ time)_t + \beta_4(DSRIP\_2\ post)_t) + \\ +\beta_5(DSRIP\_2\ time)_t + \gamma X_{\ it} + \varepsilon_{it} \qquad (2)$$

Here, Y_{it} reflects the outcome related to the i^{th} hospital or zip code at time t. On the right hand side of the equation, time is a continuous variable indicating time in months or calendar quarters from the start of the study period i.e., January 2011. The variables *dsrip_1 post* and *dsrip_2 post* are indicator (0/1) variables for the period during the first and second round of DSRIP implementation. The variables *dsrip_1 time* and *dsrip_2 time* are continuous variables equaling the number of months (or quarters) after the start of the first and second rounds of DSRIP implementation. Patient, provider and zip code characteristics are represented by the variable X_{it}. ε_{it} is the random error term utilized in the regression representing the statistical distribution of the outcome variable.

Coefficient β_0 estimates the baseline level of the outcome coefficient β_1 indicates the baseline trend prior to the first round of DSRIP. Coefficients β_2 and β_4 estimate the level changes after the initiation of each round of DSRIP in January 2014 and July 2017

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http://www.cshp.rutgers.edu/publications/examining-the-effect-of-the-nj-comprehensive-waiver-on-access-to-care-quality-and-cost-of-care-draft-final-evaluation-report.

[17] Chakravarty, S., Lloyd, K., Farnham J., Brownlee, S., & DeLia D. (2017). Examining the Effect of the NJ Comprehensive Waiver on Access to Care, Quality, and Cost of Care: Draft Final Evaluation Report. New Brunswick, New Jersey: Rutgers Center for State Health Policy. Available at: http://www.cshp.rutgers.edu/publications/examining-the-effect-of-the-nj-comprehensive-waiver-on-access-to-care-quality-and-cost-of-care-draft-final-evaluation-report.

respectively. Similarly β_3 and β_5 estimate the change in trend in the outcome after each of these policy changes. The specification detailed above, is able to identify changes in outcomes that may have occurred due to the first round of DSRIP implementation and isolate those effects from that of second round of DSRIP implementation.

As an illustrative example, the specific effect of the second round of DSRIP is given by the magnitude of β_4 that gives the change in level and β_5 that gives the change in trend after the DSRIP implementation and we further test whether these values are statistically significant. Accordingly in our results section, we will report the magnitudes of these two coefficients and their joint statistical significance. For interpretability purposes, we will further compare predicted values of outcomes post-DSRIP with counterfactual values (that simulate a scenario where the DSRIP implementation did not occur). We will further compute whether this difference is statistically significant.

Adjusting for Patient, Provider and Geographic Factors: As demonstrated in the different model specifications, our analysis will control for patient characteristics that may affect outcomes. These include beneficiary demographics, Medicaid eligibility category, health history (including chronic illness and behavioral health co-morbidities), chronic disability payment score, and any other information relevant to the policy of interest. We will 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.

For specific outcomes that reflect the overall delivery system (e.g., avoidable hospitalizations and readmissions) analysis will examine differences across patient populations differentiated by race/ethnicity and gender to the extent that sample sizes permit. Because of the diversity of the New Jersey population, we expect to find differences in the effect of the DSRIP program among demographic groups and we will document these differences.

Sensitivity Analysis: We will also conduct sensitivity analysis through a falsification test that estimates a placebo model by falsely assuming that the policy change was implemented in 2013. Based on methods previously used by evaluation researchers[18], this examines whether there were any statistically significant changes in outcomes, one year prior to the DSRIP implementation.

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[18] Cantor, J.C., Monheit, A.C., DeLia, D. and Lloyd, K. (2012). Early impact of the affordable care act on health insurance coverage of young adults. Health Serv Res, 47(5), 1773-90.

We will add a test examining outcomes not expected to be affected by the DSRIP program. Some candidate outcome measures would be annual dental visits, substance-use related hospitalizations (for hospitals not conducting chemical addiction/substance use projects), and hospitalizations for epilepsy.

Our estimation procedures will be conducted using standard inferential statistical techniques employing STATA 15.0 or SAS 9.2 software.

QUALITATIVE EVALUATION

This section below describes the qualitative methods used to gather and analyze data to examine stakeholder perceptions relating to the DSRIP program and address hypotheses 5 and 6.

To address research questions 5 and 6 and test hypotheses 4 and 5, related to stakeholder perceptions, the evaluation team will develop an interview protocol to gather views of stakeholder perceptions about DSRIP program effectiveness in improving access, quality of care, and population health outcomes. The interviews will take place over January-June 2020. We conduct this during the last six months of the program anticipating personnel changes once the program ends and difficulty in identifying interviewees.

To provide background for the stakeholder-directed questions, the evaluation team will also review information available from hospital projects, such as program materials, community outreach materials, presentations, and reports from participating hospitals. The interview protocol will be approved by the Rutgers University Institutional Review Board, and interviewers will be trained to ensure privacy and confidentiality.

The evaluation team will gather information regarding the questions detailed below, as well as others suggested by DSRIP stakeholders.

- What positive impacts did you observe from the DSRIP project? Which patient and/or community groups experienced benefits? Were these the expected groups?
- What difficulties were encountered in developing and sustaining a DSRIP project, e.g., obtaining resources, engaging community partners, collecting and sharing clinical data, etc.? How were difficulties addressed? Which strategies were most successful? What additional information would have been helpful in carrying out the DSRIP program?
- What difficulties were encountered in implementation of the DSRIP project?
- What changes in policy or practice external to the DSRIP have affected implementation of the DSRIP or made it difficult to gather accurate information?
- What problems or improvements in consumer care have been noted in your community?
- What problems or improvements in the health of specific population groups have been noted in your community?
- What improvements in health care were made as a result of the DSRIP projects?

- What new clinical partnerships were developed?
- How were real time data used to support the efforts of hospitals to refine their programs?
- How did the learning collaborative support change? What could have made the Learning Collaborative more successful?
- What other rapid-cycle improvement tools were used and how effective were they in supporting quality improvement? Was there adequate support for hospitals for these activities? What could make the rapid-cycle tools (e.g. learning collaborative, dashboards, real time data exchanges, etc.) more effective?
- Were there unanticipated consequences in hospital operations, other programs, or financial status?

Key informant interviews will be conducted with officials from the Department of Health and the Department of Human Services, as well as other stakeholders familiar with the program including representatives from hospital associations. Interviews will also be conducted with representatives from hospitals' community partners to obtain viewpoints about expected benefits and unanticipated consequences for patients and families.

Interviewers will use a semi-structured guide containing key questions to ensure data collection consistency while allowing for follow-up questions and probes to elicit more in-depth responses to the primary questions. Data from key informant interviews will be transcribed and de-identified, then independently coded by two researchers to identify themes and patterns in the data. We will specifically compare safety-net and non safety-net hospitals and consider interviewee comments regarding differential effects of the program on different communities or groups of patients. Ongoing analysis of completed interviews will inform subsequent interviews.

Appendix A1: Crosswalk Between Research Questions and Proposed Evaluation Hypotheses

Evaluation Hypotheses & Measure Domains[1]	Planning Protocol Research Questions[2]
Hypothesis 1: Hospital Projects improve related care and outcomes - hospital admissions (2,9) - hospital readmissions (5,6,10) - ED visits (1) - recommended care (3,4,7,8,11,18,19)	1. To what extent does the program achieve better care? 2. To what extent does the program achieve better health?
Hypothesis 2: Program improves quality of ambulatory care; recommended and preventive with positive effects on population health - avoidable inpatient hospitalizations (14) - avoidable/preventable ED visits (15) - ED visits (20) - associated costs (17) - recommended care (11,12,16,18,19) - hospital readmissions (5,6,10,13)	1. To what extent does the program achieve better care? 2. To what extent does the program achieve better health? 3. To what extent does the program lower costs?
Hypothesis 3: The DSRIP program will reduce racial/ethnic and gender disparities in avoidable hospital admissions, treatand release ED visits, and hospital readmissions. - avoidable hospitalizations stratified by race/ethnicity and gender (14,15) - hospital readmission rates stratified by race/ethnicity and gender (5,6,10,13)	1. To what extent does the program achieve better care? 2. To what extent does the program achieve better health?
Hypothesis 4: Stakeholders will report improvements in consumer care - perceived improvements in consumer care - implementation difficulties that may modify program impact	5. To what extent did stakeholders report improvement in consumer care and population health? 6. How do key stakeholders perceive the strengths and weaknesses of the program?
Hypothesis 5: Stakeholders will report improvements in population health - benefits experienced by patient or community groups - implementation difficulties that may modify program impact - new clinical partnerships with beneficial impact on population health	5. To what extent did stakeholders report improvement in consumer care and population health? 6. How do key stakeholders perceive the strengths and weaknesses of the program?

[1] Numbers in parentheses after the measure domain refer to the specific metric numbers as detailed in Appendix A2.

Appendix A2: Crosswalk Between Metrics and Evaluation Hypotheses

Metric Number	Evaluation[1]	Source	Metric Name	Metric Description	Chronic Disease Outcomes	Health Outcomes	Care	Disparities
					Hypothesis			
					1	2		3
1	ASTHMA		Percent of patients who have had a visit to an Emergency Department (ED)/Urgent Care office for asthma in the past six months.	This measure is used to assess the percent of patients who have had a visit to an Emergency Department (ED)/Urgent Care office for asthma in the past six months.	X			
2	ASTHMA	Medicaid Adult Core #11; PQI 15; NQF 0283	Adult Asthma Admission Rate (PQI-15)	This measure is used to assess the number of admissions for asthma in adults under the age of 40 per 100,000 population.	X	X	X	
3	BEHAVIORAL HEALTH	HEDIS; Medicaid Adult Core #13; Medicaid Child Core; NQF 0576	Follow-up After Hospitalization for Mental Illness 30 days post discharge	The percentage of discharges for members 6 years of age and older who were hospitalized for treatment of selected mental health disorders and who had a follow-up visit with a mental health practitioner within 30 days of discharge.	X		X	
4	BEHAVIORAL HEALTH	HEDIS; Medicaid Adult Core #13; Medicaid Child Core; NQF 0576	Follow-up After Hospitalization for Mental Illness 7 days post discharge	The percentage of discharges for members 6 years of age and older who were hospitalized for treatment of selected mental health disorders and who had a follow-up visit with a mental health practitioner within 7 days of discharge.	X		X	
5	OVERALL & CARDIAC CARE	Joint Commission National Hospital Inpatient Quality Measures; NQF 0330	30-Day All-Cause Risk-Standardized Readmission Rate Following Heart Failure (HF) Hospitalization	The measure estimates a hospital-level, risk-standardized, all-cause unplanned 30-day readmission rate for patients discharged from the hospital with a principal discharge diagnosis of Heart Failure (HF).	X	X		X
6	OVERALL & CARDIAC CARE	Joint Commission National Hospital Inpatient Quality Measures; NQF 0505	30-Day All-Cause Risk-Standardized Readmission Rate Following Acute Myocardial Infarction (AMI) Hospitalization	The measure estimates a hospital-level, risk-standardized, all-cause unplanned 30-day readmission rate for patients discharged from the hospital with a principal discharge diagnosis of Acute Myocardial Infarction (AMI).	X	X		X

Metric Number	Evaluation[1]	Source	Metric Name	Metric Description	Chronic Disease Outcomes	Health Outcomes	Care	Disparities
					Hypothesis			
					1	2		3
7	CHEMICAL ADDICTION/ SUBSTANCE ABUSE	HEDIS; Medicaid Adult Core #25; NQF 0004	Initiation of alcohol and other drug treatment	This measure is used to assess the percentage of adolescent and adult members with a new episode of alcohol or other drug (AOD) dependence who initiate treatment through an inpatient AOD admission, outpatient visit, intensive outpatient encounter, or partial hospitalization within 14 days of the diagnosis.	X		X	
8	CHEMICAL ADDICTION/ SUBSTANCE ABUSE	HEDIS; Medicaid Adult Core #25; NQF 0004	Engagement of alcohol and other drug treatment	This measure is used to assess the percentage of adolescent and adult members with a new episode of alcohol or other drug (AOD) dependence who initiated AOD treatment and who had two or more inpatient admissions, outpatient visits, intensive outpatient encounters, or partial hospitalizations with any AOD diagnosis within 30 days after the date of the Initiation encounter (inclusive).	X		X	
9	DIABETES	Medicaid Adult Core #8; PQI 01; NQF 0272	Diabetes Short-Term Complications Admission Rate (PQI-01)	The number of discharges for diabetes short-term complications per 100,000 age 18 years and older population in a Metro Area or county in a one year period.	X	X	X	
10	OVERALL & PNEUMONIA	Joint Commission National Hospital Inpatient Quality Measures; NQF 0506	30-Day All-Cause Risk-Standardized Readmission Rate Following Pneumonia (PN) Hospitalization	The measure estimates a hospital-level, risk-standardized, all-cause unplanned 30-day readmission rate for patients discharged from the hospital with a principal discharge diagnosis of Pneumonia (PN).	X	X		X
11	OVERALL & OBESITY	HEDIS; Medicaid Child Core	Children and Adolescents' Access to Primary Care Practitioners	The percentage of patients 12 months–19 years of age who had a visit with a PCP. -Children 12–24 months and 25 months–6 years who had a visit with a PCP during the measurement year -Children 7–11 years and adolescents 12–19 years who had a visit with a PCP during the measurement year or the year prior to the measurement year	X		X	
12	OVERALL	HEDIS	Mental Health Utilization - Inpatient	The number and percentage of members receiving inpatient mental health services during the measurement year.			X	

Metric Number	Evaluation[1]	Source	Metric Name	Metric Description	Chronic Disease Outcomes	Health Outcomes	Care	Disparities
					Hypothesis			
					1	2		3
13	OVERALL	NQF 1891	30-Day All-Cause Risk-Standardized Readmission Rate Following Chronic Obstructive Pulmonary Disease (COPD) Hospitalization	The measure estimates a hospital-level, risk-standardized, all-cause unplanned 30-day readmission rate for patients discharged from the hospital with a principal discharge diagnosis of Chronic Obstructive Pulmonary Disease (COPD).		X		X
14	OVERALL	PQI 90	Preventable Hospitalizations	AHRQ created Prevention Quality Indicators (PQI) that are rates of potentially avoidable hospitalizations for ambulatory care sensitive conditions that reflect issues of access to, and quality of, ambulatory care in a given geographic area.		X	X	X
15	OVERALL		Preventable/Avoidable Treat and Release ED Visits	Based on methodology of John Billings at New York University, determines the proportion of treat-and-release ED visits that are: -Non-emergent -Emergent/primary care treatable -Emergent - ED Care Needed - Preventable/Avoidable -Emergent - ED Care Needed - Not Preventable/Avoidable		X	X	X
16	OVERALL	HEDIS; Medicaid Child Core; NQF 1392	Well-Child Visits in the First 15 Months of Life	Percentage of patients who turned 15 months old during the measurement year and who had the following number of well-child visits with a PCP during their first 15 months of life. Seven rates are reported: •No well-child visits •One well-child visit •Two well-child visits •Three well-child visits •Four well-child visits •Five well-child visits •Six or more well-child visits			X	
17	OVERALL		Hospital costs related to avoidable inpatient stays and treat-and-release ED visits				X	

Appendix A2: Crosswalk Between Metrics and Evaluation Hypotheses

Metric Number	Evaluation[1]	Source	Metric Name	Metric Description	Chronic Disease Outcomes	Health Outcomes	Care	
					Hypothesis			
					1	2		3
18	OVERALL & DIABETES	HEDIS; Medicaid Adult Core; NQF 0057	Comprehensive Diabetes Care: Hemoglobin A1C Testing	The percentage of members 18-75 years of age with diabetes (type 1 and type 2) who received an HbA1c test during the measurement year.	X		X	
19	OVERALL & DIABETES	HEDIS; NQF 0055	Comprehensive Diabetes Care: Eye Exam	The percentage of members 18-75 years of age with diabetes (type 1 and type 2) who received a retinal or dilated eye exam during the measurement year or a negative retinal or dilated eye exam in the year prior to the measurement year.	X		X	
20	OVERALL		Treat-and-release ED visits	Treat- and -release visits to an emergency department			X	

[1] Metrics will be utilized for the overall evaluation of the DSRIP , the evaluation of hospital projects related to specific chronic conditions (e.g. asthma, cardiac care, diabetes, etc.), or both.

[2] not currently endorsed by NQF

IV. Timeline and Deliverables

Waiver Demonstration Period: 8/1/2017 to 6/30/2022
Demonstration Period for OUD-SUD Initiative: 10/31/2017 to 6/30/2022
Project Period: 1/1/2019-12/31/2023

Deliverables:

Stakeholder Reports
Stakeholders Report on MLTSS: 7/1/2020
DSRIP Stakeholders Report: 9/30/2020
OUD/SUD Program Stakeholders Interview: 7/30/2022

Annual Reports
Annual Report of Metrics for fiscal year 2017-2018: 10/31/2019
Annual Report of Metrics for fiscal year 2018-2019: 7/30/2020
Annual Report of Metrics for fiscal years 2020-2021: 7/30/2022

Note: OUD-SUD metrics will not be part of annual reports.

Interim and Final Evaluation Reports
Draft Interim Evaluation Reports (non-DSRIP components): 6/30/2021
DSRIP Final Evaluation Report: 12/15/2021
Draft Final Evaluation Reports (non-DSRIP components): 9/30/2023

Note: The evaluation reports for the OUD-SUD initiative will be separate from the other components.

Finals due 60 days after receiving CMS comments on Draft Evaluation

V. Faculty Bios

Sujoy Chakravarty, PhD (Principal Investigator), Assistant Research Professor and Health Economist at the Rutgers Center for State Health Policy (CSHP), will direct all aspects of the project including model conceptualization, design and analysis. Dr. Chakravarty led the evaluation of the 2012-2017 NJ Medicaid 1115 Comprehensive Waiver Demonstration that included analyses of the MLTSS and DSRIP programs among other reforms. Dr. Chakravarty has considerable expertise in Medicaid policies and their potential effects on healthcare services and outcomes and is an expert in policy evaluation design and analysis strategies. The evaluation involved examining the effect of several simultaneous policy changes relating to eligibility, financing and population health management on specific waiver populations by analyzing Medicaid fee-for-service claims and managed care encounter data. He has published several papers and reports utilizing econometric techniques such as panel data estimation and difference-in-differences modelling to examine provider services, healthcare utilization, prescription coverage, and racial and ethnic disparities in access.

Joel C. Cantor, ScD (Senior Research Advisor), Distinguished Professor of Public Policy and CSHP Director will work closely with Dr. Chakravarty to ensure that the study design and project findings are relevant to policymakers and stakeholders. Dr. Cantor has a deep understanding of the New Jersey policy and health care delivery context and is an expert in the communication of research findings to policy and practice audiences. He is a member of the National Advisory Committee of the AcademyHealth Translation and Dissemination Institute, and has great depth of experience in conducting policy studies and engaging with policy audiences. Dr. Cantor is the founding (1999) director of Rutgers Center for State Health Policy, where he has led policy-engaged research for over two decades focusing on healthcare financing, regulation and delivery, primarily at the state level. A substantial body of his work focuses on Medicaid, where he has led quantitative and mixed-methods work related to evaluating the impact of federal and state policies.

Laura Pizzi, PharmD, MPH (Co-Investigator), will lead the project's cost-effectiveness analysis. She is Professor and Director of the Center for Health Outcomes, Policy, and Economics at Rutgers University. Her research focuses on the economic analysis of healthcare interventions and new models of delivering care. Most of her research during the past 20 years has focused on the cost effectiveness of healthcare interventions for the prevention and treatment of chronic diseases. Dr. Pizzi has authored or co-authored more than 75 peer-reviewed articles, is Deputy Editor of *American Health and Drug Benefits,* editorial board member for *PharmacoEconomics*, and is co-editor of the text *Economic Evaluation in U.S. Healthcare: Principles and Applications.*

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